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Social Dominance in Romantic Relationships:  
A Prospective Longitudinal Study of Nonverbal Processes.

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### Abstract

The study of social dominance has a long tradition within the peer relationships literature, but rarely has the topic been investigated observationally and longitudinally within other salient close relationships. The present study investigated the role of experiences in social relationships and adjustment indices in childhood in predicting later observed nonverbal social dominance behaviors in the context of romantic relationships in emerging adults. Analyses from a subsample ( $n = 70$ ) from a 29-year prospective longitudinal study revealed links between early peer behavior and subsequent romantic relationship interactions for males and females. Nonverbal social dominance behaviors were concurrently associated with poor romantic relationship quality, conflict, and physical and verbal aggression within the dyad. Both childhood externalizing and internalizing behaviors significantly predicted nonverbal social dominance behaviors in the romantic partner interactions.

Keywords: Dominance, Romantic Relationships, Longitudinal, Observation

## Social Dominance in Romantic Relationships:

### A Prospective Longitudinal Study of Nonverbal Processes

The role of close interpersonal relationships as a context for individual functioning has been well documented in all subfields of psychology (i.e., social, cognitive, physiological; Reis, Collins, & Berscheid, 2000). Relationship scholars have advanced the research on developmental psychology by introducing notions of continuity and change across relationships and contexts (Collins & Laursen, 2004; Laursen & Bukowski, 1997). One area that has manifested these empirical advances is the study of social dominance (Hawley & Little, 1999). Social dominance patterns clearly exhibit both continuity and change across development and across relationship contexts (for review see Hawley, 1999). In the present work social dominance is defined as nonverbal behaviors that function to control, manipulate, or exercise power over another individual in a relationship to achieve resources or social position (Burgoon & Dunbar, 2000; Dovidio, Ellyson, Keating, Heltman, & Brown, 1988; Hawley, 1999, 2003; Keating & Heltman, 1994; Pellegrini & Bartini, 2001). Nonverbal social dominance behaviors include any behavior displayed without using verbal communication and include overt behaviors that result in contact with others (i.e., unwanted negative and intrusive physical touch to their partners' body) and covert tactics which do not include physical contact (i.e., resource control). In the present study, in keeping with the view that social dominance resources may be material or social (e.g., Hawley, 1999), romantic partners had the ability to physically control the experimental stimuli (i.e., ideal couple Q-sort cards), which resulted in resource control/utilization (i.e., not permitting

their partner to touch or sort the cards during the task), defined as one of the key socially dominant behaviors.

Researchers coming from divergent theoretical perspectives often differ on the precise operational definition of interpersonal social dominance. Some researchers with an evolutionary or ethological perspective view social dominance as resource utilization, which can be displayed as a win-loss hierarchy or a dominance hierarchy that is designed to maximize one's social benefits (e.g., food and reproductive options) and minimize their costs (e.g., injury or death; Buss, 1991; Charlesworth & Dzur, 1987; Charlesworth & La Freniere, 1983; Hawley, 1999). This perspective has received converging support from researchers who study the physiognomy of individuals as it relates to their social development over time (Keating, 1985; 2001) and from those who regard dominance as an indicator of toughness or strength (Boulton & Smith, 1990). Ethological approaches also have recognized that dominance is essentially an indicator of social power among specific members within a group and between all members of a social constellation (Strayer & Strayer, 1976). Close relationship researchers typically view dominance as a power relationship that is defined as hierarchical, vertical, and authoritative (Laursen & Bukowski, 1997). Communication scholars argue that dominance is essentially an interpersonal interaction that is not necessarily predicated upon negative communication styles (Burgoon & Dunbar, 2000). In fact, they argue that self-assurance, persuasiveness, and leadership are all empirically derived associations of dominant interactional styles (Burgoon & Dunbar, 2000).

Developmental psychologists recognize the power of relationship characteristics in the display of dominance. For example, Charlesworth and La Freniere (1983) revealed that, in a

resource utilization task (i.e., a movie viewer paradigm in which two children were needed to work the apparatus so a third child could view the movie), friendship status mediated the behavior of children in this limited resource situation. This point does not imply that friends are not dominant and past research has revealed that cooperative strategies may be used with or in lieu of competitive tactics to achieve dominance (Charlesworth, 1996). Despite this initial research on the relation between friendship status and dominance, to date no observational research of social dominance has explored other voluntary relationship contexts (i.e., romantic relationships).

Several limitations characterize the study of social dominance thus far. Despite an empirical tradition of naturalistic observational strategies for studying dominance within large groups (e.g., Keating & Heltman, 1994; Savin-Williams, 1979; Strayer & Strayer, 1976, etc.), observational strategies have only rarely been used to study social dominance among dyads (Hawley & Little, 1999; Pellegrini & Long, 2002) and usually with small sample sizes and with concurrent or cross-sectional samples. Most researchers have relied on self and other report methods (e.g., Q-sort, self report, teacher reports; Hawley 2003; Vaughn, Vollenweider, Bost, Azria-Evans, & Snider 2003). It is possible that gender biases and stereotypes (Condry & Ross, 1986) commonly influence the assessment of socially dominant individuals. In addition, self-reports are often inflated and not as objective of an assessment of true interactions when compared to observational methods (Pellegrini, 2001). Corroborating evidence with observational reports is greatly needed (Ostrov, Crick, & Keating, 2005). Furthermore, scholars have rarely used prospective longitudinal studies to investigate the development of social

dominance within relationship systems. Most studies are concerned with behavior in early (e.g., Hawley & Little, 1999) or middle childhood/early adolescence (e.g., Pellegrini & Bartini, 2001). Almost no studies have focused on late adolescents or emerging adults (but see Jensen-Campbell et al., 1995, for an exception). Currently, according to the extant literature we do not know what developmental features of early childhood may predict subsequent social dominance behaviors. Finally, most studies rely on verbal and overt nonverbal behaviors and neglect to study more subtle and potentially revealing nonverbal behaviors, which might be especially salient for women (Galen & Underwood, 1997; cf. Keating & Heltman, 1994).

Researchers are beginning to recognize the importance of gender as a moderator in these associations. Although gender differences in social dominance have been given considerable attention, researchers have yet to reach a consensus. Cross and Madson (1997) suggest that males are more dominant because they have a more independent self-view, while females have a more interdependent self view and are therefore less dominant. Other researchers suggest that the form of dominance may be the source of reported gender differences (Hawley, 1999). Specifically, data from Charlesworth and Dzur (1987) have documented that preschool boys tend to use physical means of influence, whereas, girls tend to use verbal strategies, but that the overall social dominance output is equal. Inconsistent findings regarding the direction of gender differences, however (La Freniere & Sroufe, 1985; Hawley & Little, 1999; Neppel & Murray, 1997) imply that the role of gender in social dominance across development and within various relationship contexts (i.e, sibling, peer, friendship, and among romantic relationships) remains unclear. Thus, a goal of the present study is to assess for gender differences using two measures

of social dominance (i.e., resource control and intrusive negative touch). Within the context of romantic relationships it is feasible that men and women use these behaviors in different ways, with men relying more on negative physical touch and women relying on potentially more covert resource control strategies. Therefore, despite past studies documenting that social dominance is more salient for males than females (Block, 1983; Crick & Grotpeter, 1995; Cross & Madsen, 1997) we first hypothesize that females will display more nonverbal resource control behaviors than males, given their reliance on covert nonverbal communication styles in limited resource situations (see Galen & Underwood, 1997; Ostrov & Keating, 2004). In addition, based on past literature (e.g., Pellegrini & Long, 2002; Pettit, Bakshi, Dodge, & Coie, 1990; Savin-Williams, 1979) we predict that males will display more overt unwanted negative touch than females during the session. Thus, the essential gender difference between males and female may depend on the form of dominance (Hawley, 1999), with covert behaviors occurring more among females and overt behaviors being displayed more by males (Crick & Grotpeter, 1995). For this reason we included 1 indicator of covert social dominance (i.e., resource control) and 1 indicator of overt social dominance (i.e., unwanted negative touch).

In Bugental's (2000) recent model of the algorithms of social life, she argues that social dominance and mating domains are representative of unique, domain specific spheres of social development with few interactions. That is, they have different social functions, developmental timing, social cognitions and hormonal underpinnings (Bugental, 2000). However, a limited body of evidence suggests that even though physiognomic cues of dominance likely play a significant role in physical attraction and reproductive success (Keating, 1994; Mazur, Halpern,

& Urdy, 1994) social dominance may be associated with poor relationship outcomes (Jensen-Campbell et al., 1995). These findings indicate that a more parsimonious domain general approach should be tested. To date, no known research has explored the association between observed social dominance and observed features of romantic relationships. Since past literature is not available to guide our hypothesis, this empirical question is exploratory in nature. Thus, our second main hypothesis is that social dominance behaviors will be associated with concurrent indicators of the content of the romantic relationship. Specifically we predict that social dominance behaviors will be associated with concurrent negative affect and negative displays of emotion (e.g., raising voice, hitting the partner, anger) rather than shared positive affect within the romantic relationship.

In the present paper, longitudinal data from an on-going 29-year prospective study was used to test several thus far unexamined hypotheses. The developmental significance and salience of early peer relationships in the development of subsequent emerging adult romantic relationships has been documented in recent studies (see Collins, 2003) and thus are the focal relationship contexts for the present study. For example, the quality of friendships in sixth grade has been found to have a direct effect on the age of first romantic relationships. That is, during middle childhood, children that have more intimate friendships form romantic relationships earlier than those who do not (Zimmer-Gembeck, Siebenbruner, & Collins, 2004). Furthermore, externalizing behaviors (e.g., aggression), negative peer interactions, controlling behaviors within friendships and peer relationships during middle childhood have been linked with later romantic relationships (Connolly, Furman, & Konarski, 2000; Linder & Collins, 2005). The

mounting evidence suggests that earlier in development, relationships within voluntary dyadic systems are more similar than different and patterns of interaction may be parallel across these contexts (see Collins, 2003). To date, no known studies have explored the possible role that early internalizing behaviors may play in predicting subsequent functioning within romantic relationships. Thus, the third exploratory hypothesis, derived from developmental theories of relationships (e.g., Collins & Sroufe, 1999; Sroufe, Egeland, Carlson, & Collins, 2005), predicts that early social behaviors and social-emotional problems (i.e., externalizing and internalizing behaviors) within the peer context during early childhood will be associated with future social dominance behaviors in romantic relationships during emerging adulthood. Specifically we hypothesize that middle childhood internalizing problems (i.e., crying, tantrums, immature behavior, and psychosomatic complaints) and externalizing problems (i.e., impulsivity, aggression, and poor peer relations) will predict measures of social dominance in adolescence for men and women.

We test these three main goals concerning the role of social dominance behaviors within emerging adult romantic relationships using a multi-method approach (i.e., multiple observations, teacher reports) and a diverse longitudinal sample.

## Method

### *Participants*

The participants in the current study were from an on-going 29-year longitudinal study of developmental adaptation in a sample of young primiparous mothers living in poverty (Mean age of mothers = 20.5 years, SD = 3.6, range = 12 to 34 years at delivery) and their first born

children (see Egeland, 1991). The original sample of mothers ( $N = 267$ ) was recruited in 1975-1977 from a large Midwestern city prenatal health clinic during their third trimester of pregnancy. This at-risk sample (i.e., poverty, 62% single parent status, and 43% of mothers had not completed high school) was ethnically diverse, 68% Caucasian; 12% African American; and 5% Latino, Asian, or Native American, with 15% of mixed racial backgrounds. At 24 months, the retention rate was 79% ( $N = 212$ ). By sixth grade, 65% of the original sample remained in the study and has continued since that time. The primary reason for attrition was moving out of the area without providing means of contact.

The current subsample, the children of the original recruited parents (70; 32 females) included those participants and their romantic partners (defined as a reported romantic relationships greater than 4 months) at age 20-21. The duration criteria ensured that couples engaged in short-term dating were excluded from this component of the study (Linder & Collins, 2005). The average duration of the romantic relationship was 25.07 months ( $SD = 16.80$ ), 6 participants were married and 13 were living with their partners. Screening for potential couples was conducted via phone interviews with participants and project staff just prior to the present study. There were no significant differences between the subsample and the larger sample with respect the key demographic variables (see Roisman, Madsen, Hennighausen, Sroufe, & Collins, 2001). Data on earlier aspects of the adolescents' dating experiences (i.e., age 16) and sexual behavior during late adolescence (i.e., age 19) has been presented in detail elsewhere (see Zimmer-Gembeck, Siebenbruner, & Collins, 2001; Zimmer-Gembeck et al., 2004).

### *Procedure & Measures*

*Early Child Behaviors and Teacher Ratings in 2<sup>nd</sup> and 3<sup>rd</sup> Grade.*

As part of the larger longitudinal data collection, in the second and third grade, the participants' homeroom teacher also completed an individual interview (M = 45 minutes) developed by project staff assessing each participating child's social-emotional and behavioral areas of weakness compared to the average or "typical" child of the same age and grade. The interview profile covers areas such as externalizing problems (i.e., impulsivity, physical aggression, and poor peer relations), and internalizing problems (i.e., crying, tantrums, immaturity, and psychosomatic problems). For each defined area, the teacher indicated if the behavior was considered a problem (code = 1) or not a problem (code = 0). From the individual codes, two larger constructs of internalizing and externalizing problems were created (Cronbach's alpha > .71).

*Observations of Concurrent Romantic Relationship Features at Age 20-21*

At ages 20-21, participants whose current romantic relationship had lasted four months or longer were invited to participate, with their partners, in a videotaped 30 minute observational session. In the videotaped sessions couples participated together in two collaborative problem-solving task, the Markman-Cox (Cox, 1991) procedure, and an Ideal Couple Q-sort using a Q-set adapted from the Dyadic Relationship Q-set (Bengtson & Grotevant, 1994). The observational session occurred either in the laboratory in a room equipped with a couch, table, chairs and a one-way mirror or for 2% of the participants in the couple's home when they could not or preferred to conduct the session at home. We include these few families in order to maximize our longitudinal sample size and because there were not any differences in the nature of the actual

procedure or obtained data from this very small group and the larger sample. The couple consented to being videotaped, and the equipment was in view. In the first section, the Markman-Cox (Cox, 1991) procedure, couples first completed a relationship problem inventory to identify aspects of their relationship that both regarded as a source of problems for them. Next, they jointly chose 1 problem to discuss, while being videotaped for 10 minutes. Finally they were to discuss a neutral topic for 4 minutes. In the ideal couple Q-sort, which followed, the couple was asked to sort the 45 items in terms of the sort that best described an ideal couple. The items, referred to individuality and connectedness in couple relationships (e.g., “partner states own opinion directly” and “partner uses words ‘we’ or ‘our’ when expressing feelings” etc).

The coding system was based partly on scales adapted from scales previously used with family interactions (Sroufe, 1991). From these, project staff members created 10 scales and 3 categories of codes (for details see Roisman et al., 2001). Four scales were based on affective tone: positive affectivity, negative affectivity, hostility, and anger. Positive affectivity and negativity referred to the degree of reciprocal expressions of positive emotion and negative emotion, respectively. Hostility referred to the occurrence of a cold, somewhat unresponsive, or rejecting dynamic in the pair. Anger referred to active, intense expressions of frustration, irritation, and impatience). Two other reflected interactive processes. Conflict resolution referred to the couple’s demonstrated ability to resolve disagreements to the mutual satisfaction of the partners. Secure base referred to the degree to which partners manifest tender needs to each other and the degree of comfort associated with these instances. An additional code was for overall relationship quality, which referred to the degree to which interactions reflected mutual caring,

trust, and emotional closeness; sensitivity to one another's needs and wishes; deep sharing of experience; and enjoyment of each other.

All scales were coded on 5 point scales except overall quality, hostility, and conflict resolution which were coded on a 7 point scale. Scale points corresponded to the degree and clarity with which the feature of the relationship was apparent in the videotaped interaction. Three additional scores consisted of various dynamic properties of the relationship (e.g., balance between the relationship and the context) and were not relevant to the focal variables in the present study.

Training was led by three expert coders who had led the construction of the coding scales. The three expert coders had reached 90% agreement among themselves before training the other seven coders. Training sessions for the other coders began with group coding of videotapes. Once coders had reached inter-coder agreement of 85%, pair coding was undertaken. Once each month, however, group coding (rather than only pair-wise coding) took place to avoid observer drift. 30% of the tapes were used for reliability training. All scales were coded by at least 2 observers. Intra-class correlation coefficients (ICCs) ranged from .83-.96.

Coders completed additional checklist items when the other aforementioned scales had been coded. These included behaviors such as hitting their partner and raising their voice during the session and were coded as present (1) or absent (0). Each behavior was coded separately for the male and female partner. Reliabilities (ICCs) ranged from .93-.98.

*Observations of Nonverbal Social Dominance in the Romantic Relationship at Age 20-21.*

Observations of nonverbal dominance (20 continuous minutes: 6 minutes of Markman-Cox, 4 minute neutral discussion and 10 minutes of the Q-Sort) were coded by independent observers and comprised 2 reliable behaviors used in the present analyses (i.e., (1) unwanted intrusive and negative touch, and (2) resource control). Coders were trained by discussing the codes in depth and practicing with tapes from past studies. Coders were reliable at the end of training (ICCs .75) and reliability was assessed throughout the study. These behaviors are based on past literature (i.e., Burgoon & Dunbar, 2000; Hawley, 1999; Jensen-Campbell et al., 1995; Keating & Heltman, 1994; Mehrabian, 1969; Pellegrini & Bartini, 2001) which established that they are exemplars of nonverbal social dominance.<sup>1</sup> The observers were completely independent from the aforementioned coders of romantic relationship features. They, too, were completely unaware of the participants' developmental history or participation status in the larger longitudinal study. Therefore, observational assessments were conducted on both members of the dyad.

In order to avoid verbal communication from influencing the raters' evaluation of nonverbal behaviors, observers turned the audio off during the observations and assessed each member of the dyad separately for dominance behaviors. During the second wave of coding, the observer recorded the behavior of the romantic partner. The observations were assessed independently for reliability on 30% of the sessions and ICCs were greater than .70 for these categories. Each time a behavior was observed, it was recorded under the representative category. Frequencies were summed within category to yield the respective variable.

## Results

First, we conducted zero-order correlations to assess the degree of inter-correlation between the two dominance behaviors as well as among the observed romantic relationship ratings and finally the inter-correlations and stability of the childhood internalizing and externalizing variables. Next, a MANOVA was conducted which tested for gender differences for the 2 social dominance behaviors. Third, using a series of step-wise regression models we assessed the concurrent associations between observed social dominance behaviors with other concurrent indicators of the nature of the relationship, which were independently assessed with observational methods. Finally, using a series of step-wise regression models, we assessed the association between earlier adjustment/peer functioning and subsequent social dominance behaviors in the romantic relationship dyad using the longitudinal subsample.<sup>2</sup> In addition, given the potential risk of Type I error, a more stringent and conservative alpha level was used ( $p < .01$ ) for all analyses.

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#### *Inter-correlation of Social Dominance Behaviors*

The two nonverbal social dominance behaviors, resource control and unwanted intrusive (negative) touch yielded a low, and nonsignificant correlation,  $r = .19, p < .07$ , indicating that these behaviors could appropriately be used in separate subsequent analyses.<sup>3</sup>

#### *Inter-correlations of romantic relationship ratings*

The inter-correlations of the romantic relationship ratings are provided in Table 2. They range from low to moderately high levels of association.

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#### *Inter-correlations and Stability of Childhood Teacher Ratings*

The inter-correlations of the childhood teacher ratings of internalizing and externalizing problems in grades 2 and 3 are presented in Table 3. They were generally low levels of association.

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#### *Gender Differences for Dominance*

To assess for possible gender differences in social dominance a MANOVA was conducted with resource control and intrusive touching as the two dependent variables. The omnibus test was not significant for gender,  $F(1, 69) = .01, ns$ , suggesting no significant difference between males ( $M = 1.39; SD = 1.35$ ) and females ( $M = 1.44; SD = 1.39$ ) for resource control or between males ( $M = 1.29; SD = 2.32$ ) and females ( $M = 1.29; SD = 2.50$ ) for intrusive negative touch.

#### *Concurrent Regression Analyses: Romantic Relationship Features Predicting Social Dominance Behaviors in the Romantic Relationship.*

Two stepwise regression models were conducted using the entire sample and the 2 observed dominance measures as the dependent variables (in separate models). In an effort to reduce the potential for increasing Type I error, only 9 predictor variables were included in all analyses: (1) Positive Affect, (2) Negative Affect, (3) Anger, (4) Hostility, (5) Conflict Resolution, (6), Male Raises Voice (7) Female Raises Voice, (8) Female Hits Partner, and (9) Romantic Relationship Overall Quality. Male hits his partner was never observed so this was dropped from further analyses. For ease of communication, only significant effects are presented.

For the regression model with negative intrusive touch as the dependent variable, the overall model was significant,  $F(1, 67) = 9.32, p < .01, R^2 = .12$ . Specifically, females raising her voice during the session ( $\beta = .35, p < .01$ ) was a significant predictor of intrusive touch during the romantic relationship session. No other effects were significant.

For the regression model predicting observed resource control, the overall model was significant,  $F(1, 67) = 8.91, p < .01, R^2 = .12$ . Specifically, the male partner raising his voice ( $\beta = .34, p < .01$ ) during the session significantly predicted observed resource control during the romantic relationship session at age 20-21.

*Longitudinal Regression Analyses: Early Childhood Behavior Predicting Social Dominance in Emerging Adult Romantic Relationships.*

Stepwise regression models were used to explore the link between early childhood behaviors and emerging adult social dominance behaviors in the romantic relationship. A small set of predictors from second and third grade comprised the two subordinate composite

constructs of internalizing and externalizing problems (i.e., 4 predictor variables) which were entered (separately) into the models predicting the 2 exemplars of dominance (in independent analyses). That is, the predictors (collected both in 2<sup>nd</sup> and 3<sup>rd</sup> grade) were run in models as a group of externalizing (i.e., (1) Poor Peer Relations, (2) Aggressive/Hostile, and (3) Impulsive Behavior) and Internalizing Behaviors (i.e., (1) Cries Easily, (2) Tantrums, (3) Immature Behavior, and (4) Psychosomatic Complaints). Therefore, only 8 models were run (i.e., 2 grade assessments x 2 early child behavior problems x 2 dominance behaviors x 2 participant gender).

*Predicting Observed Intrusive Negative Touch.* The stepwise regression model including second grade externalizing behavior for men was significant in predicting unwanted intrusive touch (by the men) during the romantic relationship session,  $F(1, 36) = 13.81, p < .001, R^2 = .27$ . In addition, for men, the model was significant for third grade internalizing behavior predicting unwanted negative touch at age 20-21 in the romantic relationship,  $F(1, 31) = 11.63, p < .01, R^2 = .47$ .

For women, the stepwise regression model for second grade internalizing problems was significant in predicting unwanted negative touch (by the women) during the romantic relationship session,  $F(1, 32) = 9.22, p < .01, R^2 = .23$ . For women and third grade, the internalizing model was also significant in predicting unwanted negative touch (by the women) in the romantic relationship,  $F(1, 31) = 8.91, p < .01, R^2 = .22$ .

*Predicting Observed Resource Control.* The stepwise regression model including third grade internalizing problems for men was significant in predicting resource control (by the men) during the romantic relationship at age 20-21,  $F(1, 36) = 11.63, p < .01, R^2 = .24$ .

For women, the stepwise regression model for second grade externalizing problems was significant in predicting observed resource control (by the women) in the romantic relationship session at age 20-21,  $F(1, 32) = 7.90, p < .01, R^2 = .20$ . For women and third grade, the externalizing model was also significant in predicting resource control (by the women) in the 20-21 year romantic relationship assessment,  $F(1, 31) = 8.91, p < .01, R^2 = .22$ .

### Discussion

Observations of emerging adults who were involved in a romantic relationship yielded reliable indicators of social dominance. There was no significant gender difference between men and women for the observed social dominance behaviors. These findings are consistent with past observational studies that have not found a specific gender difference for social dominance behaviors (Neppel & Murray, 1997). It may be, however, gender differences, likely favoring male participants, would emerge if more physical assessments of social dominance were also included in the analyses. Future research is needed to explore a more diverse array of social dominance behaviors.

Nonverbal social dominance behaviors (i.e., resource control and unwanted, negative and intrusive touch) were associated with some indicators of problematic social-emotional developmental histories for men and women, as well as concurrent relationship problems (i.e., presence of partner aggression and verbal arguments), which suggest that future research should explore the developmental implications of social dominance behavior for emerging adult romantic relationships. These findings highlight the importance of assessments of social

dominance and future research should study the outcomes of these behaviors for adolescence and adults within various relationship (i.e., voluntary and involuntary) contexts.

The concurrent and longitudinal findings taken together may signify that dominant individuals who often are seen as competitive and who take advantage of submissive or lower status peers to acquire resources (Charlesworth & Dzur, 1987; Hawley, 1999; Pellegrini & Long, 2002) may not always demonstrate the personal benefits traditionally associated with the dominance construct in the context of both peer and romantic relationships. Future research is needed to assess the developmental outcomes of social dominance behaviors within the romantic relationship. That is, what is the stability and course of these relationships? Does it depend on the gender of the socially dominant member of the dyad? What is the overall quality and content of these relationships in the future? Similarly future investigations are needed to explore if submissive behaviors promote the stability and quality of the relationship.

The documented findings suggest a link between the romantic relationships or the mating domain and the hierarchical power or the social dominance domain, as outlined by Bugental (2000) in her model of algorithms of social life. Bugental (2000) argued that social dominance and mating are representative of unique, domain specific spheres of social life with few interactions. The present results suggest that dominance relationship patterns are present among romantic relationship partners and more specifically are associated with relationship processes (i.e., conflict, negative affect, and victimization etc.) and earlier social-emotional problems in the peer and school context. Thus, the results of the present analyses suggest that an alternative model that recognizes the dynamic bi-directional interactions among social spheres of life may

be more plausible. In order to further test the notion that these domains are general rather than specific, additional research is needed to explore for example how social cognitions, which are believed to be established within the context of parent-child relationships, are carried forward within peer and romantic relationships (Collins, 2003). Future tests are also needed with particular emphasis on the association between the attachment domain and the others developmental areas, given that Bugental (2000) claims that this domain is the most domain specific.

Increasingly, in the literature, it is becoming clear that social dominance behaviors during early childhood are associated with socially competent outcomes. Social dominance and social competence have been associated in a number of studies. La Freniere and Sroufe (1985) discovered that social dominance coupled with social participation formed a reliable index of social competence during preschool (Vaughn & Waters, 1981). Moreover, Hawley (1999) suggests that during early childhood social dominance is associated with peer acceptance and peer influence. In addition, the dominant “little alphas” are imitated by their peers and serve as desired playmates. Hawley further suggested that, as children move into middle childhood (roughly ages 5-11), dominant children who display both coercive and prosocial strategies (bi-strategic children) become leaders, whereas those who display only coercive dominant behaviors to influence others become bullies. Recent evidence suggests that children who use both prosocial and coercive behaviors are better liked by peers and are more socially competent than those who use bossy or agonistic behavior (Hawley, 2003). Corroborating evidence comes from work with adults. Specifically, Jensen-Campbell et al. (1995) reveals that dominant males who

have high resource holding potential and also are perceived to be prosocial (i.e., they will share their resources) are regarded as more attractive as potential mates by females than dominant males who are not perceived to be prosocial. Thus, social dominance may predict adaptive developmental outcomes when associated with prosocial strategies, but may indicate future problems when consistently linked only to aggressive or coercive behaviors. A limitation of the present study is that we did not explicitly include an assessment of prosocial behavior in our present secondary analysis and thus were unable to explore these empirical questions. Future research is clearly needed to explore these ideas and to explicitly test the hypothesis that bi-strategic adults would have adaptive romantic relationships, with high levels of satisfaction, commitment, and overall romantic relationship quality.

Despite the extensive support for predicted links between social dominance and social-emotional problem behavior, both concurrently and longitudinally, certain limitations must be acknowledged and addressed in future studies. Although we report on a subsample that has been intensively studied for almost 30 years with a multi-method design, the present findings are based on a small sample size, with a more conservative alpha level introduced to control for Type I error. Thus, we may have had reduced power for testing our analyses (Type II error). This diminished power may account for lower than expected stability coefficients for internalizing and externalizing problems. Future research with larger samples is needed to replicate these effects.

Our subsample is also comprised of heterosexual couples who had been dating for at least 4 months, a cut off point that has been classified as “long term dating” in past adolescent

research (Zimmer-Gembeck et al., 2001), and we found that the average duration of the romantic relationship was 25 months. Nonetheless our findings may not generalize to longer term romantic relationships or among married, co-habiting couples, or homosexual partners that have lived together for more than 2 years. Indeed marriage may remove some of the need for displaying social dominance given that resource allocation is generally shared, at least in principle. Our observations of dominance were only based on 20 minutes. Although past studies have used similar methods (e.g., Hawley & Little, 1999), we believe that future studies should observe couples interacting for longer periods and across multiple sessions and in different contexts. In addition, our observations were only on occasion conducted in the couples' home (i.e., 2% of the time); thus, many of our laboratory assessments may not generalize to couples' naturally occurring interactions. Finally, we assessed social dominance via nonverbal behaviors, in keeping with past studies (Burgoon & Dunbar, 2000; Keating & Heltman, 1994; Mehrabian, 1969); however, we may have failed to account for more subtle indicators of dominance and social control with our present procedures. In addition, our two reliable measures of social dominance (i.e., resource control and intrusive touching) may not have been the key instantiations of nonverbal dominance and certainly other behaviors (e.g., visual regard, percent time looking and talking, body posture) have been studied successfully in the past (e.g., Burgoon & Dunbar, 2000; Dovidio et al., 1989; Mehrabian, 1969). We were limited in our inclusion of a wider array of dominance behaviors and procedures in that the present study was a secondary analysis of existing data. We believe that these limitations are outweighed by the benefits (i.e.,

longitudinal and observational design) but recognize that future studies should be more inclusive with operational definitions of dominance to replicate and extend the present findings.

In conclusion, the present study was the first to test for the role of early social and emotional behaviors in predicting social dominance among romantic relationships during emerging adulthood. We have presented a reliable and valid observational measure of nonverbal social dominance behavior in the context of romantic relationships among emerging adults. We found that social dominance was uniquely related to earlier social-emotional problems in the context of early child peer relationships and social-psychological adjustment indicators for males and females. Future work, using the present relationship focus, will continue to elucidate the role of social dominance behaviors in various relationship contexts across development.

## Notes

<sup>1</sup> Other nonverbal social behaviors (i.e., visual regard, intrusive pointing) were collected during the romantic relationship observation assessment but they did not reach conventional levels of reliability and were dropped. The low reliability is likely due to the difficulty in seeing where the participants were directing their gaze and pointing given the original camera position (i.e., directly in front of the participants).

<sup>2</sup> The use of step-wise regression techniques, which are a variant of forward selection procedures and have the added advantage of continuing to test for the utility of each variable at all steps of the model (Stevens, 2002), were used in the following analyses. These models also help to control for the risk of Type I error by entering the many predictors together in the conservative omnibus model and thus, only predictors from models that produce a significant F value will be discussed.

<sup>3</sup> Due to the relatively small sample, our desire to investigate gender differences with the key variables, and our goal of investigating the association between early social-psychological adjustment and subsequent dominance behavior we did not generate a dyadic score for dominance in the present analyses. Future research with a larger sample will be needed to address important empirical questions at the dyadic level of analysis.

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Table 1

## Descriptive Statistics for Key Variables

<u>Variable</u>	<u>Mean</u>	<u>SD</u>	<u>Range</u>
<u>Teacher Interview in Grade 2 and Grade 3</u>			
Externalizing Problems G2	.41	.69	0-3
Internalizing Problems G2	.17	.41	0-2
Externalizing Problems G3	.55	.82	0-3
Internalizing Problems G3	.25	.47	0-2
<u>Romantic Relationship Observation Ratings</u>			
Positive Affect	3.29	1.12	1 - 5
Negative Affect	1.83	1.10	1 - 5
Hostility	2.21	1.61	1 - 7
Anger	1.91	1.21	1 - 5
Conflict Resolution	4.16	1.58	1 - 7
Quality of Relationship	4.52	1.61	1 - 7
Female hits Partner	.06	.23	0 - 1
Male Raises Voice	.04	.20	0 - 1
Female Raises Voice	.07	.26	0 - 1
<u>Dominance Observations in Romantic Relationship</u>			
Negative Touch	1.29	2.39	0 - 12
Resource Control	1.42	1.39	0 - 8

Note. G2 = Second grade, G3 = Third grade.

Table 2.

## Inter-Correlations of Romantic Relationship Ratings

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.
Pos Aff	X								
Neg Aff	-.50***	X							
Anger	-.43***	.82***	X						
Hostility	-.57***	.86***	.77***	X					
Con Res	.62***	-.64***	-.57***	-.69***	X				
Male RV	-.12	.36**	.48***	.37**	-.29**	X			
Female RV	-.27+	.56***	.62***	.52***	-.35**	.49***	X		
Female Hits	.05	.04	.07	.12	-.15	-.05	-.07	X	
Quality	.71***	-.73***	-.68***	-.77***	.86***	-.29**	-.44***	-.12	X

Note. Pos Aff = Positive Affect; Neg Aff = Negative Affect; Con Res = Conflict Resolution;

Male RV = Male Raises Voice; Female RV = Female Raises Voice; Female Hits = Female Hits

Partner; Quality = Romantic Relationship Quality

+  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 3.

Inter-Correlations and Stability of Teacher Reported Internalizing and Externalizing Problems.

Variables	1.	2.	3.	4.
Internalizing G2	X			
Externalizing G2	.06	X		
Internalizing G3	.22	.35**	X	
Externalizing G3	.27+	.25+	.15	X

Note. G2 = Grade 2, G3 = Grade 3

+  $p < .05$ , \*\*  $p < .01$