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Competition and social and personality development: Some consequences of taking Darwin seriously

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Careful consideration of the evolutionary implications of competition and cooperation has significant repercussions for social dominance in humans across the life span. For example, two broad and phenomenologically distinct classes of resource control strategy appear to emerge in early childhood and persist through adulthood; namely, prosocial and coercive. Though these behavior classes are traditionally considered to be opposites in (non-evolutionary) psychology, they may ultimately function similarly. The present paper summarizes a novel theory of social dominance, exemplifies its utility by sketching an empirical program of research on children and adolescents, and reviews possible implications for traditional views of child behavior.

Keywords: social dominance, evolution, aggression, peer relationships, personality.

Competencia y desarrollo social y de la personalidad: algunas consecuencias de tomar a Darwin en serio

Una valoración cuidadosa de las implicaciones evolucionistas de la competencia y la cooperación tiene importantes repercusiones en el análisis de los procesos de dominancia social entre seres humanos a lo largo del ciclo vital. Por ejemplo, dos grandes estrategias para el control de recursos, aparentemente distintas, parecen surgir durante la infancia temprana y persistir a lo largo de la vida adulta; concretamente, la prosocial y la coercitiva. Aunque estos dos tipos de comportamiento se han considerado tradicionalmente como opuestos en psicología (no-evolucionista), pueden estar desempeñando, en última instancia, una función parecida. En este artículo, se presenta un resumen de una nueva teoría de la dominancia social, se ejemplifica su utilidad esbozando un programa de investigación con niños y adolescentes, y se revisan sus posibles implicaciones para una concepción clásica del comportamiento infantil.

Palabras clave: dominancia social, evolución, agresión, relaciones entre iguales, personalidad.

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The birth of evolutionary psychology has led many to ask, was psychology ever non-evolutionary? The answer is an unequivocal “yes”, and in some domains it still is (Pinker, 2002). But how has evolutionary theory impacted developmental psychology?

The present paper explores the influence of evolutionary theories on developmental thought and makes the case that natural selection implies that competition is at the heart of social and personality development. A theory of social dominance is presented as an example of how a modern evolutionary framework can be integrated with contemporary developmental models.

Evolution and developmental psychology

Many developmental psychologists have the impression that Darwin deeply influenced developmental thought. Prominent Yale developmentalist, William Kessen, for example, opened a chapter of *The Child* (1965) with, (it is hard to imagine) «...what scholars thought of children before the publication and slow assimilation of *The Origin of Species* (1859)». Kessen claimed that Darwin introduced the study of change to psychology, the very essence of development. Even still, Darwin's baby biography (1877) frequently is hailed in introductory textbooks as the first systematic study of a child's behavior.

Not only was Darwin's baby biography predated by 90 years by German scientist Dieterich Tiedemann (1787), the evolutionary concepts addressed by several of the founding fathers of developmental psychology (e.g., James, McDougall, Freud, and Baldwin) were discussed in the literature long before the writings of Charles Darwin (1859). The late 19th century was a hotbed of biological argument and theorizing. Accordingly, there were several treatises regarding mechanisms of phyletic change including Darwin's “natural selection”. Two stand out as noteworthy: Lamarck theory of the inheritance of acquired characteristics (1809) and Ernst Haeckel's Biogenetic Law (1866). Though Lamarck's contribution has long been discredited (early glimmers of doubt were emerging as early as the late 1880s; Charlesworth, 1992), Haeckel's Biogenetic Law had lasting influence still visible today. In some senses then, it may be correct to say that early developmentalists, while perhaps evolutionary, were Haeckelian rather than Darwinian.

Haeckel famously proposed that the stages of ontogeny repeat the adult forms of animals lower on the phylogenetic scale by way of “terminal addition”; the human embryo passes through the stage resembling an adult fish because the fish provided the foundation for later adaptations that eventually led to land life, mammals, and then humans. Development, Haeckel argued, accelerates over time such that ancestral features were pushed back to earlier stages of the embryos of descendant species (“condensation”). The Biogenetic Law actually meshed nicely not only with the older Lamarckian notion of “inheritance of acquired characteristics”, but also with the even older vision of the hierarchical order of life as reflected in “the great chain of being”. This model made a good deal of sense at the time; one can see the lowly beasts

striving towards perfection (as represented by Man), as humans strive to be Godly. As Haeckel pointed out, one could see the remnants of such lowly beasts in the human embryo, leading him to famously claim “ontogeny recapitulates phylogeny”, or the individual’s development summarizes the development of the species.

The relationship between ontogeny and phylogeny is complex (see Gould, 1977 for example), and has caused a great deal of understandable confusion over the last century (see Morss, 1990 for a detailed treatment). On the dark side, the religious and biological linear ordering of life fueled Herbert Spencer’s racist agenda of human perfection, the application of his notion of “survival of the fittest” to human society (i.e., “Social Darwinism”, so named after Spencer’s reading of *Origin of Species*, but outlined well before *Origin*’s publication). Nonetheless, the Biogenetic Law continued to be very popular well beyond the turn of the 20th century and the recapitulationist heuristic is evident in many older psychological theories. For example, the developing human was not only believed to pass through the stages of other species, but also through the history of mankind. G. S. Hall argued that the natural progression of children through these stages, including that of “savages”, needed to be considered in childhood education. Freud linked oral and anal stages of sexual development with what he believed to be our quadrupedal ancestry, and he presumed that repressed primitive core stages to be part of the adult brain. Furthermore, he arranged the neuroses in phyletic order and attributed narcissism to the “primitive races”. Even the child rearing guru Dr. Spock (1957) described the child as progressing “through the whole of human history”.

The misapplication of evolutionary theory (or theories) leads to a sense of newness to “evolutionary developmental psychology”. Outside of attachment theory (e.g., Bowlby, 1969), one sees few serious (correct) integrations of evolution by natural selection and child development until fairly recently (Bjorklund & Pellegrini, 2002; Ellis & Bjorklund, 2005; but see Fishbein, 1976; Bruner, Jolly, & Sylva, 1976). Though evolutionary psychology tends to presently focus on universals (e.g., Buss, 2007), evolutionary developmental psychology is well-poised to integrate developmental psychology’s interest in individual differences with evolutionary principles (see Belsky, Steinberg, & Draper, 1991; Boyce & Ellis, 2005; Ellis, 2004), as the present application hopes to show.

Natural selection and competition

What set Darwin’s evolutionary theory apart from the other evolutionary theories of his day was the inspiration of demographer/economist, Thomas Malthus, whose 1803 treatise argued that population growth is constrained by available resources. Consequently, Darwin believed that more individuals are born than survive to reproduce, and variations in phenotypes were related to differential survival and reproduction. Natural selection then can be characterized as competition between phenotypes. It is by no means the only force driving evolution, but it is the only one that is relevant to this discussion.

The competitive essence of natural selection suggests, at least at some level, that individualism, selfishness, and/or egocentrism are inherent to organisms and this individualism is well captured within many of theories of psychological importance (e.g., parent-infant conflict, sexual selection, jealousy, homicide). Where competitive aspects of evolution have had less impact are theories concerning the development of children. Developmentalists have typically preferred to focus on the bright side of development and as such align their philosophical roots more closely with Rousseau than with Hobbes (though Freud of course was a notable exception). Concerning negative behaviors such as aggression, for example, developmentalists typically look for perturbations that push a child off track of “normal” development (e.g., goodness).

Cooperation as a competitive venture

Darwin’s “struggle for existence” (Darwin, 1859) creates powerful and influential imagery of aggressive competition both within and between species. This alignment is especially unambiguous in the sexual selection literature (male-male competition for females; Darwin, 1871; Trivers, 1972; Pellegrini & Archer, 2005) outlining sexual dimorphism for size and strength. This gladiatorial perspective («...the strongest, the swiftest, and the cunningest live to fight another day», Huxley, 1888) heavily influence European naturalists and popular writers (e.g., Lorenz, 1967) and made the evolution of altruism one of the greatest quandaries in theoretical biology.

Yet, writings on the evolution of other-oriented behavior can be found as early as the turn to the 20th century. Anarchist Russian prince Pyotr Kropotkin (1902) contended that under harsh conditions and low population density, cooperation would evolve over aggressive competition. According to Kropotkin’s minority view, the “struggle for existence” also entailed individual against environment and that this struggle could best be won via *mutual aid*.

It was not until Robert Trivers’s seminal work on reciprocal altruism (1971) that individual level selection (cf. group selection; e.g., Wynne-Edwards, 1962; Wilson, 2006) was united with a viable theory of other-oriented behavior (see also Hamilton, 1964). Here, “altruism” bears limited cost when one considers delayed benefits; that is, social individuals perform altruistic acts with the implicit expectation that favors will be reciprocated. According to Trivers, social emotions such as trust and liking evolved to regulate these exchange processes. For example, we are disinclined toward those we do not trust to reciprocate and those who fail to reciprocate fall quickly out of favor.

Social Exchange theories are certainly not unknown in psychology, and similar to Trivers’ perspective, claim that we are sensitive to inequities in exchange processes (e.g., Byrne, 1964; Walster, Walster, & Bersheid, 1978). From both perspectives, the appeal of a potential social partner is a function of what s/he brings to the relationship as a commodity (e.g., status, information, social connections, or wealth). These perspectives –while generally not embraced by developmentalists perhaps in light of their inherent cynical view of social relationships in general and friendships in particulars– are central to the

theory of social dominance presented below because they help explain the proximal mechanisms that maintain the social centrality of a socially dominant individual, even if s/he is aggressive. In the end, these individualist perspectives all suggest that we pick our friends, alliances, social networks in part as a result of a calculus determining what these people can do for us. Thus, in a very real sense, material goals can be achieved via sociality as well as aggression.

Dualism in human nature

One can construe the above to implicate a dualism in human motivation and behavior (see also Freud, 1930; Bakan, 1966). This dualism—that competitive forces give rise to both antagonistic and other oriented behavioral strategies—underlies the present theoretical perspective, Resource Control Theory (RCT; Hawley, 1999a).

According to the outline laid out above, successful competition can be achieved directly or indirectly. Direct means are relatively straight forward and can be seen readily in nature; that is, resources are sought via agonistic contests, for example. Consideration for the goals and motivations of others are simply by-passed. Instrumental aggression is a very direct *antisocial* means of resource access in zero-sum conditions. Indirect means of resource competition derive from evolutionary models of cooperation. Here, competition takes on a more non-zero sum quality; both interactants (or more) stand to gain in this cooperative or reciprocal context (see also Wilson, 2006). Instead of bypassing the social group as direct means do, indirect strategies exploit the mediating effect of the social group to access resources *prosocially*.

The bulk of psychology considers antisociality and prosociality opposite ends of a single continuum and, as such, assumes that they serve opposing functions. In contrast, here they are considered to serve the same function, or “two sides of the same coin” (Hawley, 2002; Charlesworth, 1996). As a consequence they may be assumed to be either independent or positively related (for extended discussion see Hawley, 1999a, 2002, 2007).

Resource control theory attempts to capture this dualism concretely in its translation of these direct and indirect strategies. That is, RCT posits that competition can come in at least two broad forms. So called *coercive strategies of resource control* are direct, aversive, and immediate (e.g., taking, threatening) and as such are equal to traditional conceptions of social dominance in the ethological literature (e.g., Strayer & Strayer, 1976; Bernstein, 1981). *Prosocial strategies of resource control*, finding their theoretical roots in evolutionary approaches to cooperation, include reciprocity, cooperation, unsolicited help, and positive alliance formation (i.e., friendships)—all behaviors that can serve successful resource acquisition with the approval of others. In contrast to coercive strategies, they are indirect, prolonged, and generally win positive group regard.

Theoretical and methodological implications for human social dominance and power

The above outlined approach to social dominance has several important theoretical ramifications for human social dominance and avenues of scholarly pursuit. Dominance hierarchies have been proven to be a highly visible central organizing feature of social behavior across *taxa*. If their effect is as profound as biological approaches might suggest and competition is a central organizing feature of social groups, then we ought to see social dominance play out in human social groups, even in early childhood. Our research program has centered on social dominance as an aspect of relationships, distinguishing the form of the behavior from its function, investigating the utility of a person-centered approach, and exhibiting continuity between species by demonstrating the social centrality of the dominant individual. Each of these points will be addressed in turn.

Social dominance and interpersonal relationships

First, social dominance describes a relative differential in competitive ability, and as such is an aspect of a *relationship*. The relationship aspect of social dominance had long been overlooked by ethologists who failed to explore competitive asymmetries within a complex system of interpersonal relationships, and instead focused on hierarchies (see Vaughn, 1999 for extended discussion). That is, social behavior, including that involving a contested resource is highly dependent on the identities of the interactants, their personal characteristics, and the unique history of their interactions (Hawley & Little, 1999). Moreover, because ethology derived from zoology, ethologists neglected aspects of human functioning long measured from psychological traditions. Thus, rather than focusing simply on gender, age, and size, we can (and should) measure social cognitions, personality, cognitive age, morality, etc., as predictors of social dominance (see for example, Hawley & Little, 1999; Hawley, 2003a, b).

To exemplify these points and to explore whether pursuing of intragroup competition made any sense at all, our first foray into the social dominance construct asked whether dominance is something that is of psychological significance to members of a social group (Hawley & Little, 1999). It is one thing to show that young children can be ordered in a hierarchy in terms of contest wins; it is quite another to demonstrate that the outcome of these wins influence social behavior outside of the competitive setting. If the social dominance construct is of any utility, we should see, for example, children of "middle rank" changing their behavior in the presence of those dominant to themselves relative to those who are subordinate. Secondly, we sought to know whether relative competitive ability could be predicted with psychological traits beyond the usual suspects of size and gender.

For this study, we recruited 1.5 – 3.2 year olds and their families from an institute-affiliated day care facility in Berlin, Germany, comprising two care groups of eight children. We assessed cognitive age (Bayley Scales of Infant

Development, 1993) and parent-rated temperament (Toddler Temperament Scale; Saile, 1987), along with size (height and weight), gender, and time spent at the daycare center. Social dominance was assessed by teacher ratings and observations of group play. For our outcome behavioral interactions, we borrowed a measurement paradigm used in social psychology (i.e., the Social Relations Model; Kenney & LaVoie, 1984) which means experimentally creating a “round robin” design where each child is repeatedly paired with a single peer and filmed for a set time (here, 5 minutes) in a semi-structured play encounter. Multiple dyadic interactions allow the exploration of the effects of each participant along with effects due to their unique combination. Our coding schema was ethologically inspired; we recorded micro-level behaviors such as directed comments, gazing, taking, thwarting, requesting, imitating, complying, etc. The end result was a rich dataset with the dyad as the unit of analysis (making the most of small groups).

This work demonstrated that social dominance as relative competitive ability mediates the relationship between individual-level attributes (i.e., cognitive age, persistence, gender, tenure) and social behavior in an experimental play setting (directing, passive watching, imitating, and social play). As one would expect from a relationship perspective, dyadic behavioral outcomes were also a function of how well the interactants knew each other. Moreover, we detected how children’s behavior changed depending on the rank of their social partner. With peers dominant to themselves, there was more passive watching. With peers subordinate to themselves, they were more directing. Thus, relative competitive ability appears to be meaningful to children in their dyadic interactions in everyday play contexts, even before the age of three.

Function vs. form

Breaking from traditional perspectives, resource control theory shifts the focus from the *form* of behavior (what the behavior looks like) to the *function* of behavior (see Hawley 1999a,b for extended discussions). By focusing on resource acquisition first (the underlying function), we can then pose questions about how individuals (or species, or cultures) control resources (i.e., strategies employed or the structure of behavior), and how these strategies change over time (via developmental differentiation, social learning, etc.). The theory suggests that humans employ unrefined coercive strategies like other mammals, but diverge from other species with the development of strategies that necessitate a theory of mind and other higher order cognitive abilities (e.g., some of the more sophisticated prosocial strategies and deception).

While well-differentiated strategies may not be evident in very young children (e.g., less than three), by the ages of three to five one can explore *how dominant children dominate* to determine whether prosocial and coercive behavior are related to resource use (Hawley, 2002). To this end we used a “block design”, a relative of the round robin design described above. Here we paired children rated as dominant by teachers with multiple subordinate partners. Our semi-structured play situation was designed expressly to pull for

resource-controlling behavior; namely, we presented a game-like task with two unequal roles. We reasoned that the primary role of the game would be a resource over which children would compete. How would dominant children secure and maintain the primary role for themselves?

Here, prosocial strategies were defined as making suggestions, issuing polite requests, and offering unsolicited help (the play material is thus effectively commandeered). Coercive strategies involved taking, aggression, and insults. As we expected, both classes of behavior were associated with occupation of the primary role ($r = .53$ for prosocial strategies, $r = .46$ for coercive), and both strategies were highly related to each other ($r = .67$). In fact, prosocial strategies were employed at twice the frequency of coercive strategies. In the end, socially dominant children occupied the primary role 71% of the time when occupation could be determined, while subordinate children only occupied it 19% of the time. Speaking to the idea that competition outcomes should be highly visible, teacher ratings of social dominance and control of the play material in the observation occasion were correlated .67.

By the time children are in late elementary school, they can self-report their own behavior and intentions. Questionnaire items for resource control query children about their success at goal attainment. Prosocial strategies include "I get what I want by reciprocating", "...by being nice", or "...promising friendship". Coercive strategies are indicated by items such as, "I get what I want by taking", "...threatening" or "...bullying". For adolescents we can use such items for peer nomination (e.g., "Who gets what they want by..."), friendship inventory ("My friend gets what they want by..."), and, of course, teacher reports at all ages (Hawley, 2003 a,b).

A person-centered typology

A third implication melds methodological concerns with the theoretical; namely, because resource control theory rests upon two foundational strategic orientations, we can now consider *types* of individuals who share common patterns of strategy employment (i.e., a person-centered approach; Hawley, Johnson *et al.*, 2007). On the basis of the relative degree of endorsement (self-report) or employment (teacher or peer report) of the strategies, we have defined subgroups of individuals depending on their placement in distributions divided into tertiles; bistrategic controllers by definition are in the top tertiles of both prosocial and coercive strategies, coercive controllers are in the top tertile of coercive strategies only, prosocial controllers are in the top tertile of prosocial strategies only, and noncontrollers are in the lowest tertile of both strategies. Typical controllers comprise the remainder. Regardless of whether the types are formed via teacher report (Hawley, 2003a), self-report (e.g., Hawley, 2003b) or peer nomination (Hawley, Card, & Little, 2007), bistrategic controllers are the most successful at resource control by far, followed by prosocial and coercive controllers, with the non-controllers being the least successful. Thus, bistrategic controllers are considered to be of the highest social dominance status and noncontrollers the lowest from this perspective by definition.

Thus far, a key goal of this research program has been to explore the personal and social outcomes and attributes of different types of resource controllers. In principle, how strategies are wielded should reveal driving motivational orientations (e.g., extrinsic motivation to attract others), personality (e.g., agreeableness), and social skills (e.g., emotional intelligence) of the actors. Not surprisingly, prosocial controllers display positive and attractive attributes such as intrinsic motivations for pursuing friendships (e.g., for joy and personal fulfillment; Hawley, Little, Pasupathi, 2002), agreeableness, and social skills. As a result, they are well-liked by peers and enjoy intimate, high-quality friendships (Hawley, Little, & Card, 2007). In contrast, coercive controllers are aggressive, hostile, unskilled (Hawley, 2003b), and motivated by power and popularity. Consequently, their friendships are low-quality and conflictual.

Bistrategic controllers perhaps make the greatest novel contribution to our understanding of human behavior. In part because of their dual strategy approach, they are by far the most successful at resource control. Yet another contribution to their success is their motivational profile. Like coercive controllers, bistrategics are aggressive, manipulative, and extrinsically motivated to pursue relationships. They have a high need for recognition for their accomplishments and place the highest value on the material world of all the groups (Hawley, 2003b; Hawley, Shorey, & Alderman, 2008). At the same time, they appear to have many of the skills of prosocial controllers such as a sophisticated understanding of others and a moral attunement (Hawley, 2003 a, b). This combination of skills balanced with aggression appears to embody the dualism of human nature described above.

What are we going to think of the decidedly successful yet manipulative individual? Some imagine the psychopath or social deviant while others envision the “Chief Executive Officer” or politician. Nowhere is the drive to evaluate the bistrategic controller in moral terms stronger than in developmental circles, a topic to which I will return shortly. Before we address how they are evaluated by researchers, we will address how they are evaluated by the social group.

Social dominance and social centrality

Because resource control theory was ultimately derived from the animal behavior literature (Hawley, 1999a), it predicts that the socially dominant individuals of a social group will hold social power and be socially central because of their evident mastery over the material world. That is, effective resource control should attract others (i.e., *the social centrality hypothesis*; Hawley, 1999a). Not only does instrumental competence in the material world win admiration, but resource holders bring much to the table in terms of social exchange processes.

Our studies with preschoolers and adolescents have repeatedly shown that bistrategic controllers garner a good deal of positive social attention (as do prosocial controllers), despite their high levels of aggression. When preschoolers

report “who they like”, bistrategic controllers win among the most nominations (and coercive controllers the least; Hawley, 2003a). This pattern is replicated in adolescence, where bistrategic controllers not only win “like nominations”, but also win among the most “s/he is my best friend” nominations, and are seen as popular and high status (Hawley, Little, & Card, 2007). These patterns are not easy to explain from predominant developmental psychopathology perspectives that hold aggression to be repellent and thus a risk factor (Coie & Dodge, 1998). We may wish to believe that children and adolescents don’t see the aggression of the bistrategic, or that bistrategic behavior is nearer to assertion than aggression. But bistrategics are described by peers as aggressive and their friends report being targets of aggression within the relationship (Hawley, Little, & Card, 2007). Moreover, teachers rate them as physically attractive, despite being fully aware of their negative behavior (Hawley, Johnson *et al.*, 2007). Coercive controllers, in contrast, are rated as the least attractive by teachers. People who don’t know the children do not differentiate the two groups when rating photographs. To us this implies that teachers ultimately view bistrategic controllers favorably and coercive controllers unfavorably because of their behavior.

Implications for the developmental literature

The research program described above may raise thought-provoking questions regarding values and beliefs presently predominant in the field; namely, one’s philosophical orientation, one’s abhorrence of aggression, assumptions about gender, and the role of context in a biologically based construct. Each will be taken in turn.

Moral neutrality vs. melioration (Hobbes vs. Rousseau)

The theory of evolution by natural selection *a lá* Darwin is a morally neutral theoretical orientation. To many, however, moral neutrality—that is, failure to take a moral stance—implies wickedness. That so many are led to such conclusions has been the bane of the theory since its inception. Historically, religious conservatives have claimed that the theory denies the human soul and special creation, and antagonists from the left claim that the theory justifies human violence and male domination. Most scientists operating within an evolutionary perspective deny both of these allegations (but see Dawkins, 2006, for a contrasting view).

In contrast, developmental psychology has characteristically adopted a morally *non-neutral* stance. One can still clearly see the Rousseauian doctrine of the noble savage (*Emile*, 1762) inherent in the bulk of modern developmental work, especially in the social domain. Recall that Rousseau maintained that uncivilized (i.e., untainted) man is peaceful, egalitarian, and in possession of inborn moral instincts. The darker side of humanity (e.g., competition, greed, violence) stems from the corrupting influence of modern civilization. Consis-

tent with this belief, predominant modern views of child social behavior and development implicitly assume that with proper care (e.g., minimal corruption), children will grow to be moral, other-oriented, and non-aggressive. Antisocial tendencies (broadly defined) are held to arise from poor parenting, deviant peers, impoverished urban environments, or toxic media influences. Consequent to this deep philosophical orientation, child psychology throughout the 20th century adopted a “social engineering ethos” and an ameliorative mindset (Smith, 2007; Charlesworth, 1992); developmentalists focused their attention on bettering potentially corrupting environments to improve child development outcomes and thereby society.

In contrast to the bulk of 20th century child psychology, Freud (1930/1961) took a less rosy view of human development which partially underlies ill-will towards his theory today. Namely, one sees the unmistakable influence of Thomas Hobbes, who, though preceding Rousseau, adopted a nearly opposite view; namely, that man’s natural propensity to behave out of self interest leads to perpetual struggle, and that societal controls (e.g., socialization) are necessary to enforce a collective will (Hobbes, 1651/1885). Like Freud, evolutionists by and large believe that human nature can lead to interactions marked by aggression and self-servingness, and much of this aggression can (and should) be controlled by constraints constructed by the social group at large (e.g., Pinker, 2007). At the same time, evolutionists more so than traditionally trained developmentalists allow that aggression may be functional, regardless of the moral evaluation of the act (see e.g., Pellegrini, 2007; Vaughn & Santos, 2007).

Aggression and social reception

Nowhere is this “morally neutral stance” more evident than in the study of aggression. Traditional developmental orientations deriving from psychopathology perspectives assume *a priori* that aggression is *evil*, and consequent to this malevolence the social group will castigate the aggressive individual. Accordingly, coercive strategies of resource control, though indisputably effective, are generally held to be “antisocial” from conventional psychological perspectives. Several well-established lines in the developmental literature have shown that early childhood aggression puts the child at risk for poor developmental outcomes, most germane to the discussion at hand, peer rejection (Coie, Dodge, & Kupersmidt, 1990; Coie & Dodge, 1998). Yet, I have proposed that at least in some contexts, this apparently maladaptive behavior in the proximal sense is in fact adaptive evolutionarily. How can this contradiction be reconciled?

The social centrality hypothesis of resource control theory suggests that aggression –*in the service of effective resource control*– is not as socially repellent as is suggested by the literature or conventional wisdom, and to assume so may be an oversimplification. Work since the mid-90’s has shown that a subset of aggressors can be socially skilled (Sutton, Smith, Swettenham, 1999a,b; Hawley, 2003a,b) and socially appealing (Rodkin, Farmer, Pearl, van

Aker, 2000; Hawley 2003a, b; Cairns & Cairns, 1994). Though variable focused approaches (i.e., those that focus on relationships among variables via correlations and regressions) still tend to support the view that aggression leads to peer censure (e.g., Cillessen & Mayeaux, 2004), person-centered approaches (i.e., those that focus on *types* of individuals who score commonly on variables of interest) demonstrate that there are subtypes of aggressive individuals who fare quite well. This latter point is made clear by comparing the profiles and outcomes associated with the resource control typology described above. Namely, there are two groups of aggressive youths; bistrategic and coercive controllers. Despite their similarity on some dimensions, the social experiences of the bistrategic controllers and coercive controllers are quite distinct already by the age of five.

Thus, RCT attempts to resolve this quandary by focusing on the social dominance achieved by these individuals first, and their aggression only secondarily. By doing so, we can turn back to the social centrality hypothesis: Dominant individuals of many species command a good deal of attention from the social group due to their evident mastery of the material world. They are looked to, imitated, and sought out social partners (Hawley, 1999a; Chance, 1976). Additionally, in terms of social exchange parlance, they bring a good deal of material rewards and power to relationships. In the end, the benefits of associating with them appear to outweigh the substantial costs; they make very good friends, but very bad enemies.

In the end, do we characterize these bistrategic children as “good” or “bad”? Developmentalists driven to improve the lives of children may lean toward the latter over the former. I only wish to conclude that bistrategic children are probably not the ones attracting the bulk of attention from teachers and school service professionals in terms of intervention services targeting aggression. Those children would be the unskilled coercive controllers and the anxious, withdrawn non-controllers.

Social dominance and gender

Aggression and social dominance evoke thoughts of masculinity. As mentioned above, zoology-based ethological approaches to social dominance tended to strongly align social dominance with overt aggression or agonistic contexts. When dominance is approached this way, it tends to naturally favor males. In contrast, the present approach allows for, indeed stipulates, alternative strategies of resource control and dominance. If one assumes that females are more prosocially oriented than males, then would females thus have an alternate legitimate path to resource control?

Sexual selection theory outlines an unequivocally gendered view of competition. Based on differential parental investments, males are expected to be larger, more status striving, and more aggressive than females (see e.g., Buss, 1988; Geary, 1998). In contrast, RCT has been rather agnostic regarding gender differences and instead adopts the minority perspective of anthropologist, Sarah Blaffer Hrdy (1981/1999): «Visionaries of male-male competition stressed the

imagery of primate females ... so preoccupied with motherhood that they have little respite to influence their species' social organization. Alternate possibilities were neglected: that selection favored females who were assertive, sexually active, or highly competitive, who adroitly manipulated male consorts, or who were as strongly motivated to gain high social status...» (Hrdy, 1999; pp. 13-14).

Dovetailing beautifully with Hrdy's contribution is the work in developmental circles on aggression in girls. Although boys and men have long been considered more physically aggressive than girls and women (Maccoby & Jacklin, 1974; Lorenz, 1967) and more lethal in their aggression (Daly & Wilson, 1994; Wrangham & Peterson, 1996), more subtle forms of aggression that target the victims social standing or social well being appear to be the *modus operandi* of girls (e.g., Björkqvist & Niemelä, 1992; Crick & Grotpeter, 1995). Thus, rather than succumbing to clichés and concluding coercive strategies are the province of boys while prosocial strategies are that of the girls, we now can entertain that girls may be in fact quite aggressive, albeit in less visible ways.

Are males more resource controlling than females? In all work, including our own, it appears that they are. More interesting to us, however, is within gender variability. In study after study, we find bistrategic controllers to be equally male and female, even though the groups are derived *by exactly the same criteria*. Moreover, dominant bistrategic males and females are more alike than they are different; they are both highly resource directed, relationally and physically aggressive, and enjoy positive reception from their peers (Hawley, Card, & Little, 2008). Thus it appears that males have little advantage at achieving very high social dominance when both prosocial and coercive strategies are considered. In the end we conclude that social dominance is well-served by employing a wide range of behaviors and adopting all manner of skills and motivations characteristic of humans in general.

Learning winningness (and losingness): The role of context

Typically, writers in evolutionary psychology are searching for "human universals" (Buss, 2007). The present theory of social dominance is unusual because it is one of individual differences. Social dominance is an aspect of a relationship; the presence of others is a necessary condition for one to prevail. Thus, social dominance, or competitive superiority, is highly dependent on the composition of the social group and thus cannot be a genetically coded trait of the individual per se (see also Bernstein, 1981). At the same time, asymmetry of competitive ability can be predicted by the interpersonal characteristics of the individuals involved, some of which may have genetic underpinnings, such as persistence, extraversion, and pugnacity.

Others predictors of relative competitive ability may be entirely context dependent. For example, superiority may depend on the win-loss histories of the competitors. Doubtless the form and intensity of future attempts at resource control are influenced by the learning history of the individual. Early

loss experiences in competitive contexts (such as preschool classrooms or sibling circles) could intensify (indeed cause) individual differences in persistence. On this point, early developmentalists manipulated the experience of characteristic non-winners. These experiences led to greater success at resource control in subsequent interactions (Jack, 1934). As a result of these experiments, Jack correctly concluded that “ascendancy” was a function of the individual-context interface and that such behavior could be learned. Thus, because controlling strategies can be created experientially (e.g., learning that control attempts will be effective), direct genetic mechanisms need not be invoked.

Conclusions

If social dominance is a central organizing feature of the social group, and long term behavioral propensities can develop within competitive contests, then it appears as though competition is at the heart of personality development. This evolutionary view is a bit unusual because it is an individual differences perspective rather than a human universals perspective. As such, RCT is ultimately an evolutionary theory of human personality (Hawley, 2006).

The early evolutionists of the 19th century were developmentalists in that they looked to embryology to reveal human origins. Similarly, we cannot fully understand human social dominance and power without understanding the development of children and their behavior in peer groups.

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