

Attachment correlates of resource-control strategies: Possible origins of social dominance and interpersonal power differentials

Patricia H. Hawley

University of Kansas, USA

Hal S. Shorey

Widener University, USA

Paul M. Alderman

University of Kansas, USA

ABSTRACT

The current study investigates whether adults' attachment orientations are related to involvement of others in goal strategies in social contexts (e.g., peer relationships). Resource-control Theory identifies strategies that either include (pro-social) or exclude (coercive) others in material goal pursuit. We expect that attachment confidence will predict prosocial strategies (e.g., reciprocation, cooperation), while avoidance will predict use of coercive strategies (e.g., instrumental aggression). Two hundred and sixty-one women and 263 men completed a questionnaire battery that included the Attachment Styles Questionnaire for adults and items addressing critical aspects of their material goal pursuit. The results clearly indicate that attachment orientations are related to resource-control strategies with peers in meaningful ways. Implications for social dominance and power are discussed.

KEY WORDS: aggression • attachment • evolution • peer relationships • power • social dominance • social goals

All correspondence concerning this article should be addressed to Patricia H. Hawley, Department of Psychology, University of Kansas, Lawrence, KS 66047, USA [e-mail: phawley@ku.edu]. Duncan Cramer was the Action Editor on this article.

Journal of Social and Personal Relationships © The Author(s), 2009. Reprints and permissions: <http://www.sagepub.co.uk/journalsPermissions.nav>, Vol. 26(8): 1097–1118.

DOI: 10.1177/0265407509347939

Evolutionary perspectives tend to tie sociality to material resource pursuit. Indeed, access to material resources is one of the key selection pressures underlying sociality itself; early hominids who formed reciprocal alliances to access resources fared far better than those who led solitary lives. Because sociality increased the odds of survival, modern humans continue to be drawn to others and consequently enjoy the benefits of group life (e.g., resources, predator defense). At the same time, group collaboration creates competition for the very resources it attains. Resource-control Theory (RCT) (Hawley, 1999) asserts that the evolutionary pull to be a valued group member and simultaneously a good competitor gave rise to variegated resource-control strategies in the human repertoire. Differentials in within-group strategy employment and competitive ability result in social dominance relationships (Hawley & Little, 1999).

Research across multiple epochs of human development has shown that while single-strategy employment can be effective, the simultaneous use of two strategies – prosocial and coercive – is most effective to facilitate successful goal attainment (e.g., Hawley, 2003a, 2003b). These strategies are important for interpersonal relationships because they have very different implications for interfacing with the social group and, accordingly, can lead to very different developmental outcomes.

Resource-control strategies likely begin to take form in our first social relationships in infancy. In this sense, the first relationships can be construed as contexts for learning the roles of others in resource procurement. By this logic, attachment theory should be a useful framework for understanding the developmental underpinnings of social dominance and resource-control strategies. Bowlby (1969/1982) understood that the ties that bind us to the social world also fasten us to the physical environment and the material resources it has to offer. The present study attempts to link social dominance and resource-control strategies to attachment in an effort to address the social schemas underlying the strategies that individuals employ.

Resource-control Theory

RCT (Hawley, 1999) is an evolutionary-based theory of social dominance addressing behavior, personality, and socio-emotional development (much like Attachment Theory; see below). The theory assumes that sociality has both evolutionary relevant benefits (resource acquisition and defense) and costs (intra-group competition). Here, social dominance refers to one's competitive ability relative to others in the social group; that is, social dominants are those in a given group who are superior at resource acquisition and material goal attainment (e.g., "getting ahead"; Hogan & Hogan, 1991). To these ends, the theory proposes two broad classes of behavioral strategies associated with resource acquisition and defense: prosocial and coercive strategies of resource control.

Coercive strategies of resource control have their theoretical foundations in traditional ethological approaches to social dominance (e.g., Bernstein,

1981; Strayer & Strayer, 1976) and, as such, are closely aligned with instrumental (i.e., goal-directed) aggression. Coercive strategies include not only aggression, but negative behaviors such as taking, threatening, and deception.

Setting the present theory apart from ethological models are prosocial strategies of resource control. In contrast to coercive strategies that bypass the social group or confront it, prosocial strategies win resources by competently capitalizing on positive social relationships as a means to access said resources by, for example, forging reciprocal relationships (e.g., friendships, cooperative alliances) that yield long-term benefit. These behaviors effectively utilize the social group to access resources by way of socially acceptable cooperation and reciprocation (Charlesworth, 1996; Kropotkin, 1902; Trivers, 1971). Unlike coercive strategies, prosocial strategies require some degree of social skill and impulse control. Theoretically speaking, prosocial strategies require not only self-serving goal directedness, but also the ability to manage the goals and desires of other group members and to provide mutually beneficial solutions. As a consequence, one would expect prosocial strategies not only to facilitate resource acquisition, but also to win group approval and esteem (e.g., “getting along”; Hogan, 1983; Hogan & Hogan, 1991).

This emerging body of work based on RCT has successfully employed a person-centered approach (Bergman & Trost, 2006; Jones & Nesselroade, 1990), where types of individuals are derived based on their relative employment of the two classes of strategy. The degree to which an individual employs the strategies can be measured by way of observation (Hawley, 2002) or self report or other report (Hawley, 2003a, 2003b). These types are then compared on dependent variables of interest, such as resource control (the defining feature of social dominance) and/or validation (e.g., more strategies should work better than fewer). Previous research has generated five subgroups of individuals: *bistrategic controllers* employ both strategies to a high degree relative to peers, *coercive controllers* employ coercive strategies to a high degree, *prosocial controllers* employ prosocial strategies to a high degree, and *non-controllers* are low on both relative to others (i.e., they are not resource directed). *Typical controllers* are the largest remaining group and are average on both strategies. Profiles of these resource-control subtypes are emerging in terms of associated personality traits and social and personal outcomes resulting from successful or unsuccessful control attempts and the strategies employed (Hawley, Johnson, Mize, & McNamara, 2007; Hawley, Little, & Card, 2007).

Empirical studies have confirmed various expectations arising from RCT. For example, prosocial, coercive, and non-controllers possess very distinct profiles of socially appealing traits and corresponding social success. Prosocial controllers are above average on resource control (thus reasonably socially dominant), highly socially skilled (e.g., socially perceptive, extroverted, morally astute), agreeable, and very well liked by their peers. Coercive controllers in stark contrast fit the profile descriptions of abrasive, impulsive, unskilled, and socially repellant aggressors, even though they too are higher than average on resource control (Hawley, 2003b; Hawley,

Johnson, et al., 2007). Non-controllers, as expected, tend to be very low on resource control, and accordingly are low on social skills and insights (although are not aggressive), and sadly are rejected and victimized by their peers (as one might expect of very subordinate primates in general). Typical controllers appear to be quite average in most respects, and as such provide a useful basis for comparison.

Most interesting and perhaps most confounding to traditional theoretical perspectives are the so-called bistrategic controllers, who tend to be by far the most successful at resource control in all age groups (e.g., access toys or items associated with status). From this perspective, by definition, they have the highest social dominance status. Because bistrategic controllers use both strategies, they are evidently able to utilize the social group to access resources in some contexts, while being willing to bypass or confront the social group in others. Consistent with our predictions, we have generally found bistrategic controllers to possess attributes associated with social skills; i.e., they tend to be extroverted, socially perceptive, and morally astute (Hawley, 2002, 2003a). Unlike prosocial controllers, however, both male and female bistrategic controllers are very high on traditional measures of aggression (i.e., social and physical), and even direct this aggression towards their best friends (Hawley, Little, et al., 2007). In this regard, they are much like coercive controllers. Yet, despite their high levels of aggression, and in contrast to expectations from most theoretical perspectives, they are socially attractive to peers (Hawley, 2003a, 2003b) and demonstrate relationship skills (e.g., intimacy; Hawley, Little, et al., 2007).

Bistrategic controllers, as a group, exhibit a curious combination of traits and social outcomes that raise many interesting questions about human functioning, a subset of which will be addressed here. Namely, what combination of social schemas (i.e., attachment attributes) characterize an individual who is at once socially alluring, aggressive, and by far the most resource controlling (i.e., socially dominant)? What view of others allows one to behave prosocially some of the time, but to also aggress against peers (including friends) for the sake of personal goal attainment? Before we explore these questions specifically, we turn our attention to the anticipated role of attachment.

Attachment theory

Bowlby (1969/1982, 1988) proposed that young humans, like other animals, are biologically predisposed to (i) maintain attachments to more powerful others because maintaining such attachments has basic survival value, and (ii) interface and interact with the physical environment to promote learning and competence (see also effectance motivation: the intrinsic desire for competent interactions with the environment; White, 1959). In a proximal sense, the attachment system acts as a homeostatic mechanism that keeps proximity seeking and exploration in balance. When the child strays too far from the caregiver in exploring the environment, anxiety becomes intolerably high and motivates the child to reestablish proximity.

Secure attachment and goal attainment

Secure attachments free one to explore the interpersonal and material worlds (Ainsworth, Blehar, Waters, & Wall, 1978; Elliot & Reis, 2003; Mikulincer & Shaver, 2003). In terms of development, having a *secure base* to return to allows the child to explore in ever widening circles until s/he internalizes the caregivers' secure base functions in the form of schemas and attachment working models (see Ainsworth et al., 1978; Bowlby, 1969/1982, 1988). These models underlie confidence and autonomy. Accordingly, securely attached children become increasingly efficacious individuals who believe that (i) they are lovable and worthy of support, (ii) others are available and responsive, and (iii) the world is a safe and predictable place where goals and material resources can be readily attained (Ainsworth et al., 1978; Bartholomew & Horowitz, 1991; Bowlby 1969/1982; Brennan, Clark, & Shaver, 1998). In the parlance of RCT, securely attached individuals, at some level, understand the role of the social group in resource allocation, and, moreover, view others positively as avenues for successful goal attainment.

A sizeable literature has tested Bowlby's claims about the interconnectedness between the attachment and exploratory systems. Mostly conducted in childhood to date, this work has linked children's attachment to manifestations of the exploratory system, such as mastery motivation, goal orientedness, task persistence, and school performance (e.g., Busch-Rossnagel, Knauf-Jensen, & DesRosiers, 1995; Moss & St. Laurent, 2001; Pianta & Harbers, 1996). Although less research has been conducted with adults (such as college students), the work interfacing attachment and manifestations of the exploratory system has demonstrated some important consistencies with the work with children (for an array of applications, see Green & Campbell, 2000; Hazan & Shaver, 1990; Mikulincer, 1997). For example, within a motivation perspective, adults higher on security tend also to be higher on need for achievement and mastery goals, and lower on fear of failure (Elliot & Reis, 2003). Similarly, hope (i.e., a sense of agency to pursue and achieve goals: Snyder, 1994; Snyder et al., 1991) research has demonstrated that, among college students, attachment security predicts high hope in both social and achievement domains (e.g., Shorey, 2006; Shorey, Snyder, Yang, & Lewin, 2003). Notably, when secure attachment is lacking, the pursuit of social versus achievement goals becomes unbalanced and individuals come to emphasize pursuing goals in one of these areas at the expense of the other (e.g., valuing material pursuits over social contacts; Shorey, 2006). Thus, with secure attachment, both the material and social worlds are optimally interfaced. In the language of RCT, these individuals may optimally balance both "getting along" and "getting ahead" and accordingly value their social contacts more than material resources (Hawley, 2003b; cf. Ojanen, Grönroos, & Salmivalli, 2005).

Without a secure base, an individual may adapt to maximize perceptions of security in relationships by, for example, becoming hypervigilant for rejection cues (a "hyperactivation" of the attachment system; Bartholomew & Horowitz, 1991; Mikulincer & Shaver, 2003), a characteristic of an insecure attachment style. Individuals in a chronic state of high attachment anxiety can become "preoccupied" with relationships (Bartholomew & Horowitz,

1991) and this preoccupation can manifest as an eagerness to please to gain acceptance from others and to avoid intolerable feelings of social rejection. Relative to those with secure schemas, this social preoccupation can impair achievement strivings and undermine a sense of agency (e.g., hope) in material goal attainment (Shorey, 2006). Indeed, those with secure attachment schemas tend to frame achievement challenges in terms of potential gains, while those characterized by anxiety or avoidance are motivated by fear of potential losses (Elliot & Reis, 2003).

In contrast to attachment anxiety, attachment avoidance can result when emotional displays are met with caregiver rebukes (Connors, 1997; Main, 1990). To adapt, the developing individual can turn away from social goals (e.g., emotional contact and interpersonal security) and toward material goal pursuits (for which they are reinforced; Mayseless, 1996). As such, those with high levels of attachment avoidance may view “relationships as secondary” to achievement and accordingly ascribe little importance to their personal relationships (or, alternatively, distrust others’ dependability; Feeney, Noller, & Hanrahan, 1994) and instead place a higher value on the material world. The implications for social dominance are suggestive; such avoidant orientations may underlie coercive strategies of resource control. Perhaps especially relevant to the bistrategic, avoidant individuals often are aware that others are needed to achieve instrumental goals, even while they eschew intimacy.

Approaches to the questions under study

We framed our introduction to attachment theory in terms reminiscent of the more familiar attachment *types* or *styles* (e.g., Hazan & Shaver, 1987). In the present study, however, we will be using continuous dimensions (e.g., Fraley & Spieker, 2003; Fraley & Waller, 1998); namely, we will explore the relationships among attachment dimensions and social dominance *means* (prosocial and coercive strategies of resource control) and *ends* (overall resource-control ability) via regressions and correlations (i.e., *variable-centered* hypotheses and analyses). In contrast, other questions we pose concern the attachment functioning of the different resource-control types and are explored via analysis of variance (ANOVA). We will address our variable-centered hypotheses first, followed by our person-centered hypotheses. To these ends, we will use four dimensions derived from a general measure of attachment, the Attachment Style Questionnaire (ASQ) for adults (i.e., Feeney et al., 1994), Confidence in Relationships, Anxiety, and two dimensions of avoidance reflecting different underlying motivations: Discomfort with Closeness (feelings that others cannot be depended on) and Relationships as Secondary (putting goals ahead of relationships).

Variable-centered hypotheses

In terms of attachment, what predicts resource-control effectiveness (i.e., social dominance) in college students? Because we believe that social dominance results, at least in part, from a high functioning exploratory system (as well as personality; Hawley, 2006), we surmise felt security plays a central role. We are not measuring attachment security per se (which by all

accounts is a multivariate person-centered confluence of low anxiety and low avoidance; e.g., see Brennan et al., 1998), but rather its component parts as continuous variables such as Confidence, Anxiety, Discomfort with Closeness, and Relationships as Secondary. The components of security we feel will predict resource control (i.e., goal attainment in the material world) are first and foremost confidence (positively), followed by anxiety and discomfort with closeness (negatively) in so far as anxiety and avoidance undermine security. In addition, holding relationships as secondary to achievement (Feeney et al., 1994) would undoubtedly serve personal goal attainment.

We expect prosocial strategies of resource control (as a continuous variable) likewise to be strongly predicted by confidence because in order to effectively use the social group (e.g., by forming reciprocal alliances), one must feel a part of it. At the same time, however, we hypothesize that anxiety might also be associated with prosocial strategies, because of the anxiously attached individuals' concerns with pleasing others. Therefore, they may favor socially acceptable means of pursuing material goals in order to win esteem and to avoid censure to which they are exquisitely attuned. Prosocial strategies are not altruistic: they are associated with material pursuit. For this reason, we believe that prosocial strategies will be associated with valuing both the material and social worlds as resources.

Finally, because coercive strategies are associated with bypassing or confronting the resource-yielding benefits of the social group, and perhaps even viewing the social world as an impediment to goal attainment, we hypothesize that coercive strategies as a continuous variable will primarily be associated with avoidance (discomfort with closeness and viewing relationships as secondary to achievement). Accordingly, coercive strategies should be associated with valuing material resources and devaluing social resources.

Although RCT has in general emphasized gender similarities over gender differences (e.g., Hawley, Little, & Card, 2008) it is possible that males' purported greater instrumentality in relationships (e.g., Geary, 1998) will be reflected both in a greater material orientation than females' (e.g., putting goals above relationships, valuing material resources), as well as coercive strategies of their pursuit. In contrast, in light of females' greater communal orientations, women may favor prosocial strategies and place a greater value on social resources than men. For these reasons, we will attend to issues of gender.

Person-centered hypotheses

In addition to the regression-based variable-centered hypotheses above, an additional strength of the present study is to use a more person-centered approach to explore how the continuous attachment constructs are related to unique combinations of prosocial and coercive strategies as they occur in different types of individuals.

In some cases, a person-centered approach may seem redundant with the variable-centered approach. For example, we believe that prosocial controllers (those who use predominately prosocial strategies) will exhibit a

level of confidence in relationships that reflects their ability to interface positively with both the social and material worlds. Their high quality relationships, intrinsic motivations to pursue them, and high intimacy and low conflict within them suggest to us that relationships are in fact *primary* to prosocial controllers (versus secondary), and that they would be seen as resources in and of themselves. Consistent with the reasoning above, they may be somewhat anxious, but should not be avoidant. In contrast, we believe coercive controllers will prove to be highly avoidant and view relationships as secondary to achievement goals. The literature on non-controllers suggests that they subvert their goals to others and fail to interface positively with the social world (Hawley, 2003a, 2003b). Accordingly, we believe non-controllers will display qualities associated with attachment insecurity (low confidence, high anxiety), and, because they are especially low on goal pursuit (i.e., do not value material goals as others do), correspondingly low on relationships as secondary. Since typical controllers tend to be average in many ways, they provide a useful baseline for comparison to the other groups. As such, we pose no specific hypotheses about them.

Time and again, the person-centered approach has been especially useful in illuminating the behavioral and motivational profile of the bistrategic controllers. Previous studies have shown bistrategics to have a mix of motivations (are both intrinsically and extrinsically motivated to pursue friendship; Hawley, Little, & Pasupathi, 2002) and relationship behaviors (e.g., good at intimacy, but aggressive; Hawley, Little, et al., 2007). Yet, they are highly resource directed. Accordingly, we anticipate they will place the highest value on material resources. Their co-employment of both prosocial and coercive strategies suggests that they both see social relationships as a useful path to goal attainment and should place a high value on said relationships as well (i.e., see relationships as resources), yet at the same time will bypass the social group to achieve their goals. For this reason, we believe they may show the most complex combination of attachment facets that may not be well represented by the variable-centered approach outlined above. Firstly, their goal orientation suggests to us that they will be especially prone to viewing relationships as secondary. Because they are high employers of prosocial strategies (like prosocial controllers), we suggest they also may be high on anxiety (e.g., preoccupation). If one has a certain level of social skill and attunement to the responses of others (as the bistrategics do), a high level of monitoring would seem highly useful to avoid alienating peers, even as one is deceptive and aggressive. Indeed, bistrategic controllers (unlike coercive controllers) are especially adept at maintaining relationships despite their relatively high levels of aggression (Hawley, Little, et al., 2007). Simultaneously, they are proficient at using the social group to achieve goals, which suggests to us a reasonable level of confidence.

Method

Participants

Data were collected from 524 undergraduates at a large Midwestern University during the fall of 2006 and spring of 2007. Two hundred and eighty-two were participants via the Introductory Psychology participant pool (and earned course credit), and 242 were participants of a related study involving six Scholarship Halls. The average age of the participants was 19.75 years, with a standard deviation of 2.01. Two hundred and sixty-one were women, 263 were men. The sample was 1.96% African American, 3.52% Hispanic, 84.93% white, 1.57% Native American, 5.09% Asian, and the remaining was “Other”.

Measures

Attachment Styles Questionnaire. The ASQ is a broad-based, general adult attachment measure designed to accommodate participants with little or no romantic experience (Feeney et al., 1994). Its 40 items were devised to tap into constructs related to the attachment dimension as originally described by Ainsworth, and later modified by those studying attachment in adults (e.g., Hazan & Shaver, 1987). Participants respond on a seven-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Although the authors originally described five dimensions inherent in the instrument (i.e., Confidence in Relationships: *I am confident that other people will like and respect me*; Discomfort with Closeness: *I find it difficult to depend on others*; Need for Approval from Others: *It's important to me to avoid doing things that others won't like*; Preoccupation with Relationships: *I often feel left out or alone*; and Viewing Relationships as Secondary to Achievement: *Achieving things is more important than building relationships*), the present authors found a four-factor pattern to best summarize the present data. This solution collapses Preoccupation and Need for Approval into a single factor (hereafter referred to as Anxiety). Both Discomfort with Closeness and viewing Relationships as Secondary can be viewed as avoidance but for different reasons; namely, avoidance due to distrust and due to devaluing relationships in favor of goal directedness, respectively. In the present study, Cronbach's alphas were as follows: Confidence ($\alpha = .82$), Anxiety ($\alpha = .83$), Discomfort with Closeness ($\alpha = .84$), and Relationships as Secondary ($\alpha = .66$).

Resource-control strategy inventory (RCSI). This measure examines strategies for goal attainment along prosocial or coercive dimensions (Hawley, 2006). A Likert-type scale from 1 (*strongly disagree*) to 7 (*strongly agree*) is used to measure a participant's agreement with statements indicating prosocial resource-control strategies (i.e., Prosocial Control; *I access resources (material, social, informational) by promising something in return*: $\alpha = .75$), coercive control strategies (i.e., Coercive Control; *I access resources (material, social, informational) by dominating others*: $\alpha = .81$), and perception of one's own resource-control effectiveness (i.e., Resource Control; *I am successful*

at getting the things that I and others value: $\alpha = .81$). In addition, in order to explore whether respondents viewed material items as resources and/or social contacts as resources, we presented the following statements to be answered on the aforementioned seven-point scale: *I see material things as valuable resources* (Material Resource); *I see people as valuable resources* (Social Resource).

Creating the resource-control subtypes. In general, because social dominance and strategy use is, by definition, a relative differential (Hawley & Little, 1999), we define resource-control types by dividing the distributions of responses on both the prosocial and coercive strategy-use constructs into thirds (rather than using absolute cut offs or criteria; see Hawley, 2003a, 2003b). Generally, the five groups were formed as follows: (i) *bistrategic controllers* score beyond the top 66th percentile on both dimensions; (ii) *prosocial controllers* score beyond the top 66th percentile on prosocial control, but average or low on coercive control; (iii) *coercive controllers* score beyond the top 66th percentile on coercive control, but average or low on prosocial control; (iv) *non-controllers* score in the lower 33rd percentile on both dimensions; and (v) *typical controllers* score less than the 66th percentile on both, but below the 33rd percentile on neither or only one of the control strategies. For the present 524 participants, we derived our tripartite criteria from over 2000 undergraduates who responded to our prosocial and coercive strategies of resource control in a web-based prescreen instrument at the onset of fall 2006 and spring 2007. In our view, these 2000 students in the Introductory Psychology class represent well our population of undergraduates as a whole. Sample sizes by type are presented on Table 1. The gender distribution for resource-control type did not significantly differ from chance expectations.

Analytic strategy

The present study can be seen as a fusion of variable centered and person-centered techniques. As described above, we first performed exploratory factor analysis on the ASQ (Feeney et al., 1994) and derived four factors. The remaining analyses were then performed on these four factors (Confidence, Anxiety, Discomfort with Closeness, Relationships as Secondary) and

TABLE 1
Gender distributions for self-reported resource control groups

	BC	PC	CC	TC	NC
Females	33	26	43	103	56
Males	40	28	66	84	45
Total	73	54	109	187	101

$\chi^2 (4) = 8.72; p > .05$.

Note: BC denotes bistrategic controllers, PC denotes prosocial controllers, CC denotes coercive controllers, TC denotes typical controllers, and NC denotes non-controllers.

Social Resource and Material Resource. We then used regression (variable-centered) analyses to explore the predictors of perceived success at resource control, prosocial strategies of resource control, and coercive strategies of resource control. For these purposes, both prosocial and coercive strategies were residualized from each other (they are moderately correlated, see below) in order to explore the relationships of the attachment constructs to each uniquely. Finally, our person-centered analyses were predicated on the types formed by the distributions of prosocial and coercive resource control. Utilizing the reduced number of ASQ dimensions and Social Resource and Material Resource, we explored resource-control group mean differences, gender differences, and gender by resource-control group interactions by way of ANOVAs.

Three sets of analyses were performed. Firstly, gender differences in strategy use and resource orientation were explored. Secondly, we performed standard correlations and multiple regressions to examine the value of attachment to predicting social dominance (i.e., Resource Control), and the two strategies associated with it (Prosocial and Coercive Control). Lastly, we explore our person-centered hypotheses by ANOVAs (gender by resource-control type) to test our hypotheses about the attachment status of the five resource-control subtypes.

Results

Gender differences

Mean differences by gender are presented in Table 2. On the constructs of interest, as expected, males scored higher than females on coercive strategies of resource control ($F(1, 522) = 10.69, p = .001, \eta^2 = .02$) and the Relationships as a Secondary factor of the ASQ, $F(1, 521) = 19.86, p < .001, \eta^2 = .04$). In contrast, females rated themselves as higher than males on Anxiety

TABLE 2
Raw means, standard deviations, and gender differences across variables of interest

	Females		Males		<i>F</i>	η^2
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Slf Pred Resource Control	4.02	.96	4.17	.93	3.31	.006
Prosocial Strategies	3.17	1.21	3.35	1.10	3.32	.006
Coercive Strategies	1.56	1.79	1.79	.85	10.69	.02
ASQ_Confidence	4.95	1.04	4.93	.96	.07	.00
ASQ_Anxiety	3.99	.99	3.66	.93	15.75	.03
ASQ_Discomfort	3.97	1.16	3.72	1.03	6.99	.01
ASQ_RelsSecondary	2.60	.84	2.93	.83	19.86	.04
Social Resource	5.10	1.51	5.27	1.39	1.72	.003
Material Resource	3.47	1.71	4.21	1.48	27.83	.05

($F(1, 521) = 15.75, p < .001, \eta^2 = .03$) and Discomfort with Closeness ($F(1, 521) = 6.99, p < .01$). Finally, males appear to be more materially oriented than females (Material Resource: $F(1, 522) = 27.83, p < .001, \eta^2 = .01$). Contrary to our hypotheses, no significant gender difference emerged for Social Resource or Prosocial Control.

Variable-centered analyses

Correlations. Correlations among the variables under study are displayed in Table 3. Resource control (our instantiation of social dominance) is positively correlated with both strategies of attainment, prosocial, and coercive (although more strongly with the former in this college sample). As has been found in other studies (and is expected by theory), prosocial strategies and coercive strategies are also positively correlated with each other.

In addition to several factors of the ASQ being intercorrelated (e.g., Confidence was negatively correlated with Anxiety, and Discomfort with Closeness), they were also differentially related to the resource-control variables. For example, Resource Control was positively related to Confidence, and yet relatively unrelated to Anxiety, Discomfort with Closeness and Relationships as Secondary. Coercive strategies of resource control appear to be primarily associated with Relationships as Secondary.

TABLE 3
Inter-variable correlations

	1	2	3	4	5	6	7
1. Slf Prcd Resource Control	1.	0					
2. Prosocial Strategies	.43*	1.0					
3. Coercive Strategies	.26	.43*	1.0				
4. ASQ_Confidence	.47*	.08	-.16	1.0			
5. ASQ_Anxiety	-.20	.18	.17	-.51*	1.0		
6. ASQ_Discomfort	-.23	-.04	.18	-.64*	.45*	1.0	
7. ASQ_Relationships as Secondary	.13	.22	.46*	-.29	.21	.32*	1.0

Note: Correlations for males and females did not differ appreciably. Therefore, the tabled correlations reflect the full sample of 524. Because of the large sample size, however, correlations diverge significantly from 0 at a magnitude as low as .15. For this reason, only those with a notable effect size are indicated by * (i.e., $r > .30$).

Predicting social dominance and resource-control strategies

Social dominance and attachment as reflected in social relationships (ASQ). Regressions of Resource Control on gender and the four ASQ factors (see Table 4) indicate that Resource Control was not significantly predicted by gender, but instead was best predicted by a complex combination of the four attachment factors, most strongly Confidence and Relationships as Secondary. Marginal effects emerged for Anxiety and Discomfort with

TABLE 4
Predictors of resource, prosocial strategies, and coercive strategies of resource control by the ASQ (Feeney et al., 1994)

	Resource Control		Prosocial Strats.		Coercive Strats.	
	β	p	β	p	β	p
Gender	.01	.90	.05	.23	.04	.29
ASQ						
Confidence	.56	<.0001	.29	<.0001	-.11	.05
Anxiety	-.11	.01	.31	<.0001	.09	.25
Discomfort with Closeness	.10	.04	-.10	.09	.06	.26
Relationships as Secondary	.16	<.0001	.07	.13	.35	<.0001
	$F = 43.47,$ $p < .0001,$ $R^2 = .30$		$F = 11.89,$ $p < .0001,$ $R^2 = .10$		$F = 22.94,$ $p < .0001,$ $R^2 = .18$	

Closeness. Overall, 30% of the variance in resource control was accounted for by gender and attachment as measured by the ASQ.

As can be seen in Table 4, prosocial strategies of resource control were largely a function of Confidence and Anxiety. Coercive strategies of resource control were predicted primarily by Relationships as Secondary. Ten percent of the variance in prosocial strategies was accounted for by gender and attachment as measured by the ASQ, and 18% in coercive strategies of resource control.

Resource control and the valuation of social and material resources. Resource-control ability was predicted by viewing both social and material resources as important (Social Resource: $\beta = .19$; $p < .0001$; Material Resource: $\beta = .17$; $p < .0001$), as was Prosocial Control (Social Resource: $\beta = .22$; $p < .0001$; Material Resource: $\beta = .30$; $p < .0001$). Coercive Control was significantly predicted only by Material Resource ($\beta = .10$; $p < .05$).

Person-centered analyses

Table 5 displays mean differences in attachment by resource-control group. Because all data have been standardized to a mean of zero and a standard deviation of one, values greater than zero indicate that the type is above the average of the entire sample on that variable, and values less than zero indicate that the group is below the sample average. As can be seen in Table 5, prosocial controllers ($M = .53$) are well above the mean on Confidence, and as such are significantly higher in confidence than both coercive controllers ($M = -.37$) and typical controllers ($M = .01$). Bistrategic, typical, and non-controllers all score at or around the average for the entire sample, and thus do not stand out in confidence. On Anxiety, the bistrategic and non-controllers stand out as extreme, but in opposite directions. For Discomfort with Closeness, bistratics as a group score quite high, while

TABLE 5
Mean differences in attachment facets across the resource control subtypes
(gender controlled)

Variables	Bistrategic controllers (b) <i>n</i> = 73	Prosocial controllers (p) <i>n</i> = 54	Coercive controllers (c) <i>n</i> = 109	Typical controllers (t) <i>n</i> = 187	Non- controllers (n) <i>n</i> = 101	<i>p</i>	η^2
	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>		
ASQ							
Confidence	-.04	.53 _{c,t}	-.37 _{p,n}	.01 _p	.13 _c	<.0001	.06
Anxiety	.34 _n	-.08	.14 _n	.03	-.42 _{b,c,t}	<.0001	.06
Discomfort with Closeness	.26 _p	-.45 _{b,c}	.19 _p	-.07	-.02	<.0001	.04
Relationships as Secondary	.61 _{p,t,n}	-.27 _{b,c}	.44 _{p,t,n}	-.13 _{b,c,n}	-.53 _{b,c,t}	<.0001	.15
Social Resource	.33 _n	.55 _{c,t,n}	-.14 _p	-.07 _p	-.24 _{b,p}	<.0001	.06
Material Resource	.63 _{c,t,n}	.31 _n	.16 _{b,n}	-.14 _{b,n}	-.52 _{b,p,c,t}	<.0001	.12

Note: Means comparisons were conducted within rows using Tukey’s Honestly Significant Difference test. Subscripts indicate significant differences at *p* < .01. A subscript of “b” indicates the value differs from that of bistrategic controllers, “p” from that of prosocial controllers, “c” from that of coercive controllers, “t” from that of typical controllers, and “n” from that of non-controllers.

prosocial controllers score quite low. For Relationships as Secondary, again the bistrategic controllers score the highest, followed closely by the coercive controllers, while prosocial and non-controllers score quite low on average.

Prosocial controllers are particularly high on Social Resource (see Table 5), while bistrategic controllers are particularly high on Material Resource. Nonetheless, both groups score above average on seeing both social contacts and the material world as resources. Coercive controllers favor material resources over social, while non-controllers view neither as particularly valuable as they score the lowest on both. As has often been the case, typical controllers’ scores as a group (the largest) reflect an unremarkably average profile, which underlies their utility as a reference group for comparison.

Discussion

The present study explored the attachment correlates of social dominance. The term social dominance has been used primarily by primatologists, zoologists, and developmental psychologists to describe competitive differentials among individuals of social groups. Work in the developmental domain on children’s social relationships has shown social dominance to be related to patterns of gaze (Vaughn & Waters, 1981), affiliation (Hawley & Little, 1999; Pellegrini & Bartini, 2001), dating (Pellegrini, 2001), aggression (Hawley, 2003a, 2003b), physical attractiveness (Hawley, Johnson, et al., 2007), and moral cognition (Hawley, 2003a). In other domains of psychology (e.g., social psychology), social dominance may translate into terms of power; namely, the capacity to influence the states and behaviors of others by virtue of the control of social and material resources (Keltner, Gruenfeld, & Anderson, 2003). Given the body of work growing on bistrategic resource controllers, it is very difficult to deny that they are indeed a powerful group of individuals.

The intriguing mix of prosociality and antisociality of the bistrategic controller raises interesting questions concerning the development of said behavior patterns. Although most perspectives would align the aggression of the bistrategic controller with social incompetence, maladaptation, and psychopathology (e.g., Coie & Dodge, 1998; Lochman & Dodge, 1994), RCT, in contrast, adopts a morally neutral (and evolutionary) stance, and entertains the possibility that the effectual fusion of resource-directed strategies is a powerful exemplar of human behavioral ingenuity (Hawley, 2003b; Hawley, 2007). The present study, with a combination of variable- and person-centered approaches, attempts to uncover the role of perceptions of the self in relation to others (attachment) for self-perceived social dominance. To this end, we fruitfully employed the ASQ, which provided an illuminating portrayal of how attachment-related schemas may underlie one's view of resources and how one pursues them.

Attachment schemas and resource control

The combination of methodological approaches in exploring these questions allows for a more complete picture than either method used on its own. At first glance, the four attachment constructs of the ASQ predict resource control in ways that seem to suggest that those who enjoy some aspects of attachment security (i.e., high confidence, low anxiety) are more effectively oriented to the material world than those who do not enjoy these aspects of security. Bowlby and Ainsworth would presumably argue that an optimal relationship to the material world is attained via attachment security (a positive view of the self and others); that is, both social and material goals could be competently pursued under those conditions. At the same time, however, Discomfort with Closeness (an aspect of avoidance) was also positively related to effective resource control. This somewhat contradictory pattern illustrates the complexity of attachment quality and its associations to the material world; avoidance similarly underlies goal pursuit, but perhaps suboptimally from a psychological perspective because the material pursuit is valued more than social relationships. The other facet of avoidance, namely viewing relationships as secondary, was also highly positively related to resource control as would be expected of those putting achievement goals ahead of intimacy.

Attachment schemas and resource-control strategies

An important novel contribution of the present study is not only to contribute to the understanding of resource control, but also possible paths to its attainment. As expected, prosocial strategies of resource control (i.e., those characterized by reciprocation, cooperation, and other socially condoned behaviors) were predicted by confidence and anxiety as measured by the ASQ. Prosocial strategies, as described by RCT, are indirect strategies that utilize the social group to access resources in socially appropriate ways. Consistent with this view, prosocial control was found to be associated with viewing material things and relationships as valuable resources. The theoretical underpinnings of prosocial strategies lie in the literature describing the evolution or reciprocal altruism (e.g., Trivers, 1971), a body of work that

suggests many of our social emotions evolved to regulate social exchange (e.g., trust, guilt). To employ prosocial strategies effectively, we suggested that one should feel positive and optimistic interfacing with the social group (i.e., that peers are responsive and open to one's overtures). At the same time, we believe that prosocial strategies rely on a special attunement to group approval that is captured by anxiety items of attachment measures. After all, prosocial strategies have been theorized to evolve to win group approval and acceptance (Hawley, 1999).

Perhaps surprisingly, females were not more likely to endorse prosocial strategies than males, nor did they place greater value on relationships as resources than males. This pattern effectively highlights the contrast between prosocial strategies and prosociality; namely, prosocial strategies are not altruistic and carry a heavy dose of premeditated instrumentality. Perhaps under other conditions (e.g., stress) females would be more likely to pursue intimate social contacts (e.g., Taylor, Klein, Lewis, Gruenewald, Gurung, & Updegraff, 2000), but not in terms of goal achievement, evidently.

In contrast to prosocial strategies, coercive strategies bypass the social group and tend to be upsetting to group members when used alone. Accordingly, coercive strategies were predicted by viewing the material world only as a resource. In light of well-documented gender differences in aggression (Coie & Dodge, 1998) and instrumentality (Geary, 1998), it should come as no surprise that these constructs were endorsed more strongly by males than females.

We reasoned that avoidance in terms of distrust of others, and especially holding relationships to be secondary to achievement goals, would facilitate coercive strategy use (which is highly associated with instrumental aggression). Based on the ASQ, we did not find coercive strategies to be related to Relationship Discomfort with Closeness over and above Relationships as Secondary. We also uncovered a marginal effect for Confidence in a negative direction. In retrospect, this relationship stands to reason on the same grounds we felt confidence would positively predict prosocial strategies; namely, for those high on coercive control there is doubt that one would win positive response or respect from the group. Interestingly, by virtue of their own behavior, this doubt in many cases would be a self-fulfilling prophecy.

Attachment schemas of resource-control types

From the preceding variable-centered analyses, it may be tempting to conclude that those using coercive strategies lack confidence, and those using prosocial strategies enjoy a good deal of confidence. Although intuitively appealing and perhaps theoretically defensible, such conclusions may be an over simplification. Two distinct types of resource controllers claim to employ prosocial strategies: prosocial controllers and bistrategic controllers. Similarly, two types employ coercive strategies: coercive controllers and bistrategic controllers. The relationships among dominance and attachment are further explicated by comparing these groups via person-centered analyses.

Bistrategic controllers, for example, are average on Confidence (see Table 5), and, at the same time, show an interesting mix of high anxiety and high avoidance (especially for Relationships as Secondary). This pattern highlights the point that avoidance does not entail total evasion of social interactions, but rather avoidance of intimacy. One can have many relationships and use one's social network effectively without forming deep and meaningful ties to others. Consistent with this observation is the detail that bistrategic controllers view both the material and social world as resources. Bistrategic controllers who are high on Relationships as Secondary are likely to use social relationships instrumentally (e.g., as tools for social exchange) and to bolster their self-images as efficacious and successful. Indeed, research in early childhood and adolescence has shown that others are drawn to them, which doubtless bolsters their confidence (Hawley, 2003a, Hawley, Little, et al., 2007). On the other hand, bistrategic controllers are highly aggressive, both overtly (e.g., threats) and socially (e.g., social exclusion, gossip; Hawley, Little, et al., 2007). Their evident ability to turn on the charm and yet turn on those around them (i.e., Machiavellianism; Christie & Geis, 1968; Hawley, 2003a, 2006) likely depends on (i) their evident fondness of the material world (Material Resource), (ii) their regard of others as 'resources' (Social Resource), and (iii) their valuing interpersonal relationships second to material pursuits (Relationships as Secondary).

Compared with bistrategic controllers, coercive controllers experience similarly high levels of anxiety and avoidance, but as a group experience very low levels of confidence. These individuals are likely to have negative expectations of social relationships (they do not view relationships as resources) and perceive low probabilities of goal attainment. Hence, they may react to perceived threats (of not obtaining goals) with frustration and hostility. This latter point may also apply to bistrategic controllers to some degree. However, unlike bistrategic controllers, coercive controllers tend to repel others, which can easily account for their lack of confidence. Their lack of social skills (e.g., knowing how they make others feel) and poor regulation (e.g., low conscientiousness) make them very different from the bistrategic controllers.

Prosocial controllers, on the other hand, have an attachment profile that fits most similarly to descriptions of security: high confidence, very low avoidance, and modest anxiety (very near to the group average). Being securely attached, these individuals are not likely to have developed the high achievement orientation that for some avoidant persons acts as an intrapsychic defense against social rejection. Prosocial controllers, because they are socially invested, see social ties as resources more so than other groups, and expect (and get) positive social interactions, can achieve their goals through prosocial channels without the need to resort to coercion. Even though they esteem both social and material resources, they appear to assign a different significance to their interpersonal relationships than do bistrategic controllers, one that psychologists tend to evaluate more positively.

The reasonably healthy attachment profile of the non-controllers was unexpected. In middle school and high school, these children are anxious,

socially unskilled, withdrawn, lonely, and victimized (Hawley, 2003b). Given their very low social-dominance status (and thus low power), we would expect high levels of anxiety, low confidence, etc. These non-controlling college students, however, enjoy confidence levels at or above the group average, and low levels of anxiety and discomfort. Our expectation that they would be very low on relationships as secondary, however, was confirmed. Also consistent with our theoretical profile, they view neither the social world nor the material domain as resources they value.

Because we are at the beginning of our explorations with adults, we cannot resolve this puzzle in its entirety. Nonetheless, we have reason to believe that non-controlling college students may be qualitatively different from non-controlling juveniles; that is, extreme social subordinates such as non-controllers (i) may not attend large public universities, or (ii) may not participate in psychology experiments if they do. Approximately 10% of introductory psychology students do not complete the prescreening test, for example. We wonder if we might find individuals with juvenile non-controlling characteristics in this pool. Further discussion of the adult non-controller is outside of the scope of the present manuscript (but see Hawley, 2003b). Our speculation at this point, however, is that this group may be of rather contented slackers (i.e., low goal orientation), who are neither particularly appealing to their peers, nor particularly repellent. If we had a true representation of the population, these participants would probably be typical controllers.

Limitations of the current study

The present study wishes to speak to the origins of social dominance in attachment schemas. Our methods, however, preclude conclusions about causal direction; simultaneous measurement of attachment and resource-control strategies via questionnaire is not as methodologically strong as early attachment assessment via, for example, the Strange Situation in childhood with a (much) later follow up. Moreover, the complete reliance on self-report measures is suboptimal and opens the possibility that results are strained by social desirability and self-presentation issues. For example, perhaps typical controllers are so unremarkably average on all of the attachment dimensions simply because they do not see themselves as extreme in any way on any dimension (but this perception may well be veridical). In addition, each measure is known to have its weakness. In the end, it could be argued that attachment in adults is more sensitively measured via clinical interviews (e.g., George, Kaplan, & Main, 1985/1996).

On the other hand, the results detailed here do not, in general, contradict previous studies on resource control in children and adolescents (except for the relatively high functioning non-controllers), especially as they relate to the documented patterns of functioning displayed by bistrategic controllers across multiple age groups (e.g., Hawley, 2003a, 2003b). As an additional strength, we kept attachment facets continuous and independent rather

than deriving a clinical profile, as is recommended by contemporary authors (Fraley & Spieker, 2003). Finally, merging variable-centered analyses with person-centered yields a complete and informative story.

Conclusions

The present study contributes to our understanding of interpersonal dynamics by integrating evolutionary and developmental elements with social psychological processes. In terms of evolution, emerging perspectives highlight individual differences over human universals (e.g., Ellis, 2004; Hawley, 2006). Fruitful avenues of exploration are considering social and material environmental triggers for adaptive behavioral variation, and focus on the attachment relationship as a central feature of the ecology (see also Del Giudice, 2009). From a developmental slant, social dominance relationships emerge early, can profoundly impact interpersonal relationships within groups of children (Hawley & Little, 1999), and affect outcomes such as peer regard (Hawley, 2003b; Hawley et al., 2008), dating success (Pellegrini, 2001), and well being. Until now, potential sources of individual differences for goal-attainment strategies had been the topic of speculation (e.g., Hawley, 1999). We now have good reason to believe that attachment relationships play a key role. These early relationships presumably teach one to see interpersonal relationships as welcoming, rewarding, and functional, or as inconvenient impediments to goal attainment. As such, the present study sheds first light on interpersonal dynamics as they relate to differential resource attainment and human power differentials.

REFERENCES

- Ainsworth, M. S. H., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Lawrence Earlbaum.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, *61*, 226–244.
- Bergman, L.R., & Trost, K. (2006). The person-oriented versus variable oriented approach: Are they complementary, opposites, or exploring different worlds? *Merrill-Palmer Quarterly*, *52*, 601–632.
- Bernstein, I. S. (1981). Dominance: The baby and the bathwater. *Behavioral and Brain Sciences*, *4*, 419–457.
- Bowlby, J. (1969/1982). *Attachment and Loss: Vol. 1. Attachment*. New York: Basic Books.
- Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory*. London: Routledge.
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment. In J. A. Simpson, & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). New York: Guilford Press.
- Busch-Rossnagel, N. A., Knauf-Jensen, D. E., DesRosiers, F. S. (1995). Mothers and others: The role of the socializing environment in the development of mastery motivation. In R. H. MacTurk, & G. A. Morgan (Eds.), *Mastery motivation: Origins, conceptualizations, and applications. Advances in applied developmental psychology, Vol. 12.* (pp. 117–145). Westport, CT: Ablex Publishing.

- Charlesworth, W. R. (1996). Co-operation and competition: Contributions to an evolutionary and developmental model. *International Journal of Behavioral Development, 19*, 25–38.
- Christie, R., & Geis, F. (1968). Some consequences of taking Machiavelli seriously. In E. F. Borgatta, & W. W. Lambert (Eds.), *Handbook of personality theory* (pp. 959–973). Chicago: Rand McNally.
- Coie, J. D., & Dodge, K. A. (1998). Aggression and antisocial behavior. In W. Damon (Series Ed.), & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th edn, pp. 779–862). New York: Wiley
- Connors, M. E. (1997). The renunciation of love: Dismissive attachment and its treatment. *Psychoanalytic Psychology, 14*, 475–493.
- Del Giudice, M. (2009). Sex, attachment, and the development of reproductive strategies. *Behavioral and Brain Sciences, 32*, 1–67.
- Elliot, A. J., & Reis, H. T. (2003). Attachment and exploration in adulthood. *Journal of Personality and Social Psychology, 85*, 317–331.
- Ellis, B. J. (2004). Timing of pubertal maturation in girls: An integrated life history approach. *Psychological Bulletin, 130*, 920–958.
- Feeny, J. A., Noller, P., & Hanrahan, M. (1994). Assessing adult attachment. In M. B. Sperling, & W. H. Berman (Ed.), *Attachment in adults: Clinical and developmental perspectives* (pp. 128–152). New York: Guilford Press.
- Fraley, R. C., & Speiker, S. J. (2003). Are infant attachment patterns continuously or categorically distributed? A taxometric analysis of strange situation behavior. *Developmental Psychology, 39*, 387–404.
- Fraley, R. C., & Waller, N. G. (1998). Adult attachment patterns: A test of the typological model. In J. A. Simpson, & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 77–114). New York: Guilford Press.
- Geary, D. C. (1998). *Male, female: The evolution of human sex differences*. Washington DC: American Psychological Association.
- George, C., Kaplan, N., & Main, M. (1985/1996). *Adult Attachment Interview*. Unpublished manuscript. Berkeley: Department of Psychology, University of California.
- Green, J. D., & Campbell, W. K. (2000). Attachment and exploration in adults: Chronic and contextual accessibility. *Personality and Social Psychology Bulletin, 26*, 452–461.
- Hawley, P. H. (1999). The ontogenesis of social dominance: A strategy-based evolutionary perspective. *Developmental Review, 19*, 97–132.
- Hawley, P. H. (2003a). Strategies of control, aggression, and morality in preschoolers: An evolutionary perspective. *Journal of Experimental Child Psychology, 85*, 213–235.
- Hawley, P. H. (2003b). Prosocial and coercive configurations of resource control in early adolescence: A case for the well-adapted Machiavellian. *Merrill-Palmer Quarterly, 49*, 279–309.
- Hawley, P. H. (2006). Evolution and personality: A new look at Machiavellianism. In D. Mroczek, & T. Little (Eds.), *Handbook of Personality Development*. New Jersey: Lawrence Erlbaum.
- Hawley, P. H. (2002). Social dominance and prosocial and coercive strategies of resource control in preschoolers. *International Journal of Behavioral Development, 26*, 167–176.
- Hawley, P. H. (2007). Social dominance in childhood and adolescence: Why social competence and aggression may go hand in hand. In P. H. Hawley, T. D. Little, & P. Rodkin (Eds.), *Aggression and Adaptation: The Bright Side to Bad Behavior*. Hillsdale, NJ: Lawrence Erlbaum and Associates.
- Hawley, P. H., Johnson, S. E., Mize, J. A., & McNamara, K. A. (2007). Physical attractiveness in preschoolers: Relationships with power, status, aggression and social skills. *Journal of School Psychology, 45*, 499–521.
- Hawley, P. H., & Little, T. D. (1999). On winning some and losing some: A social relations approach to social dominance in toddlers. *Merrill-Palmer Quarterly, 43*, 185–214.
- Hawley, P. H., Little, T. D., & Card, N. A. (2007). The allure of a mean friend: Relationship quality and processes of aggressive adolescents with prosocial skills. *International Journal of Behavioral Development, 31*, 22–32.

- Hawley, P. H., Little, T. D., & Card, N. A. (2008). The myth of the alpha male: A new look at dominance-related beliefs and behaviors among adolescent males and females. *International Journal of Behavioral Development, 32*, 76–88.
- Hawley, P. H., Little, T. D., & Pasupathi, M. (2002). Winning friends and influencing peers: Strategies of peer influence in late childhood. *International Journal of Behavioral Development, 26*, 466–473.
- Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 53*, 511–524.
- Hazan, C., & Shaver, P. R. (1990). Love and work: An attachment-theoretical perspective. *Journal of Personality and Social Psychology, 59*, 270–280.
- Hogan, R. T. (1983). A socioanalytic theory of personality. In M.M. Page (Ed.), *Nebraska Symposium on Motivation: Personality-Current theory and research* (pp. 58–89). Lincoln: University of Nebraska Press.
- Hogan, R., & Hogan, J. (1991). Personality and status. In D. G. Gilbert, & J. Connolly (Eds.), *Personality, social skills, and psychopathology: An individual differences approach*. New York: Plenum Press.
- Jones, C. J., & Nesselroade, J. R. (1990). Multivariate, replicated, single-subject repeated measures designs and P-technique factor analysis: A review of intra-individual change studies. *Experimental Aging Research, 16*, 171–183.
- Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review, 110*, 265–284.
- Kropotkin, P. (1902). *Mutual aid: A factor of evolution*. London: Doubleday.
- Lochman, J. E., & Dodge, K. A. (1994). Social-cognitive processes of severely violent, moderately aggressive, and non-aggressive boys. *Journal of Consulting and Clinical Psychology, 62*, 366–374.
- Main, M. (1990). Cross-cultural studies of attachment organization: Recent studies, changing methodologies, and the concept of conditional strategies. *Human Development, 33*, 48–61.
- Mayseless, O. (1996). Attachment patterns and their outcomes. *Human Development, 39*, 206–223.
- Mikulincer, M. (1997). Adult attachment style and information processing: Individual differences in curiosity and cognitive closure. *Journal of Personality and Social Psychology, 72*, 1217–1230.
- Mikulincer, M., & Shaver, P. R. (2003). The Attachment Behavioral System in Adulthood: Activation, Psychodynamics, and Interpersonal Processes. In M. Zenna (Ed.), *Advances in experimental social psychology, Vol. 35*. (pp. 53–152). Elsevier Academic Press, San Diego, CA.
- Moss, E., & St Laurent, D. (2001). Attachment at school age and academic performance. *Developmental Psychology, 37*, 863–874.
- Ojanen, T., Grönroos, M., & Salmivalli, C. (2005). An interpersonal circumplex model of children's social goals: Links with peer-reported behavior and sociometric status. *Developmental Psychology, 41*, 699–710.
- Pellegrini, A. D. (2001). The roles of dominance and bullying in the development of early heterosexual relationships. In R. A. Geffner, M. Loring, & C. Young (Eds.), *Bullying behavior: Current issues, research, and interventions* (pp. 63–73). Binghamton, NY: The Haworth Press.
- Pellegrini, A. D., & Bartini, M. (2001). Dominance in early adolescent boys: Affiliative and aggressive dimensions and possible functions. *Merrill-Palmer Quarterly, 47*, 142–163.
- Pianta, R. C., & Harbers, K. L. (1996). Observing mother and child behavior in a problem-solving situation at school entry: Relations with academic achievement. *Journal of School Psychology, 34*, 307–322.
- Shorey, H. S. (2006). The Interactions of hope and attachment styles in a social-cognitive-motivational model of depressive vulnerability. Unpublished doctoral dissertation. Lawrence: University of Kansas.
- Shorey, H. S., Snyder, C. R., Yang, X., & Lewin, M. R. (2003). The role of hope as a mediator in recollected parenting, adult attachment, and mental health. *Journal of Social and Clinical Psychology, 22*, 685–715.

- Snyder, C. R. (1994). *The psychology of hope: You can get there from here*. New York: The Free Press.
- Snyder, C. R., Harris, C., Anderson, J.R., Holleran, S. A., Irving, L. M., Sigmon, S. T., Yoshinobu, L., Gibb, J., Langelle, C., & Harney, P. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology, 60*, 570–585.
- Strayer, F. F., & Strayer, J. (1976). An ethological analysis of social agonism and dominance relations among preschool children. *Child Development, 47*, 980–989.
- Taylor, S. E., Klein, L. C., Lewis, B. P., Gruenewald, T. L., Gurung, R. A. R., & Updegraff, J. A. (2000). Biobehavioral responses to stress in females: Tend-and-befriend, not fight-or-flight. *Psychological Review, 107*, 441–429.
- Trivers, R. L. (1971). The evolution of reciprocal altruism. *Quarterly Review of Biology, 46*, 35–57.
- Vaughn, B. E., & Waters, E. (1981). Attention structure, sociometric status, and dominance: interrelations, behavioral correlates, and relationships to social competence. *Developmental Psychology, 17*, 275–288.
- White, R. B. (1959). Motivation reconsidered: The concept of competence. *Psychological Review, 66*, 297–333.