

A Closer Look at the Age, Peers, and Delinquency Relationship

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ABSTRACT

Despite long held understanding of the strong associations among delinquency, age, and delinquent peer association, examination of the interrelationship among these three factors remains largely unaddressed. Drawing on research concerning the age/peer link and the significance of peer relations for specific offenses, we employ data from the National Youth Survey (NYS) to examine the interactive relationship between age and peer associations on delinquency. Specifically, we hypothesize that there is a differential effect of delinquent peer associations among older versus younger youths, but that this effect will be present only for substance abuse-related offenses due to the importance and "stickiness" of peer associations for these types of offending. The authors call for greater attention to theoretically specifying and explaining the age/peer relationship and its link to specific types of delinquency.

KEY WORDS : age, peer, peers, delinquency, crime, juvenile delinquency, justice

INTRODUCTION

Despite long-standing attention to the impacts of age and delinquent peer associations on delinquency, relatively little attention has been given to whether and how these factors interact with one another and in turn are linked to delinquency (Jang 1999). It is by now common wisdom that delinquency escalates rapidly as individuals enter their teen years and then declines almost as rapidly as they enter their late teens and early twenties (Warr 1993). It also is common wisdom that one of the strongest predictors of delinquency is whether an individual's peers engage in delinquent acts (Akers 2000).

Considerable research on the age, peer, and peer association relationship has been conducted, but how exactly age is linked to delinquency remains a source of ongoing debate (Elliott, Huizinga, and Ageton 1985; Gottfredson and Hirschi 1990; Sampson and Laub 1993; Warr 1993; Thornberry, Lizotte, Krohn, Farnworth, and Jang 1994; Lauritsen 1998; Jang 1999). Similarly, researchers disagree about whether delinquent peer

association precedes or follows delinquency. According to some research and to control theory, delinquency precedes delinquent peer association (Gottfredson and Hirschi 1987). Other researchers present evidence for an interactional relationship, with delinquent peer associations preceding delinquency, but then with delinquent behavior reinforcing delinquent peer associations (Thornberry et al. 1994). Still other research suggests that bi-directional explanations are most applicable only after the initial onset of both delinquency and exposure to delinquent peers (Elliott and Menard 1996).

These types of issues suggest the need to explore more directly the precise linkages among age, peer association, and delinquency. A particularly salient question is how age and peer associations are linked to specific types of offending. This issue is important because it may well be that separate causal models are needed to account for different types of offending. Research addressing such issues thus can contribute directly to the development of more accurate and nuanced

accounts of criminal behavior.

To this end, the present study provides a theoretical account for why we might expect an interactive relationship between age and delinquent peer association, with particular attention focused on identifying age/peer interactions that may be linked to specific types of offending. We begin by presenting the theoretical foundation for our study, including specification of two key hypotheses. We then describe the data used and the analytic approach used to test these hypotheses. Finally, we conclude by discussing our findings and recommendations for future research.

THEORETICAL BACKGROUND AND HYPOTHESES

Older youths and youths with more delinquent peers are more likely to engage in delinquent acts. Why, though, should we assume that the influence of delinquent peers is constant across different age groups? Elliott and Menard (1996), for example, have documented that both delinquency and delinquent peer association increase with age.

This question has emerged as an important theoretical issue in large part because of recent work on the developmental trajectories of youths and youthful offending and the risk and protective factors associated with these trajectories (e.g., Elliott, Huizinga, and Ageton 1985; LaGrange and White 1985; Thornberry 1987; Magnusson 1988; Menard and Elliott 1990; Sampson and Laub 1993; Elliott and Menard 1996; Farrington 1998). To date, however, few theories provide specific accounts for what the age-varying effects of delinquent peer associations are or should be. Instead, most accounts focus on why peer association should precede delinquency or vice versa, or they examine the bi-directional relationship between peer association and delinquency. Such accounts necessarily include a focus on age, but typically they focus on the question of which comes first, peer association or delinquency, as opposed to explaining why peer influence should vary with age. The gap is surprising in part because recent research (e.g., Elliott and Menard 1996) documents the age-varying relationship of delinquent peer associations.

One theory that explicitly addresses the notion of an age-varying effect of delinquent peers is Thornberry's (1987) interactional theory. This theory suggests that the influence of delinquent peer associations should increase during mid-adolescence and then decline gradually. The reasoning, derived in part from social learning

theory (Akers 2000), is that peer networks become increasingly central to an individual's identity during adolescence and then less so as they begin to develop commitments to conventional activities and institutions, such as education, career, family, etc. (Thornberry et al. 1994; Jang 1999). The transition from childhood to adolescence in particular represents a crucial stage. As Jang (1999:675) has noted:

Youth in transition from childhood to adolescence are likely to still remain under the control of conventional authorities (e.g., teachers) and to lack a network of pro-delinquent friends, whose influence and social support are strong enough to override conventional authorities.

Tests of interactional theory suggest some support for the notion of age-varying effects of delinquent peer association (e.g., Elliott and Menard 1996; Jang 1999). However, there remains a tendency to focus on general rather than specific measures of offending (LaGrange and White 1985; Thornberry et al. 1994), or categories of offending (Elliott and Menard 1996). A notable exception is Krohn et al.'s (1996) study of drug abuse, which found that the association between peer drug use and a self-reported drug use index appeared to decline slightly as the cohort they examined grew older.

The risk with such approaches, including indices of particular categories of offenses (e.g., drug offending), is that findings are misgeneralized to specific offenses. Thus, if a researcher finds significant age/peer interactions, the inference may be that these interactions apply to all offenses. But the inference may well be incorrect. One reason for the lack of offense-specific models is that to date there has been relatively little theoretical basis for establishing age and offense-specific expectations concerning the effects of delinquent peer associations.

Departing from this research, the present study adopts a slightly different focus on the age/peer/delinquency nexus by anticipating differential age/peer effects for different offenses. In particular, we draw on research by Warr (1993, 1996) to derive hypotheses about the specific types of offenses for which an age/peer interactive relationship might be present. First, and as an initial point of departure based on previous empirical research (e.g., Elliott and Menard 1996), we hypothesize that there will be an interactive relationship between age and delinquent peer associations on delinquency, with increases in delinquent peer association exerting a greater

influence among older youths. Second, and more directly addressing our theoretical focus, we hypothesize that the interactive relationship between age and delinquent peer associations will be strongest for substance abuse-related offenses, with increases in delinquent peer associations having a stronger positive effect among older youths.

The theoretical underpinnings for the second hypothesis come primarily from two studies. In one, Warr (1996) demonstrated that the group violation rate is considerably higher for drug offenses than for other types of offenses. One can argue that drug offenses, therefore, are the ones for which peer associations are most important. In addition, Warr's (1993) research on peer influence identifies a "sticky friend" pattern that is highly prevalent for alcohol and marijuana use but much less so for offenses such as cheating and theft. That is, for drug offenses, "delinquent friends, once acquired, are not lost in subsequent years" (Warr 1993:31). This does not mean that youths have the same set of friends throughout adolescence but rather that their friends are "consistently delinquents" of a certain type.

Combining the insights regarding the high group violation rate and strong "sticky friend" pattern of drug offenses, we argue that the interactive relationship identified by Thornberry et al. (1994) and others (e.g., Elliott and Menard 1996) should be strongest for these types of offenses. Why? Because the peer groups and networks for commission of drug-related offenses are the most prevalent and tend to remain in place (to be "sticky"). As a result, they can exert a cumulatively greater and behaviorally specific impact on youths as they grow older and enter the high school years. In essence, drug-related offending becomes increasingly embedded within a peer context. This peer context can provide an ongoing, increasingly influential, and developed legitimization of drug offending, one that strongly encourages or even requires drug offending.

By contrast, the prevalence of other types of offenders in peer networks tend to wax and wane as youths grow older. Consequently, the peer contexts for the commission of these types of non-drug-related offenses tend to be more diffuse and weaker in impact across age categories. That is, the peer context for these types of offenses lacks a consistency from within by which commission of these offenses can be legitimized and supported. As a result, we would anticipate that for non-drug-related offending, the influence of peers would remain relatively constant, not increase, as youths grow older (i.e., for older age groups).

Our argument thus is essentially a social structural one -- namely, youths move into specific age categories, what might be conceptualized as social structural contexts, that involve concomitant emphases and opportunities that differentially support specific types of offending. Because drug offending involves a group context and a set of peer associations consistently maintained over time, we hypothesize that the age/peer interaction should be more pronounced and consistent, with delinquent peer associations leading to higher rates of offending among older offenders. This hypothesis, it should be emphasized, differs from Warr's (1993) research, which, while identifying a "sticky" friend pattern, did not examine whether the influence of delinquent peers varied with age or whether this variation itself varies by offense.

DATA AND METHODS

This paper employs data from the National Youth Survey (NYS), an ongoing longitudinal study of delinquent behavior involving a national multistage probability sampling of households in the United States (Elliott, Huizinga, and Ageton 1985). The first wave of data was collected in 1976 when the youths (N=1,725) were ages 11 to 17. In the first and subsequent waves, youths were asked questions about events and behaviors occurring during the preceding year. For the present study, wave 3 of the NYS (N=1,626) is used to capture respondents during the period of adolescence (ages 13-19). We use the NYS data because of the considerable methodological attention given to the NYS and because of the general agreement as to their reliability and validity (Menard 2000).

The dependent variables in the subsequent analyses consist of ten specific self-reported offenses and an offense index for which corresponding peer association measures were included in the NYS. The offenses, listed in Table 1, include: cheating ("cheated on school tests"), damaging property ("purposely damaged or destroyed property belonging [to others]"), using marijuana ("used marijuana or hashish"), stealing items worth less than \$5 ("stole or tried to steal something worth \$5 or less"), hitting someone ("hit or threatened to hit [person]"), burglary ("broken or tried to break into a building or vehicle to steal something or just to look around"), selling illegal drugs ("sold hard drugs such as heroin, cocaine, and LSD"), stealing items worth more than \$50 ("stole or tried to steal something worth more than \$50"), getting drunk ("been drunk in a public place"), and using prescription drugs ("used amphetamines or barbiturates").

The “damaging property” measure was created by averaging responses to three items concerning property belonging to family, school, and others. The “hitting someone” measure was created by averaging responses to three items concerning hitting parents, teachers, and students. And the “using prescription drugs” measure was created by averaging responses to two items concerning use of amphetamines and barbiturates.

For each of the offenses used as dependent variables, respondents were asked how many times they committed the specific offenses in the past year. As Table 1 shows, the mean values for the offense counts range from a low of .05 for burglary to a high of 24.00 for use of marijuana.

Although this study focused on comparisons between different offenses, an offense index was also created to show how results of analyses of disaggregated and aggregated measures of offending can reveal dissimilar results, with implications for development and tests of theories of crime. The index was created by first standardizing the individual offense counts to have a mean of zero with a standard deviation of one, and then summing the counts across all of the ten items. Standardizing the individual offense was necessary to ensure that offenses with high variances (e.g., using marijuana) did not overly influence the resulting index. If the individual items were left unstandardized, the resulting index would primarily capture variation among respondents in high frequency offending behavior (e.g., using marijuana) rather than variation in delinquency in general. The reason for the undue influence of high frequency offenses is that they tend to have larger standard deviations than low frequency offenses. By first standardizing the specific offenses, the high frequency/variation offenses are prevented from exerting a disproportionate influence on the resulting index.

The independent variables include measures of age and of delinquent peer association. For each of the eight age categories, dummy variables were created, with age 13 used as the reference category in the multivariate analyses. Youths were evenly distributed across these age categories, with 19-year-olds only somewhat less proportionately represented (see Table 1). The use of age dummies rather than a continuous measure of age allows us to capture potential non-linearities in the association between age and delinquent peers.

For the delinquent peer association measure, the following question from the NYS was used:

“Think of your friends. During the last year how many of them have [act]?” (1 = none of them, 2 = very few of them, 3 = some of them, 4 = most of them, 5 = all of them). Based on responses to questions about each youth’s own offending, an index was created using a procedure identical to the one used to construct the offense index. Each of the delinquent peer association measures was standardized prior to averaging them across each of the different offenses (Cronbach’s alpha = .85). As Table 1 shows, the resulting delinquent peer index had a mean of 0 (s.d. .66). We employ a general measure of peer association rather than measures of specific offenses committed by peers (cf. Krohn et al. 1996). We do so because, as Warr (1993:31) has observed, evidence suggests that although youths develop consistently delinquent peer networks, these networks do not necessarily involve the same delinquent peers or, by extension, the same types of delinquent peers.

The count nature of the dependent variable suggests a non-linear relationship between each of the offense measures and the independent variables. The non-linearity is primarily due to the truncation of the dependent variable at zero (counts of less than zero are nonsensical). Thus, in order to meet the standard linear regression assumptions of linearity, we employed a natural log transformation of the dependent variable (Long 1997). The transformation required that we add a small valued constant (one) to each of the dependent variables to ensure that the observed zero counts in the data were not treated as undefined/missing. Logging the dependent variable also reduces skewness, and, as one reviewer noted, it gives greater weight to the more reliable lower frequency data (see Huizinga and Elliott 1986).

To examine whether an interaction between age and delinquent peer association exists, we present models that include each of the constituent variables (i.e., age and delinquent peer association) and an interaction of the two. If this term achieves statistical significance, there is evidence of an interaction. In addition, a measure of improvement in the R² from the additive to interactive models can be used to assess whether there is an overall improvement to model fit by including the interaction term (Jaccard, Turrisi, and Wan 1990). Because interactions can be difficult to interpret, we also present a figure that illustrates an age/peer interaction for one offense.

Table 1. Descriptive Statistics

	Mean	S.D.	N
Dependent Variables			
Cheating	2.64	9.29	1,626
Damaging Property	.35	1.41	1,625
Using Marijuana	24.00	82.30	1,625
Stealing < \$5	.69	4.63	1,624
Hitting Someone	.93	6.05	1,626
Burglary	.05	.54	1,626
Selling Illegal Drugs	.35	9.21	1,626
Stealing > \$50	.06	.68	1,625
Getting Drunk	3.40	14.09	1,625
Using Prescription Drugs	1.14	13.00	1,626
Offense Index	0.00	.53	1,620
Independent Variables			
Age 13	.15	.35	1,725
Age 14	.15	.36	1,725
Age 15	.16	.36	1,725
Age 16	.15	.36	1,725
Age 17	.15	.35	1,725
Age 18	.14	.36	1,725
Age 19	.11	.32	1,725
Del Peer Index	0.00	.66	1,551

Before proceeding, it bears noting that we use cross-sectional data to examine the hypothesis that the impact of delinquent peer association on delinquency may vary by age, an interaction itself that may depend on the type of delinquency examined. In cross-sectional data, this variation could be due to an actual age/peer interaction or to a cohort effect. If the latter instance, the variation in the effect of peers would be due to differences among age cohorts (e.g., cohort composition) and not to aging effects per se. In longitudinal data, the variation could be due to an actual age/peer interaction or to a period effect. If the latter, the variation in the effect of peers would be due to differences associated with particular periods of time (e.g., historical events), not age or cohorts. Both cross-sectional and longitudinal data can be used to examine age/peer interactions, but in each instance there are alternative explanations (cohort effects or period effects, respectively) that may account for the differences (Tonry, Ohlin, and Farrington 1991).

FINDINGS

Table 2 presents ordinary least squares (OLS) regression analyses of log transformed self-reported acts of delinquency; includes an offense index on the age dummies, the delinquent peer association index, and the

interaction of the two. Inspection of results at the bottom of Table 2 finds that there are statistically significant age/peer interactions for all but the offense of hitting someone.

The more important finding to note is that the expected pattern of age/peer interactions is most evident for using marijuana; getting drunk; and, to a lesser extent, selling illegal drugs, using prescription drugs, burglary, and the offense index. The steady progression in the increasing effect of peers for these offenses can be seen by noting the size and direction of the increase in the interaction coefficients from one age to the next. For example, for use of marijuana the interaction coefficients are statistically significant, there are substantial increases in the coefficients from one age to the next, and there is a steady progression in the increasing size of the interaction terms. However, for selling illegal drugs, using prescription drugs, burglary, and the offense index, the interactions increase initially but then decrease at age 18 or 19. The improvement to model fit for each offense, based on addition of the interaction terms, is statistically significant.

Among the remaining offenses for which statistically significant interactions are present -- including cheating, damaging property, stealing items worth less than \$5, hitting someone, and stealing items worth more than \$50 -- the

Table 2. Ordinary Least Squares Regression of each of the Log Transformed Self-Reported Offenses and Offense Index on Age, Delinquent Peer Association, and Their Interaction (cont.)

	Cheating	DmgProp	UseMarij	Steal<\$5	HitSomeone	Burglary
Intercept	.708***	.276***	.373***	.257***	.411***	.011
Age 14	.020	-.030	.236	.026	-.085	.020
Age 15	-.060	-.115**	.460***	-.103*	-.039	.013
Age 16	.070	-.142***	.767***	-.066	-.119*	.006
Age 17	.051	-.110**	.856***	-.096*	-.171***	.024
Age 18	-.168*	-.189***	.832***	-.115*	-.230***	.008
Age 19	-.439***	-.202***	1.033***	-.116*	-.304***	.004
DPI(Z)	.642***	.373***	.569***	.368***	.471***	.026
Age14*DPI	-.014	-.002	.382	.092	-.171*	.038
Age15*DPI	-.272*	-.195***	.558**	-.094	-.047	.031
Age16*DPI	-.120	-.155**	.971***	-.006	-.171*	.071**
Age17*DPI	-.244	-.036	1.027***	.070	-.169*	.130***
Age18*DPI	-.153	-.170**	1.121***	-.017	-.195*	.102***
Age19*DPI	-.591***	-.181**	1.487***	-.112	-.234*	.011
Add. Adj. R ²	.134	.181	.364	.189	.151	.098
Int. Adj. R ²	.146***	.197***	.389***	.196*	.158	.121***

	SellDrugs	Steal>\$50	Drunk	UseRxDrugs	OffInd
Intercept	.000	.016	.081	.092*	-.067***
Age 14 ^a	.033	-.012	.103	.015	.009
Age 15	.003	.002	.239**	-.020	.004
Age 16	.035	.019	.369***	.031	.021
Age 17	.028	.013	.520***	.042	.025
Age 18	.026	.003	.705***	.034	.010
Age 19	.018	-.009	.734***	.080	.009
DPI(Z)	.000	.033	.158	.194**	.164***
Age14*DPI	.096*	-.026	.122	-.054	.010
Age15*DPI	.012	.060*	.268*	-.058	.011
Age16*DPI	.172***	.167***	.667***	-.029	.112***
Age17*DPI	.114**	.056*	.564***	.274***	.110***
Age18*DPI	.266***	.150***	.885***	.188*	.140***
Age19*DPI	.035	-.017	.651***	.212*	.057
Add. Adj. R ²	.064	.118	.270	.113	.344
Int. Adj. R ²	.103***	.175***	.305***	.139***	.362***

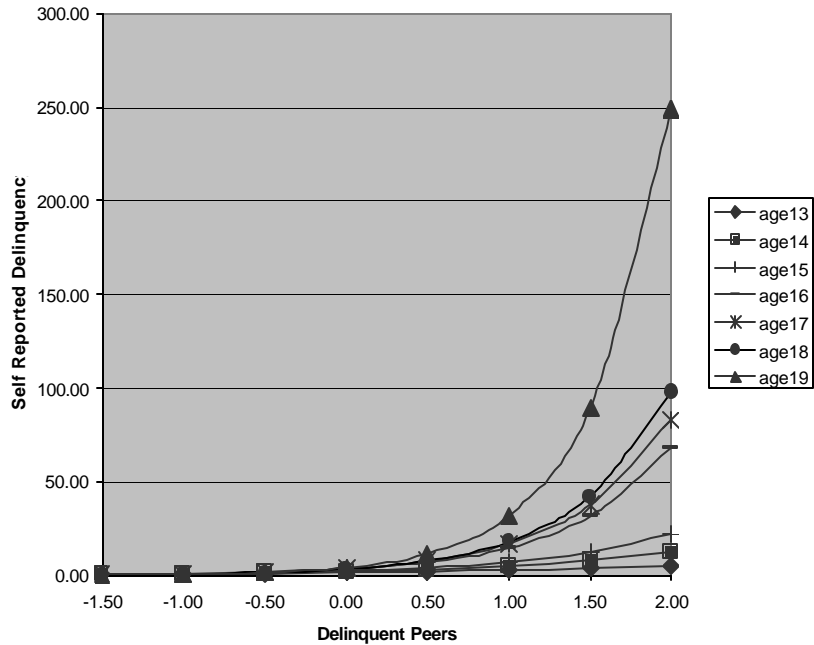
Notes: Age 13 is the omitted reference category. Statistically significant improvements in R² from the additive to interactive models are indicated with asterisks. * p = .05, ** p = .01, *** p = .001

strength and nature of the interactions are less clear. For example, the substantive effects tend to be smaller as evidenced by the smaller coefficients, and there is little to no evidence of a steady increase in the influence of peers as one progresses from the lower to higher age groups.

To demonstrate in a more intuitive manner what these interactions mean, Figure 1 provides a graphical representation of the results for using marijuana. For this figure, the Y axis presents the predicted delinquency count, and the X axis

presents the standardized delinquent peer index, with lower (negative) values representing less exposure to delinquent peers and higher (positive) values representing greater exposure to delinquent peers. As the figure shows, the influence of increased delinquent peer association on self-reported use of marijuana is greater for the older age groups, which is evident from the steeper slopes for each of the ascending age categories. If the expected pattern of age/peer interactions were not present, the slopes for each age group,

Figure 1 The Interactive Effect of Age and Delinquent Peer Association on Self-Reported Use of Marijuana



perhaps different from one another, would not consistently increase for each ascending age group.

The significance of these findings will be discussed shortly, but it should be mentioned first that additional analyses were conducted to determine if two factors -- the perceived influence of peers and time spent with family -- could account for the identified age/peer interactive effects. We reasoned that the interaction between age and delinquent peer associations might result in increased delinquency through two mechanisms, increasing the influence that peers exert or reducing time spent with family.

To test these possibilities, measures of peer influence and time spent with family were included in the interactive models. Peer influence was measured by using the NYS question: "How much have your friends influenced what you've thought and done?" (1 = very little, 2 = not too much, 3 = some, 4 = quite a bit, 5 = a great deal). Time spent with family was constructed from three separate items in the NYS data. Respondents were asked: "On average, how many afternoons during the school week, from the end of school or work to dinner, have you spent talking, working, or playing with members of your family?" (0 to 5). The same question was asked regarding evenings spent with family. A third question was then asked, "On weekends, how much time have you generally spent talking, working, or playing with members of your family?" (1 = very little, 2 = not too much,

3 = some, 4 = quite a bit, 5 = a great deal). Responses to these questions were standardized and averaged to compute a single-item measure of time spent with family. When the peer influence and family time variables were included in the interactive models, there was no appreciable impact on the interaction of age and peer association.

DISCUSSION AND CONCLUSION

The findings presented here suggest mixed support for our hypotheses concerning the age/peer association with delinquency. With respect to the first hypothesis, we found that as predicted, and as suggested by prior research, there was an interactive relationship between age and delinquent peer associations, at least for some offenses. However, for others, there was no such relationship, and for still others the expected pattern of age/peer interactions was not evident. That is, for these offenses older age groups were not necessarily affected more strongly by increased peer associations.

With respect to the second hypothesis, we found relatively clear evidence of the predicted associations for drug-related offending, including using marijuana and getting drunk, with additional but less strong evidence for selling illegal drugs and using prescription drugs. For these offenses, increased delinquent peer associations generally exerted a much greater impact on older age groups.

For non-drug offenses, the effect of delinquent peers did not consistently increase among older age groups. The one exception was burglary, for which modest evidence of the expected pattern of association surfaced. This exception suggests the need to consider the possibility that similar age/peer influences may be operative for drug offending and for burglary, but not for other non-drug-related offenses. Indeed, Warr's (1996) research indicates that, like drug offenses, burglary has a high group violation rate, though it is not associated with a "sticky friend" pattern (Warr 1993). For the offense index, the modest evidence of the hypothesized age/peer interaction most likely reflects the interactive effect for the four drug offenses contributing to the index.

In short, the derived hypotheses from interactional theory (Thornberry 1987) and from Warr's (1993, 1996) research on qualitative differences in peer associations for specific types of offenses are supported. Specifically, the empirical evidence suggests that increased exposure to delinquent peers exerts a unique impact on the inclination of older youths to engage in drug offending (using marijuana, getting drunk, selling illegal drugs, and using prescription drugs). This impact, we argue, is most likely due to the nature of drug offending among adolescents: as the context of drug offending becomes increasingly embedded in peer networks, youths increasingly are expected to engage in drug-related crimes, especially using marijuana and getting drunk. It is possible, though, that for these offenses, youths peer networks become increasingly similar but without exerting a causal effect on drug offending. In either event, the interactive effect of delinquent peers and age does not appear to operate through the perceived influence of peers nor through disruption to time spent with family.

The primary focus here has been to draw attention to the need for theoretical accounts of specific offenses, especially when there may be a basis for anticipating different causal models of delinquency. Research to date on the age/peer relationship suggests that there is an interactive effect, with increases in delinquent peer association exerting a greater influence among older adolescents. However, as the present study highlights, such a finding can obscure the possibility that no such relationship obtains for disaggregated offense categories. It also can obscure the possibility that even if the relationship exists for specific categories (e.g., minor versus more serious offending -- see Elliott and Menard 1996), it may not be equally strong for the specific offenses comprising these categories. In the

present study, for example, the interactive relationship for drug offenses is of varying strength for use of marijuana, getting drunk, selling illegal drugs, use of prescription drugs, burglary, and the offense index. For those studies, as with the present one, significant age/peer interactions for delinquency indices may mask the possibility that the interaction is present only for a small subset of offenses and that even within this sub-set (e.g., drug offenses) the interaction may present to varying degrees.

Some researchers argue that there is little specialization in delinquency (Gottfredson and Hirschi 1990), while others argue that there are relatively clear types of offending that certain youths pursue (Loeber and Farrington 2001). The present research bears on this debate in that it suggests the role that the changing influence of peer associations may have for certain types of offending. For example, the nature and structure of peer associations may directly influence the types of offending, such as drug-related criminal behavior, in which youths engage (Warr 1996), especially when these associations remain in place for extended periods of time and are centered around a particular type of offending.

The implications of our study are relatively straightforward. First, future analyses of the age/peer influence on delinquency should address directly the interactive influence of these two factors on specific rather than general types of offending patterns (Elliott and Menard 1996; Lauritsen 1999). Second, there is a need to explore precisely how delinquent peer associations develop initially, how they are sustained or change over time and/or are age-structured, and how exactly these associations contribute to greater levels of delinquent offending (LaGrange and White 1985; Warr 1993, 1996; Thornberry et al. 1994; Elliott and Menard 1996; Jang 1999). To this end, a particularly fruitful area for future research is to focus on the type and quality of peer bonding among youths, how these change over time, and how they may bear on offending patterns at different ages (Elliott and Menard 1996). In addition, there is a need for future studies to investigate age/peer interactions using longitudinal data. Research along these lines will have more than academic interest, as the results will bear directly on a central focus -- peer groups -- of many drug and delinquency intervention programs (Gorman 1996).

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