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ABSTRACT

The extent of isomorphism between parent-child to child-friend microsocial interactions was studied by means of videotaped laboratory and observation coding procedures. Similar tasks, coding systems, and behavior clusters were used to describe the topography of parent-child and child-friend interactions. A total of 200 boys were observed while they interacted with their parents at 10 and 14 years of age, and with a close friend when they were 14. Longitudinal comparisons of the rate per minute of behavior clusters indicated an increase in social aggression from ages 10 to 14 in parent-child interactions. Isomorphism between parent-boy and friend-boy interactions was limited: restricted to low, but statistically reliable, positive correlations between the use of the variables "directives" and "laugh" across the interpersonal spheres. The exchange of directives in parent-child interactions was negatively correlated with the variable "converse" in the friend-boy interaction. Multivariate analyses revealed that the combined tendency correlated with the canonical dimension relating family to friend microsocial processes. It was concluded that the form of the interpersonal behavior in adolescent friendships was process-driven and heavily influenced by the social niche, selected by the boys, within which intimacy was established. (Author/RH)

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**From family to friends:  
Microsocial process relating the two spheres in adolescence**

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## Abstract

The extent of isomorphism between parent-child to child-friend microsocial interactions was studied by using videotaped laboratory and observation coding procedures. Similar tasks, coding systems, and behavior clusters were used to describe the topography of the parent-child and child-friend interactions. Two hundred boys participating in an ongoing longitudinal study were observed interacting with their parents at ages 10 and 14. The boys were observed interacting with a close friend at age 14. Longitudinal comparisons of the rate-per-minute of behavior clusters indicated an increase in Social Aggression from ages 10 to 14 within parent-child interactions. It was found that the isomorphism between the parent-boy and friend-boy interactions was limited, restricted to low but statistically reliable positive correlations between the use of Directives and Laugh across the two interpersonal spheres. In addition, the exchange of Directives within the parent-child interaction was negatively correlated with Converse within the friend-boy interaction. Multivariate analyses revealed that the combined tendency (dyadic trait) of the boy and his friend towards antisocial behavior was most highly correlated with the canonical dimension relating family to friend microsocial processes. It was concluded that the form of the interpersonal behavior within adolescent friendships is process driven and heavily influenced by the social niche selected by the boys within which intimacy is established.

### Introduction

A basic premise of socialization is that interpersonal behavior between the parent and child directly map onto the child's social adjustment outside the family (Baumrind, 1967; Hartup, 1983) and particularly the ability to form satisfactory intimate relationships. This hypothesis is shared across different theoretical perspectives including attachment (Sroufe, 1986), psychodynamic (Sullivan, 1953), and learning-based theories of socialization such as the coercion model (Patterson, 1982). Several investigators recently established that the hypothesis is valid when studying children's ability to achieve general peer acceptance (e.g., Dishion, 1990; Parke & MacDonald, 1984; and Putallaz, 1987). It is becoming increasingly clear that children's close friendships comprise a unique set of processes (Gottman, 1983) and that most children develop friendships despite their level of acceptance or rejection by the peer group at large (Parker & Asher, 1989). Moreover, friendship and peer acceptance show distinctly different patterns of predictive validity to indices of adolescent social adjustment (Andrews, Dishion, & Patterson, 1991). The purpose of this study is to extend research on the family-peer connection by examining the relatedness of interpersonal process displayed with the parent-child relationship to the same displayed in the friend-child relationship.

The interactions in two interpersonal contexts can be said to be isomorphic, complimentary, or unrelated. Isomorphic processes refer to similarity in the form and frequency with which certain behaviors are used. For example, children who are coercive with their parents tend to use the same behaviors with the friends. Children whose families use humor tend to do the same thing with their friends. Isomorphic process is consistent with all theories of socialization. Complimentary process refers to a tendency to engage in low rates of behaviors that are frequent in another setting. For example, a child who is dominated by parents may seek relationship partners that are nondirective. Thus, one might expect negative correlations between the directives in the family and those in a child's friendships.

Isomorphism and complementarity may exist at two interrelated levels: A) The rate of behavior in a person's interpersonal repertoire, and B) Action-reaction patterns of a person in the two interpersonal spheres. Examples of the latter include a tendency to return a negative behavior with a negative (e.g., synchronicity, Patterson, 1982). This sequential pattern maybe characteristic of a child whether interacting with parents or peers. Careful research on interpersonal process, however, indicates that synchronicity is more accurately conceptualized as a "dyadic trait" determined by the linking of the behavioral repertoires of the interactants (Patterson, 1984). In studying the interactions between boys and their friends, we found that the behavior rates of the boy and his friend were so correlated that the resulting behavior was best considered as a dyadic trait (Dishion, Andrews, & Patterson, 1991). These studies on family and friend interpersonal settings indicate that we need to think about relationships as unfolding systems and less as individualistic traits.

Our approach to this research question is to compare the dyadic exchanges within parent-child interactions to friend-child interaction. Using the longitudinal data available from the Oregon Youth Study (OYS) (Capaldi & Patterson, 1987; Patterson, 1986; Patterson, Reid, & Dishion, in press), we compare the problem

solving interactions of boys with their parents at ages 10 and 14 with those of their best friends at age 14.

#### Methods

Two cohorts of approximately 200 boys in the OYS were used for this research. At ages 10 and 14, the boys were asked to solve a series of family problems with their parents on videotape at the research center. These parent-child interactions in the laboratory were coded using the Family Process Code (Dishion, Gardner, Patterson, Reid, Spyrou, & Thibideaux, 1983).

This coding system records the content of the interaction, as well as the affective valence ranging from angry to positive. At age 14, the boys were also asked to bring a friend, with whom they spend the most time, to the research center. Friends were selected on the basis how much time they spend with the study boy, combining reports of parents and the boy. When the boys brought their friends to the research center and engaged in a series of problems using a task format very similar to that used to assess parent-child problem solving (Forgatch, Fetrow, & Lathrop, 1985). The boys' videotaped interactions with their best friends were coded using the Peer Process Code, a parallel form of the Family Process Code (Dishion, Crosby, Kusby, Shane, Patterson, & Baker, 1985). Both the family and friend problem-solving task lasted 25 minutes.

**Behavior Topography Clusters.** Four behavior clusters were developed from the coding of parent-child and child-friend laboratory interactions. Refer to Figure 1 for a listing of codes that make up Social Aggression, Directives, Converse, and Laugh. These behavior clusters were formed in two steps. First prototypic behaviors (i.e., Verbal Attack in Angry valence) were selected to represent each behavior cluster. Second behaviors were correlated with the prototype and based on content and empirical validity added to the behavior cluster. Parent-child and child-friend behavior clusters are defined identically. In previous research examining the boys interactions with their friends, a fifth observation indicator was established called Delinquent Talk which represents the rate-per-minute that the boy and his friend were endorsing, discussing, or suggesting illegal or antisocial activity including substance use. The score is not currently available for the parent-child interactions.

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Insert Figure 1 about here

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**Dyadic Antisocial Trait.** Separate delinquency constructs were computed for the youths using three indicators: the total number of times the subject had been arrested, the child self-report Elliot Minor Delinquency Scale (Elliott, Huizinga, Ageton, 1985), and teacher report of antisocial behavior using items from the Child Behavior Checklist (CBC) (Achenbach & Edelbrock, 1985) and the question "How often does he exert negative influence on his friends?". Arrests are all delinquent contacts with the police including status offenses. Child Elliot Delinquency items were re-coded then summed.

#### Results

**Behavior Rates.** A comparison of mean rates-per-minute (RPMs) of the defined behavior topographies was conducted within and across observation sessions (see Table 1). Parent-child interactions (at age 9-10 and at age 13-14) as well as child-friend interactions were dominated by relatively neutral conversation. Within the parent-child interactions, boys and their mothers accounted for over 80% of the

conversation. Fathers' behaviors, in general, were less frequent than either mothers' or boys' behaviors.

Behavior rates remained relatively stable across time in the parent-child interactions with the exception of social aggression. Mean social aggression increased dramatically from age 9-10 to age 13-14 for boys, mothers, and fathers. Boys' social aggression increased five fold while mothers' and fathers' social aggression increased approximately three fold. In summary, 9-10 year old boys and their parents demonstrated one socially aggressive behavior about every ten minutes, while the same families observed when the boys were 13-14 years old demonstrated one socially aggressive behavior every two minutes.

Boys interacting with their friends at age 13-14 demonstrated somewhat different rates of behavior than they did interacting with their parents. Boys interacting with their friends, in comparison to parents, demonstrated higher rates of behavior in every topographical cluster. Rates may be somewhat affected, however, by the number of participants in the interaction. Nonetheless, the major differences in behavior rates were associated with social aggression, directives, and laughter. Boys were approximately five times more directive with friends than with their parents, but twice as socially aggressive with parents than with friends. Furthermore, boys were three times as jovial with friends.

The delinquent content of the talk in child-friend interactions were calculated into rate-per-minute scores. In this risk sample, the boys the their friend discussed delinquent behavior at a rate of .65 per minute.

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Insert Table 1 about here

**Behavioral Confluence.** The correlation between each interactant's RPM of the behavior topographies are presented in Tables 2 and 3. In two parent families the behavior of the mother and father were combined to represent "parent" interaction. By and large the convergence between mother's and father's behavior justified this level of aggregation. At age 9-10 and 13-14, mothers' and fathers' social aggression, conversation, and laughter were significantly related; however directives were uncorrelated (see Tables 2 and 3) All interactions involving the boys showed high and statistically reliable correlations between his behavior and his interactant (friend or parent). Parent-child correlations between behavior types were significant for all clusters at both times of observation. Similarly, child behaviors correlated with friend behaviors across all behavior categories.

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Insert Tables 2 and 3 about here

The high level of convergence in the relative rate of behaviors used in these problem-solving sessions is consistent with Patterson's (1984) conceptualization of interpersonal process as a bilateral trait. In the analyses that follow, we summarize the family and friend interactions as dyadic scores.

**Family to Friend.** Correlations between parent-boy and friend-boy behavior topographies are presented in Figure 2. All of the family behavior clusters were surprisingly stable over time given the relatively brief (25-minute) sample of behavior (coefficients ranging from .20 to .45). Directives and laughter were the only family behaviors correlated with friendship behaviors. Parent-child directives

at age 9-10 and age 13-14 were positively related ( $r = .19$  and  $.16$ , respectively) for directives used by children in interactions with their friend at age 13-14. Parent-child laughter at both assessment times was positively related ( $r = .20$ ) to child friend laughter. Family directives were found to be negatively correlated with the friendship conversation, across the five-year time span and concurrently. This finding suggests that boys in families characterized by higher rates of directives tend to engage in less calm conversation with their friends. Also note that the Converse rates in the friendship are not reliably correlated with Directives, thus this relation is not simply due to the disruptive effect of directives on conversation in friendship.

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Insert Figure 2 about here

The rate of Delinquent Talk was not correlated with the family behavior clusters, but highly correlated with the boys' use of directives ( $r = .38$ ,  $p < .01$ ), laughing ( $r = .25$ ,  $p < .01$ ) and social aggression ( $r = .18$ ,  $p < .01$ ) within the friendship.

**Dyadic Antisocial Trait.** As described above, the boys' general disposition to engage in antisocial behavior across settings was indicated by a composite score comprising their arrests records, self-reported delinquency, and teacher report of antisocial behaviors across settings. The study boy's antisocial score correlated highly with his friend's antisocial score ( $r = .42$ ,  $p < .001$ ,  $df = 182$ ), indicating a strong tendency to select friends similar on the antisocial dimension of interpersonal behavior. The Dyadic Antisocial Trait score correlated moderately with the rate per minute of Delinquent Talk ( $r = .35$ ,  $p < .001$ ) and Directives ( $r = .34$ ,  $p < .001$ ) within the friendship.

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Insert Figure 3 about here

**Multivariate analysis.** A canonical correlation analysis was used to examine the multivariate relation between the family interaction process and the friendship interaction process. Because of the moderately high correlation between the boys' joint tendency to engage in antisocial behavior, the Dyadic Antisocial Trait was entered as a covariate along with the family interaction behavior clusters. This analysis assessed the extent the family process was related to the friend process controlling for the characteristics of both boys. The analysis was repeated using first the family process data at age 9-10 and again at age 13-14. The findings are summarized in Tables 4 and 5.

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Insert tables 4 and 5 about here

Canonical correlation analysis is the multivariate equivalent of a correlation analysis, where a set of dependent variables are simply correlated with a set of independent variables (Pedhauzer, 1983). Canonical dimensions are extracted that account for the relationship between the two sets of variables, given the intercorrelation within each set as well as the intercorrelations across dependent and independent variables. Structure coefficients are provided for each variable entered, indicating the extent that variable is correlated with the canonical correlation.

Perusal of the pattern of structural coefficients provides some basis for interpreting the nature of the relationship between the two sets of variables, like one might name factors when considering patterns of factor loadings (Pedhauzer, 1982).

In this analysis, there was one principle canonical dimension that was extracted. Four additional dimensions were revealed but were found to not account for additional unique variance, and therefore, were largely redundant to the first canonical dimension. Inspection of Table 4 reveals that the pattern of the structure coefficients is similar when relating family to friend process regardless of the age the family process was assessed. In general, the first dimension describes friendship interaction characterized as high on directives and delinquent talk. The variables that tended to be important in explaining these tendencies were the Dyadic Antisocial Trait; and to a lesser extent, the use of directives in the family. As indicated by the Wilks Lambda, a significant multivariate relation was found between the two sets of variables (Wilks Lambda = .64-.65,  $p < .001$ ), accounting for 26.7% and 29.1% of the variance from family data obtained at age 9-10 and 13-14, respectively.

Table 5 shows the multivariate relation of each family process variable to each friendship variable controlling for the Dyadic Antisocial trait of the boys. As can be seen, Social Aggression and Directives in the friendship were primarily accounted for by the boy's Antisocial trait. Similarly, Delinquent Talk, but not family Social Aggression and Directives at age 13-14 account for additional variance. The boys' engagement of Converse and Laugh was most highly associated with the same behaviors with their family at the same age, indicating some degree of isomorphism between family and friendship process.

#### Discussion

Preliminary comments. Because of the relatively brief sample of behavior for the family and friendship interactions, this study cannot be considered as conclusive. The moderate level of stability in the family interaction data, however, suggests that the family problem-solving assessments were powerful in eliciting behavior patterns that are relatively robust. This study is limited by two other considerations. First, the sample includes only boys and does not address the relation between family process and friendship for adolescent girls. Second, the developmental age range may, to some extent, determine the findings. Perhaps there is greater isomorphism when comparing family interaction in early childhood with middle childhood friendship process. These questions require different data sets and further research.

A Trait Confluence Metaphor. The evidence for a strong direct relation between family process and friendship process is somewhat limited. By and large, the magnitude of the correlations between family and friends was low, accounting for modest levels of variance. When the correlation between the family and friendship assessed by controlling for the boys' antisocial dyadic trait, there did appear to be modest isomorphism between the families' tendency to use laughter and directives, with the boys' engagement in the same within their friendships. From a multivariate perspective, however, it appeared that the boys' dyadic antisocial trait explained most of what transpired in these 25-minute structured problem-solving tasks.

Even entering the joint characteristics of the boy and his friend did not explain extremely high levels of variance in the friendship transactions. In addition, there was a high level of correlation between the boy and his parent's and friend's



behavior, in terms of the frequencies with which they used certain behaviors. This finding suggests that to a substantial extent, intimate relationships do take on a life of their own driven by action-reaction patterns that emerge as the relationship unfolds. The implication of such a model was suggested by Patterson (1984) in coining the term dyadic trait. Simply put, children and adults may rarely function as independent individuals.

A confluence metaphor might be used to summarize this process (see Figure 4). The basic idea is that the behavioral characteristics of participants in intimate relationships merge to create behavior change consistent with the social interactional context. The adaptive characteristics of the child, primarily developed within the family, determine his/her initial friendship formation with other children, some of whom will become friends. The joint characteristics of the friends and the child creates a subsequent dyadic trait that, relative to previous state, may represent either a decrease, increase, or maintenance of the child's behavioral characteristics. Increases in behavioral tendencies may result when two children who become friends are highly matched on a range of behavioral characteristics such as antisocial and prosocial behavior. Early studies by Raush (1965) reveal that interactions between two hyper-aggressive boys resulted in increased levels of aggression for both boys. Modest matches between behavioral traits may simply yield relative maintenance of both participants characteristics. Using the data used in the present research, Dishion, Andrews, and Patterson (1991) found a similar effect when classifying the dyads into: Both Antisocial, mixed; Neither antisocial.

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Insert Figure 4 about here

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The interesting implication is that children with disparate behavioral profiles, who become intimate, may actually decrease in their more extreme behavioral characteristics. For example, when a child who is prosocial becomes friends with an antisocial child. These relationships are most likely infrequent as there appears to be a homophily or selection bias operating (Kandel, 1986). Children and adults select those most like themselves to become friends. We think this is a function of the ease of developing a common ground activity with another individual that shares ones interests, strengths, and weaknesses (Gottman, 1983). Ecological Framework. As shown in Figure 4, we hypothesize that the determination of one's interpersonal niche (Scarr & McCartney, 1983) is jointly influenced by the context and the child's selection of optimal environments. Context can be thought of as school, classroom, and neighborhoods operationalized by the available peers with whom to develop friendships. Previous research has shown that boy's antisocial behavior, rejection by peers, and poor academic performance in elementary school jointly contributed to their involvement with antisocial peers by middle school (Dishion, Patterson, Stoolmiller, & Skinner, 1991). Parents may have their most powerful effect on social development by the monitoring of their child's peer environment (Patterson & Dishion, 1985), or by creating contexts in which friendships will be developed with prosocial peers (MacDonald & Parke, 1985). An ecological framework (Bronfenbrenner, 1989) demands that we consider the development of friendship and its impact on subsequent adjustment as an open system, influenced jointly by the adaptive style

**of the child and his friend, the immediate social habitat, and indirect influence of caretakers instrumental in structuring environments in which children reside.**

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Table 1.

Mean rate-per-minute of Family Process Code behavior clusters for boys, mothers, and fathers.

**Parent-Child (Age 9-10):**

	<u>Boy</u>	<u>Mother</u>	<u>Father</u>
	<u>X (S. D.)</u>	<u>X (S. D.)</u>	<u>X (S. D.)</u>
Converse	4.580 (1.570)	3.050 (2.520)	1.630 (1.690)
Directives	.030 (.055)	.130 (.144)	.072 (.085)
Social Aggression	.028 (.058)	.061 (.159)	.028 (.072)
Laugh	.305 (.339)	.106 (.190)	.033 (.100)

**Parent-Child (Age 13-14):**

	<u>Boy</u>	<u>Mother</u>	<u>Father</u>
	<u>X (S. D.)</u>	<u>X (S. D.)</u>	<u>X (S. D.)</u>
Converse	4.332 (1.693)	3.230 (2.460)	1.960 (1.910)
Directives	.051 (.077)	.143 (.156)	.068 (.085)
Social Aggression	.141 (.279)	.173 (.302)	.086 (.148)
Laugh	.314 (.346)	.152 (.235)	.081 (.230)

**Child-Friend (Age 13-14):**

	<u>Boy</u>
	<u>X (S. D.)</u>
Converse	6.610 (1.300)
Directives	.200 (.198)
Social Aggression	.069 (.156)
Laughs	.890 (.580)
Delinquent Talk	.650 (.684)

Table 2.

Covergence among interactants in behavior topography (age 9-10).

<b>Mother-Father (Child Age 9-10)</b>				
	(Mother)		(Father)	
Social Aggression	<u>.54**</u>	.00	.13	.01
Directives	.18*	<u>.05</u>	.18*	.03
Converse	.15*	.46*	<u>.68**</u>	.49**
Laugh	.04	.32**	.52**	<u>.42**</u>

<b>Parent-Child (Age 9-10)</b>				
	(Parent)		(Child)	
Social Aggression	<u>.67**</u>	.31**	-.04	.01
Directives	.34*	<u>.45**</u>	.20**	.27**
Converse	.08	.22**	<u>.62**</u>	.15**
Laugh	.13	.34**	.28***	<u>.30**</u>

\* p < .05

\*\* p < .01

Table 3.

Covergence among interactants in behavior topography (age 13-14).

**Mother-Father**

	(Mother)		(Father)		
Social Aggression	<u>.51**</u>		-.04	.0001	-.03
Directives	.197		<u>.19</u>	-.06	.11
Converse	.122		.03	<u>.55**</u>	.53**
Laugh	.04		.21**	.45**	<u>.37**</u>

**Parent-Child**

	(Parent)		(Child)		
Social Aggression	<u>.54</u>		.12	-.04	-.13
Directives	.41**		<u>.45**</u>	.20**	.17*
Converse	.0099		.37**	<u>.62**</u>	.09
Laugh	.01		.16*	.36*	<u>.28**</u>

**Child-Friend**

	(Friend)		(Child)		
Social Aggression	<u>.38**</u>		.23**	.03	.01
Directives	.53**		<u>.41**</u>	.19**	.09
Converse	.09		.10	<u>.68**</u>	-.03
Laugh	.02		.16**	.10	<u>.46**</u>

\* p < .05

\*\* p < .01





Table 4.

**Structural coefficients for the Primary Canonical Dimension Relating Family and Friend Interpersonal Process (N = 182).**

		Longitudinal (Age 10-14)	Concurrent (Age 14)
<b><u>Boy &lt;-----&gt; Friend Dyadic Exchange (14)</u></b>			
(Dependent Variables)	Social Aggression	.31	.31
	Directives	.76	.78
	Converse	-.32	-.21
	Laugh	.30	.40
	Delinquent Talk	.68	.76
(Independent Variables)	Dyadic Antisocial Trait	.91	.87
<b><u>Parent &lt;-----&gt; Child Dyadic Exchange</u></b>		(Age 10)	(Age 14)
	Social Aggression	-.05	-.01
	Directives	.45	.39
	Converse	.20	.16
	Laugh	.37	.30
<b><u>Summary Statistics</u></b>			
	Wilks Lambda	.65***	.64*
	Percentage Variance	26.7	29.1

\*  $p < .001$

Table 5.

**Multiple Regressions of family process on friend process controlling for dyadic antisocial trait (N = 182).**

<b>Boy &lt;-----&gt; Friend</b>	<b>Statistically</b>		
<b><u>Dyadic Exchange</u></b>	<b>Reliable</b>		<b><u>Family Process Variables</u></b>
	<b>R<sup>2</sup></b>	<b>(R)</b>	
<b>(Age 10)</b>			
Social Aggression	.04	(.21)	Dyadic Antisocial Trait
Directives	.17	(.41)	Dyadic Antisocial Trait
Converse	.04	(.19)	
Laugh	.05	(.23)	
Delinquent Talk	.14	(.38)	Dyadic Antisocial Trait
<b>(Age 14)</b>			
Social Aggression	.02	(.18)	Dyadic Antisocial Trait
Directives	.17	(.41)	Dyadic Antisocial Trait
Converse	.06	(.25)	Family Converse
Laugh	.08	(.29)	Family Laugh
Delinquent Talk	.17	(.41)	Dyadic Antisocial Trait, Family Social Aggression, Family Directives,

**Figure Captions**

**Figure 1.** Definitions of behavior topography clusters.

**Social Aggression**

**Negative Verbal (Anger)**  
**Verbal Attack (Neutral and Anger)**  
**Physical Aggressive (Neutral and Anger)**  
**Command, Command Ambiguous (Anger)**  
**Command Coerce (Neutral, Anger)**

**Directives**

**Command (Neutral, Positive)**  
**Command Ambiguous (Neutral, Positive)**

**Converse**

**Talk (Neutral)**  
**Negative Verbal (Neutral and Positive)**

**Laugh**

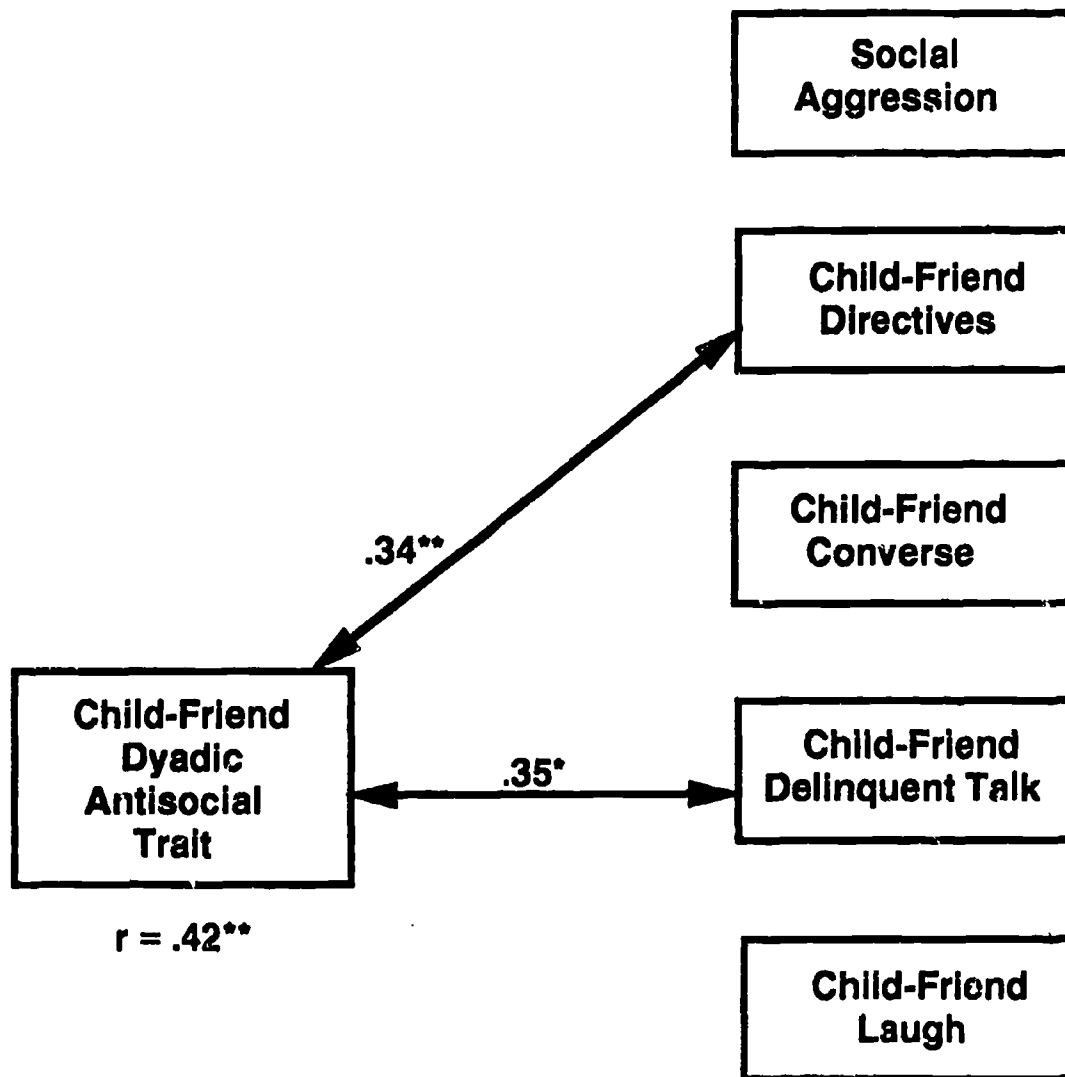
**Vocal (Positive)**

**Delinquent Talk**

**Qualifier Switch (All Valences)**

**Figure Captions**

**Figure 2.** Isomorphism in the topography of parent-child and friend-child interpersonal exchanges.



\*  $p < .05$

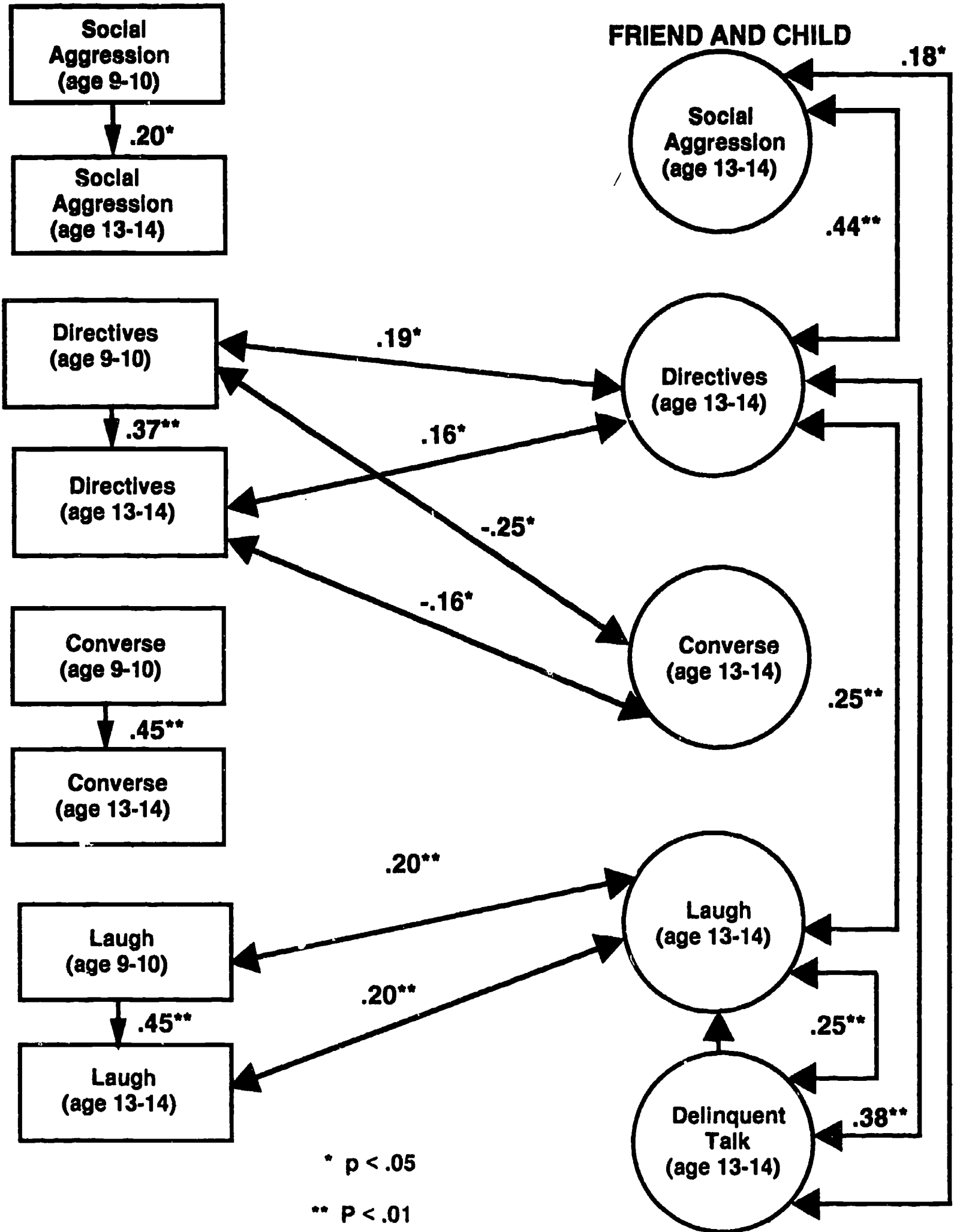
\*\*  $P < .01$

**Figure Captions**

**Figure 3. Relation between macro-characteristics of the friend-child dyad and their interpersonal exchange age 13-14.**

**PARENT AND CHILD**

**FRIEND AND CHILD**





**Figure Captions**

**Figure 4. The behavioral trait confluence metaphor.**

