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Abstract

Peer influence occupies an intriguing place in criminology. On the one hand, there is a long line of theorizing and empirical work highlighting it as a key causal process for delinquency. On the other, there is a group of theoretical skeptics who view it as one of the most notorious examples of a spurious link. After discussing these perspectives, this review takes stock of our intellectual advancements in understanding peer influence over decades' worth of research toward this endeavor. We conclude that although there have been important gains, essential questions and gaps remain. Toward this aim, we offer some lines of future work that we believe offer pathways to yielding the greatest added value to the discipline.

INTRODUCTION

For more than a century, scholars have highlighted the role of peer influence in criminal outcomes. Indeed, Breckinridge & Abbott (1912) concluded that it was hard to identify a delinquent who was not a member of a delinquent peer group. Even lone offenders, they observed, tended to be influenced by delinquent companions. The idea that peer processes were important in generating delinquency was further bolstered by Shaw's (1931) case studies, which consistently emphasized the influence of friends and mentors in one's initiation into and continuation of delinquency. In the decades since, peer influence has come to occupy a seminal place in criminological discourse; in fact, it is arguably one of the most voluminous literatures in the discipline.

Of course, volume does not necessarily translate into intellectual advancement. In tracing the development of the research and theories allocating peers a causal role over time, one witnesses a parallel intergenerational transmission of skepticism, with some portion of the discipline dismissing peer influence wholesale as a spurious correlate of offending. In fact, one of the most prominent members of this cadre of critics has had an enormous influence on the peer influence research agenda over the past several decades. Travis Hirschi was unyielding in his arguments that peers held little sway over offending behavior and a good portion of the past fifty years' worth of research on criminogenic peer influence has been a response to his dismissal. In this way, his enduring skepticism has played a notable role in shaping the focus of criminological work on peer effects.

As a result, one may reasonably question the degree to which the discipline has truly made intellectual progress over the past century in understanding peer influences on delinquency, given that scholars have spent much of the time finding new ways to investigate whether peers matter in an attempt to mollify skepticism. To be fair, criminology has made some notable progress in its understanding of the potential mechanisms of peer influence, but far too many key issues remain underdeveloped after more than a century of research. With the aim of illuminating our relative advancement since Breckinridge & Abbott's (1912) statement, this review takes stock of the current standing of criminological work on peer influence.¹ In doing so, we begin by framing our discussion with the foundational theories that underlie the arguments that peers can play a critical role in the offending process. We then assess what we currently know from the research, before identifying what we believe are the most crucial domains in need of advancement.²

THEORETICAL FOUNDATIONS OF PEER INFLUENCE

In a broad sense, there are two main theoretical traditions that afford peers a salient causal role in the etiology of delinquency. The first, which has received the bulk of theoretical and empirical attention, is the normative influence perspective. From this viewpoint, deviant peers essentially socialize the acceptance of delinquent values and behavior. The second, which is a relatively more recent addition to the theoretical landscape, is the situational perspective, which places emphasis on the immediate impact of socializing routines with peers, regardless of whether such peers are deviant. Although they stand in stark contrast to these two perspectives, we also believe it is

¹This is not the only review of peer influence; for example, see Brechwald & Prinstein's (2011) review of research on peer influence across an array of outcomes in adolescence. Our focus here is explicitly on what we know/do not know through a criminological lens.

²Importantly, our review does not delve into the structure and process of group crime (i.e., co-offending). Research on co-offending is crucial for a broad understanding of companions in crime (Warr 2002), and recent years have shown marked progress in empirical work with regard to co-offending, as both the dependent and independent variables (e.g., Carrington 2009, Hochstetler 2001, McGloin et al. 2008, McGloin & Nguyen 2012, Sarnecki 2001, Schaefer 2012). Nevertheless, here we focus on the traditional social influence processes that have garnered the vast majority of attention in criminology.

important to briefly consider control theories, as they have been constant companions to work on peer influence, serving as the primary critics of theory and research.

Normative Influence Theories: Differential Association Theory

Sutherland's differential association theory has been labeled a quintessential sociological theory of delinquency (Warr 1993) because it posits that one's tendencies toward crime (and conformity) develop primarily through his/her interactions with others. Sutherland (1947) outlined nine propositions that form his differential association theory that can be summarized in several key points. The first is that criminal behavior, like all human behavior, is learned through our communication with others; there is no special explanation required for crime and delinquency. Second, Sutherland asserted that this learning involves both the techniques and skills to commit crime as well as the definitions favorable to crime. The techniques and skills used to commit crime can range in complexity, from how to properly throw a punch to how to hotwire a car. Definitions favorable to crime include the motives, drives, attitudes, and rationalizations that promote criminal behavior. A more precise conceptualization of definitions favorable to crime was not initially offered by Sutherland (1947; however, see Sutherland 1973) but has been discussed in further detail by Cressey (1955), Sykes & Matza (1957), and Matsueda (1988). In general, scholars typically view definitions favorable to crime as attitudes that allow individuals to approve of, justify, or rationalize criminal behavior in specific situations (Matsueda 1988). Importantly, Sutherland was clear that individuals are exposed to associations that provide definitions that are both favorable and unfavorable to crime, and it is the ratio of the two that influences behavior. Indeed, the primary mechanism shaping the motivation to engage in delinquency is attitudinal transference (e.g., learning to rationalize crime).

Third, the influence that different associates have on behavior is weighted by four modalities: priority, duration, frequency, and intensity. The priority modality suggests that associations formed earlier in life have a greater influence on behavior. Duration means that individuals who have been associated with an individual longer are afforded more weight than more recent associates. Frequency implies that individuals are more likely to acquire the behavior patterns of individuals with whom they associate often rather than those with whom they communicate infrequently. Finally, intensity suggests that individuals are more likely to be influenced by individuals with whom they are strongly attached as opposed to more distal associates. Put simply, the notion that associates are weighted by these modalities simply suggests that not all individuals we encounter equally impact our behavior.

Social Learning Theory

Jeffery (1965) urged criminologists to incorporate learning principles identified in experimental psychology into Sutherland's (1947) differential association theory. One year later, Burgess & Akers (1966) reduced Sutherland's nine propositions to seven by incorporating operant conditioning principles into the theory. Influenced by the simplicity (and neatly packaged four constructs) of Hirschi's social control theory, Akers (1973) reformulated the differential association–reinforcement theory into a general social learning theory that incorporates four theoretical constructs. The first two constructs are taken directly from Sutherland, with differential association referring to the types of associates one has (i.e., delinquent versus nondelinquent) and definitions referring to one's attitudes and rationalizations that allow for crime and deviance. Differential reinforcements are the anticipated and actual rewards and punishments that are a consequence for the criminal behavior. If individuals anticipate greater reinforcements for

their behavior relative to punishments, then it is predicted that they will engage in delinquency. Imitation simply suggests that individuals may learn behavior by observing the behavior of others and the corresponding consequences of behavior.

For Akers, peers influence delinquency largely through the impact they have on the actual and anticipated consequences of behavior. Peers may express support for delinquent activities in ways that make individuals believe that violating accrues status and other social rewards, thus making it more likely that the individual will engage in such conduct [see also the discussion of deviancy training by Dishion & Owen (2002) and Dishion et al. (1996)]. If/when individuals engage in delinquency, peers can respond in either an approving (reinforcing) or disapproving (punishing) fashion that, in turn, affects the likelihood that delinquency occurs in the future. In short, when individuals believe that friends will reinforce delinquent behavior, which is more likely when one's friends are deviant, then offending is a likely outcome.

Symbolic Interactionism

When scholars appeal to the normative influence tradition in criminology, they almost always focus on differential association or social learning theory. In comparison, symbolic interactionism receives markedly less attention (although Sutherland's differential association theory is strongly rooted in the symbolic interaction tradition). We believe it is important to acknowledge this perspective, even if we do not delve deeply into it. Drawing on Mead (1934), delinquent peer associations influence one's likelihood of delinquency by affecting both his/her identity and one's definition of the situation. Regarding the former, having deviant peers can facilitate the development of a prodelinquent generalized other, which serves as primary reference group for the individual. This results in a delinquent conceptualization of self and an adoption of attitudes that promote a positive view of delinquency. Individuals carry this identity with them into various interactions and situations, increasing the likelihood of delinquency. Regarding the latter situational effect, peers may influence how an individual defines a situation through conversation patterns (see also Goffman 1959). Individuals may become aware of delinquent opportunities of which they were otherwise unaware, and/or the peer group itself may provide situational motivation to engage in delinquent conduct. These symbolic interaction processes of peer influence have been incorporated into criminology through neo-Meadian perspectives, such as those offered by Matsueda (1992) and Giordano and colleagues (2002).

A Situational Perspective: Osgood and Colleagues' Extension of Routine Activity Theory

The normative influence theories discussed above largely assume that peers are a risk factor for delinquency when those peers are delinquent themselves. Conversely, socializing with nondelinquent friends should be a protective factor, as such peers would presumably communicate norms promoting conformity. Osgood et al. (1996) challenged these assumptions by embracing the idea that motivation for crime can rest in the immediate situation. The idea that offending can be a spontaneous act emerging from situational inducements is nicely captured by Gold's (1970) portrayal of delinquency as being similar to a pick-up game of basketball. Osgood et al. (1996) argued that when adolescents spend time socializing with each other in unstructured and unsupervised settings, this can naturally lead to delinquency. The relatively common adolescent activity of hanging out with friends in the absence of authority figures sets the stage for spontaneous delinquency. In structured activities, such as sports and clubs, an individual's attention is focused on

a particular (prosocial) task, and the presence of authority figures (e.g., coaches and other adults) leads to both explicit and implicit discouragement of deviance. For example, the direct supervision provided by the authority figures means that any antisocial activity is likely to be detected and punished. In the absence of both structure and supervision, however, delinquency is unlikely to come to the attention of such authority figures. Furthermore, peers can provide an audience that is appreciative and encouraging of such acts and can assist in the commission of the act (e.g., as a lookout), thus making deviance both more rewarding and easier to commit. In this way, even if one informally socializes with friends who are generally prosocial, there are still criminogenic peer processes at work.

The Theoretical Skeptics

Control theorists have long been dismissive of the idea that peer influence plays a causal role in offending. From their point of view, the relationship between peer-based risk factors and offending is the result of social control and/or self-control factors causing both—in other words, studying peer influence is a practice in being distracted by a spurious relationship. Importantly, these criticisms and dismissals have almost all focused on the normative influence view that having deviant peers is a risk factor for offending. This is perhaps best reflected in Glueck & Glueck's (1950) famous portrayal of the group nature of delinquency as resulting from birds of a feather flocking together, a sentiment that endured in both Hirschi's (1969) social bond theory and Gottfredson & Hirschi's (1990) general theory of crime. Under social bond theory (Hirschi 1969), individuals attached to their parents, committed to school, involved in time-consuming prosocial activities, and who believe strongly in the validity of the law are bonded to society and, thus, unlikely to deviate from prosocial behavior. Hirschi (1969) asserts that the reason why there is a statistical relationship between deviant peers and delinquency is that individuals strongly bonded to society are unlikely to befriend those with weak bonds who may compromise their valued prosocial relationships; those weakly bonded to society are left as potential friends for each other. Further, Hirschi (1969) argued that the selfish tendencies of those weakly bonded to society results in “cold and brittle” deviant friendship groups that are low in attachment, trust, and support. Giordano et al. (1986) investigated this cold and brittle hypothesis in what stands as a seminal investigation of the nature and quality of friendships among delinquents. In their interviews with nearly 950 youth (between ages 12 and 19), they found that there were no differences between delinquents and nondelinquents in the degree to which they believed their friendships were marked by caring and trust. Further, there were also no differences in the extent to which subjects said they could be themselves (i.e., affirmation of self-identity) with their friends. Despite the fact that this was clear evidence against Hirschi's (1969) claims, he remained unconvinced that peer influence was meaningful and, in fact, renewed his skepticism decades later under a new control theory.

Rather than viewing selfish desires as restrained by informal external controls, Gottfredson & Hirschi (1990) posited that individuals learn to regulate their own behavior internally. Ineffective parenting practices result in children who give in to immediate temptations that have negative long-term consequences, who prefer risky and exciting behaviors, and who act selfishly. These characteristics coalesce into a single trait called self-control and reflect one's propensity to engage in crime (as well as other analogous behaviors). Despite this shift in focus from social bond theory, the disregard for peer influence remained markedly consistent. Under this theory, the reason why peer deviance and delinquency are related is that children with low self-control generally make poor friends and, as such, they end up in friendship groups with each other; like offending, having a deviant peer group is a consequence of low self-control.

Theoretical Compromise?

The criticisms from control theorists set up the oft-cited divide between selection and socialization, with the former noting that the propensity for crime develops prior to and independent of adolescent peer groups, and the latter emphasizing the importance of deviant peer processes. Yet other theories explicitly argue that criminal propensity and peer influence mechanisms should not be viewed as mutually exclusive or competitive; instead, they may interact in complementary ways. Matza's (1964) notion of drift and Thornberry's (1987) interactional theory differ in important respects, but they nevertheless offer similar descriptions of how peers influence one's delinquent tendencies. Both theories assert that individuals possess individual and structural risk factors related to their propensity to commit crime prior to joining an adolescent peer network. For example, individuals may be weakly attached to parents, weakly committed to school, or reside in a structurally disadvantaged neighborhood conducive to crime. Such individuals, according to Matza (1964) and Thornberry (1987), are free to deviate. Unlike control theorists who assume that crime itself is inherently rewarding, Matza (1964) and Thornberry (1987) argue that being free to deviate does not necessarily mean that an individual will deviate but simply that it is on one's behavioral menu. From Matza's (1964) view, when individuals are in drift, peers can provide the motivation that promotes delinquency. Similarly, Thornberry (1987) argues that individuals still consider the potential social consequences of delinquency before deciding to engage in crime, and if the peers encourage/reward delinquency then this can provide the necessary motivation to engage in crime. Put simply, both Matza (1964) and Thornberry (1987) argued that being free to deviate simply means that it is one possible behavioral option, and peers can play an influential role in providing the necessary motivation to violate norms (see also McGloin & Thomas 2017). In short, even if selection processes predict exposure to delinquent peers, this does not prevent socialization processes and situational mechanisms from exerting an influence (McGloin & Shermer 2009).

RESEARCH ON PEER INFLUENCE

When thinking about the peer influence research literature in a broad sense, it can generally be described as focusing on two questions. The first is whether peer influence is causal; do we have compelling evidence that peers affect delinquency/offending behavior? As alluded to earlier, this is a question that scholars have revisited time and again, in large part because of the enduring skepticism from control theorists. If scholars have a reasonable degree of confidence that peers truly influence behavior, then they can progress to the second, less studied, question: What is the mechanism(s) driving the relationship between peer variables and offending?

It is worth noting that the bulk of work studying peer influence—and certainly the research that continually revisits the question of whether peers truly matter when predicting offending—focuses on normative influence perspectives. This does not mean there is no empirical commentary on Osgood et al.'s (1996) situational perspective. Indeed, there are numerous studies offering support for the premise that socializing with (even nondeviant) peers in unstructured and unsupervised settings increases delinquency (e.g., Augustyn & McGloin 2013, Haynie & Osgood 2005, Hoeben & Weerman 2014, Maimon & Browning 2010, Osgood & Anderson 2004). However, the vast majority of the empirical work establishing a peer influence effect focuses on exposure to deviant peers; accordingly, our research review mainly concentrates on that line of inquiry.

Do Peers Truly Influence Offending Behavior?

When assessing causality, criminologists (as well as other social scientists) have largely embraced the standards set forth by the nineteenth-century philosopher John Stuart Mill (Shadish et al.

2002). Mill believed that the social sciences should embrace the tenets of causality that are adopted in the natural sciences—that is, a deterministic view of causality in which the cause is both a necessary and sufficient explanation of the phenomenon (although see also Hirschi & Selvin 1966). Three standards are thus necessary to establish causality: (a) The cause and effect are (statistically) related; (b) the cause precedes the effect; and (c) reasonable alternative explanations have been ruled out. Of course, randomized experiments offer the best insight into whether peer factors cause criminal action, but they are rare in testing deviant peer influence (as they are with testing criminological theories more generally; see McGloin & Thomas 2013). In large part, this is because replicating the rich social processes that supposedly underlie peer influence can be challenging, as is crafting an ethical means to produce deviant behavior. Even so, there are variations of experiments that document a peer effect, although they often must make concessions on some level due to these limitations (e.g., Duncan et al. 2005, Gardner & Steinberg 2005, Sacerdote 2001). For example, Paternoster et al. (2013; see also Gallupe et al. 2016) conducted a study in which subjects were assigned to either a treatment condition in which a confederate announced an intention to cheat and then noticeably cheated on a memory task to earn more money or a control condition in which the confederate silently completed the memory task. The researchers determined whether subjects also cheated through a user tracking program; they found that no subjects in the control condition cheated, compared to 38% of those in the treatment condition. Arguably, this establishes a causal peer influence effect, but there is certainly a meaningful conceptual gap between a stranger acting in a particular moment and a close friend engaged in social processes over time, just as there is a difference between cheating behavior and more serious forms of crime. In light of such challenges to the broad applicability of randomized controlled trials to testing theory, it is not surprising that the bulk of empirical work studying peer influence is quasi-experimental. Accordingly, it must be critically evaluated regarding the extent to which it successfully meets Mill's standards.

Statistical Association Between Peer Associations and Delinquency

The discipline has ample evidence of a statistical relationship between peers and delinquency. In fact, we are not familiar with any criminologists who deny such a correlation exists. The Chicago School theorists were some of the first to statistically identify the group nature of offending, but the prominence of peer perspectives took off after the proliferation of survey research. Seminal works by Short (1957) and Glaser (1960) provided early evidence of a statistical association between who one socializes with and self-reported offending. Even Hirschi's (1969) assessment of the Richmond Youth Survey found a strong statistical association between associating with delinquent peers and one's own delinquency, even when accounting for weakened social bonds. Since these early seminal studies, scores of research findings have continued to affirm that associating with delinquent friends is a strong predictor of initiation, maintenance, frequency, desistance, and even the types of antisocial behaviors that individuals commit (Akers et al. 1979; Matsueda & Anderson 1998; McGloin 2009; Thomas 2015; Warr 1993, 1998). In fact, Pratt and colleagues (2010) found that the effects of delinquent peer associations are at least comparable to (if not larger than) the effects of other well-known correlates of crime (e.g., self-control). Warr (2002) has even gone as far as to label the group nature of delinquency as a fact of crime. Thus, it is fair to say that this causal criterion is met.

Temporal Order of the Peer-Delinquency Relationship

The concern of temporal order maps onto the control theorists' aforementioned assertion that delinquent tendencies precede associations with delinquent others. Given the plausibility that

delinquents select similar friends (although see Weerman 2011), questions around temporal order are absolutely warranted, especially in light of the fact that early studies on peer influence relied on cross-sectional data (e.g., Akers et al. 1979, Matsueda 1982, Reiss & Rhodes 1964, Short 1957, Voss 1964). At this point, however, longitudinal research dominates the peer delinquency literature and provides support for the notion that deviant peer associations precede delinquency. For example, both Elliott & Menard (1996) and Keenan et al. (1995) have found that associating with delinquent friends precedes the onset of antisocial behavior. Research also documents that associating with delinquent peers is a strong predictor of offending behavior when controlling for respondents' prior delinquency using lagged dependent variable (LDV) models (Haynie & Osgood 2005, Matsueda & Anderson 1998, Thomas 2015).

But the reality is that when it comes to peer influence, one logically expects that temporal order can operate both ways. Indeed, these findings documenting that deviant peer associations occurred prior to observed changes in delinquency do not mean that delinquent tendencies play no role in exposure to peer deviance. As discussed earlier, selection and socialization likely operate in a complementary, interactive way such that engaging in delinquency increases exposure to delinquent peers, which in turn amplifies delinquency (e.g., Thornberry 1987, Thornberry et al. 1994; see also Monahan et al. 2009). Even though allowing for nonrecursive paths complicates establishing temporal order, we do have persuasive evidence that exposure to deviant peers at time 1 predicts delinquency at time 2.

Ruling Out Alternative Explanations

Much of the criticism surrounding the peer effect centers around whether alternative explanations that might render the correlation spurious have been ruled out. The skepticism largely revolves around two issues that are exemplified by Gottfredson & Hirschi's (1990, p. 156) dismissal of the relationship between associating with delinquent friends and one's own delinquency: "How much easier it would be to assume that the 'delinquent peer group' is a creation of faulty measurement and the tendency of people to seek the company of others like themselves." The vast majority of research over the past 25 years has attempted to address the purported concerns of faulty measurement and selection that are thought to render a peer effect statistically and substantively nonsignificant. In light of this, it is worth considering whether, and to what extent, these alternative explanations account for the peer delinquency relationship.

Faulty measurement? Over the years, some scholars have suggested that the correlation between peer associations and delinquency may be the result of a problematic independent variable. Most of the research examining peer effects relied on a subject's perceptions of the behavior of his/her peers to estimate the delinquency of the peer group (e.g., Akers & Lee 1996, Matsueda & Anderson 1998, Warr & Stafford 1991). Questions about the accuracy of perceptual peer measures gathered momentum in the 1980s (Davies & Kandel 1981, Jussim & Osgood 1989, Wilcox & Udry 1986), but, not surprisingly, Gottfredson & Hirschi (1990) played a seminal role in dismissing the statistical association between perceived peer behavior and one's own delinquency due to faulty measurement. They suggested that these measures did not capture actual peer deviance but instead the tendency for people to assume that friends behave in similar ways to themselves—i.e., individuals were projecting their own behavior onto their friends (see also Kandel 1996). Thus, the strong correlation observed between perceived peer behavior and a subject's own delinquency was (according to Gottfredson & Hirschi 1990) simply due to the fact that two variables were redundant measures of the same thing: respondent behavior.

This concern about measurement has dominated the peer influence literature over the past 15 years, with the increased availability of social network data. Procuring social network data typically involves surveying students in fixed settings (e.g., schools), and these data allow researchers to link subjects' nominated friends to their survey responses. Such data thus provide an alternative measure of peer deviance based on self-reports from the peers themselves. Because these measures rely on direct reports from friends, the observed relationship between friends' deviance and a subject's delinquency is not vulnerable to concerns about projection. Numerous studies have since used these objective peer measures in their models, revealing an enduring relationship between peer deviance and delinquency (e.g., Haynie 2001, 2002; McGloin 2009; Weerman & Smeenk 2005). It might seem that one could take comfort in the fact that even when using this alternative measure, the relationship remained; after all, the statistical association between peers and delinquency could no longer simply be attributed to projection bias.

But this research has tended to show that (a) when using objective measures the peer effect is more modest than when using perceptual measures; (b) the gap between these two peer measures was correlated with subject delinquency—that is, individuals, on average, misperceive their peers' delinquency in a manner that is consistent with their own behavior; and (c) perceptual measures continue to be statistically related to subject delinquency even when controlling for peer self-reports. These findings have led some scholars to claim that perceptual measures are contaminated by projection and that objective measures are superior to perceptual measures (e.g., Boman et al. 2012a,b; Boman & Ward 2014). Other researchers were more cautious in suggesting a full reappraisal of the literature using perceptual measures; they noted that projection may be one reason for these patterns but not solely responsible for all (Matsueda & Anderson 1998, Rebellon & Modecki 2014).

We are not inclined to relegate perceptual peer deviance measures to the academic dustbin for at least two reasons (see McGloin & Thomas 2016a). First, Gottfredson & Hirschi's (1990) assertion that perceptual measures are contaminated by projection has seemingly been taken as a fact among criminologists, even though this argument is based more on speculation than on evidence. Of course, it is logical to suspect that there may be some degree of projection, and a handful of studies demonstrate reason for concern (Jussim & Osgood 1989, Young et al. 2014). But in our view, the extant research suggests that concerns of projection bias may be overstated. Prior work using factor analytic techniques has consistently shown that perceived peer delinquency and respondents' delinquency are distinct constructs (Agnew 1991, Rebellon & Modecki 2014, Thornberry et al. 1994, Young et al. 2015, Zhang & Messner 2000), indicating that perceptual measures are not redundant measures of one's own delinquency. Further, extant research has found that most adolescents do a good job in describing peer behavior (Young et al. 2014) and that misperceptions sometimes result from individuals reporting that peer behavior is dissimilar to their own behavior (McGloin & Thomas 2016a). Finally, subjects may very well have access to information about their friends not captured by peer self-reports; such information can inform beliefs about peer behavior in a manner that is fully consistent with the notion of peer influence.

In a survey of high school students, McGloin & Thomas (2016a) found that adolescents reported they based their beliefs about friends' drinking behavior primarily on witnessed behavior, friends' expressed values, friends' reactions to others' behavior, and information from third parties, all of which are valid sources of information. They also found that many adolescents are not fully honest with friends about their own drinking attitudes and behavior. Furthermore, when using a vignette method to assess the tendency of adolescents to project their own drinking behaviors onto a hypothetical peer, McGloin & Thomas (2016a) found that the tendency to project essentially

vanished as the subject acquired more information about this peer, i.e., when they had to fill in fewer blanks. This latter vignette finding is arguably consistent with Young et al.'s (2014) observation that adolescents are less likely to misperceive their peers' behavior when they are embedded in denser social networks. Taken together, these empirical findings cast doubt that the perceived peer delinquency measures are inherently contaminated by projection bias to the degree often assumed by many criminologists and may instead be formed based on an array of informational sources. Clearly, much more research is needed.

A second, and in our view more important, reason to retain perceptual measures is that they have high construct validity if one is relying on a normative influence view of peer influence. In a broad sense, this framework embraces the axiom that "what one believes that others think and do has a profound impact on what one does" (Neighbors et al. 2006, p. 282; see also Thomas & Thomas 1928) and, further, that adolescents are cognitive beings capable of constructing and interpreting their own reality (Blumer 1969). By choosing to operationalize peer deviance based on what peers self-report rather than what subjects believe to be their behavior or attitudes, one runs the risk of theoretical misspecification and treating adolescents as objects that are uninvolved in their own social lives. As Matza noted, scholars should "comprehend and illuminate the subject's view and to interpret the world *as it appears to him*" (Matza 1969, p. 25; emphasis in original). To be fair, peer influence scholars have not been very careful on this front. At the very least, scholars should label this measure perceived peer deviance, not as an acknowledgment of some limitation but instead as an attempt at transparency regarding the construct of interest, taking a cue from perceptual deterrence researchers. On the whole, this measurement debate has highlighted that scholars need to be clearer about whether their independent variable of interest is or should be the actual behavior of deviant peers, the perceived deviance of one's peers, or perhaps both.

Selection effects. Gottfredson & Hirschi's (1990) skepticism returns to the quintessential dismissal of peer influence by control theorists, which is that the correlation is merely a reflection of delinquents selecting deviant peers. Peer influence researchers have largely addressed this selection concern in four methodological ways. First, their regression models include covariates that are theorized to render the peer effect spurious (e.g., social bonds, self-control) under the presumption that doing so results in an unbiased estimate. Research using this approach has consistently found strong peer effects when accounting for a range of theoretically relevant control variables (e.g., Matsueda & Heimer 1987, McGloin & Shermer 2009). Second, researchers have included an LDV under the presumption that "any variance in friends' delinquency that is attributable to selection factors relevant to delinquency is necessarily shared with the contemporaneous measure of delinquency" (Haynie & Osgood 2005, p. 1,119). Importantly, LDV models are likely too strong of a control for selection factors because the prior delinquency term is necessarily correlated with the structural error term and downwardly biases other estimates in the model—including the peer influence estimate (see Achen 2001, Haynie & Osgood 2005, Thomas et al. 2018). Even so, research including an LDV reveals an enduring peer influence effect (e.g., Haynie & Osgood 2005, McGloin et al. 2014, Thomas 2015). Third, researchers have appealed to more rigorous models that focus attention on within-individual change and control for any time-stable (i.e., person-level) unobserved heterogeneity. Studies using these fixed effects models have also revealed a statistically significant peer effect (e.g., Fergusson et al. 2002, Thomas et al. 2018). Fourth, scholars have used stochastic actor-based analyses (with social network data), which allow the researcher to model friendship selection and account for network-based processes (such as transitivity and reciprocity). As with the prior analytic approaches, studies using this modeling approach also reveal a peer influence effect (e.g., Osgood et al. 2013, Weerman 2011; but see Knecht

et al. 2010). No one method is a panacea, and there will always be concerns about unobserved bias with any quasi-experimental approach, but it remains the case that a meaningful peer effect has held up against an array of attempts to account for rival explanations and model specifications.

So, in light of such points, do we have evidence that peers cause delinquency? After all, it has been almost 70 years since the Gluecks' infamous dismissal of peer influence as birds of a feather flocking together, and yet studies continually aim to test this premise (Boman 2017, Matsueda & Anderson 1998, Thornberry et al. 1994, Weerman 2011). Given our reliance on observational data, the simple fact is that we will never be able to identify the true causal peer effect (Rubin 2008; see also Thomas et al. 2018). But this does not necessarily undercut the large stack of studies investigating whether we should have faith in the notion that peers, on average, matter in predicting offending behavior. For example, both Young (2014) and Thomas et al. (2018) have used sensitivity analyses to examine how vulnerable peer effects are to unobserved bias in the four modeling strategies described above and have found that the peer effect is quite robust to omitted variable bias. Furthermore, if one of our disciplinary goals is empirical triangulation around essential research questions in the hopes that it offers insight on the durability and consistency of relationships of interest (Sampson 2010), then the peer influence literature occupies an enviable position. From this perspective, we appear to have a solid foundation that can be leveraged as justification for moving past the question of whether peers matter and orienting our investigations around better understanding how or why peers exert an influence.

Understanding How Peers Matter: Have Mechanisms Been Illuminated?

To some degree, gains in understanding underlying mechanisms have been hampered by the tradition of operationalizing peer influence as (perceived) exposure to friends' deviance (e.g., the portion of friends that are deviant, the average level of delinquency among one's friends), which rarely specifies the precise processes at work (e.g., definitions, imitation, reinforcement contingencies, peer pressure, opportunities provided by peers). There are, of course, exceptions (e.g., Akers et al. 1979, Boeringer et al. 1991, Matsueda 1982), but they are relatively uncommon and, as we argue below, the precise mechanism(s) by which peers influence behavior still requires inquiry. In recent years, scholars have taken strides to at least differentiate between normative influence and situational opportunities by including a measure of informal socializing in regression models (Haynie & Osgood 2005), which provides some degree of discernment between the main theoretical traditions of interest. Importantly, research on this front has found that unstructured/unsupervised socializing (*a*) has a strong and statistically significant association with respondent delinquency and (*b*) reduces a portion of the delinquent peer effect (see Haynie & Osgood 2005). This underscores that it is worth distinguishing between the situational influences of peers and the normative influences of peers (see also Thomas & McGloin 2013). Even with these limitations, the broader peer influence literature has made some strides in understanding peer processes.

First, there is empirical commentary on the viability of some arguments made by the traditional theories of peer influence. For example, Matsueda (1982) found that the relationship between having delinquent friends and delinquency is, at least in part, mediated by respondents' attitudes regarding the favorability of crime, a finding that is consistent with Sutherland's differential association theory. Warr & Stafford (1991) used data from the National Youth Survey to examine whether it is what peers think (i.e., their attitudes) or what they do (i.e., their actual behavior) that matters and found that, although the attitudes of peers were a statistically significant predictor of respondent behavior, it is the actual behavior of peers that is more influential. They concluded that their findings were supportive of Akers's social learning theory over differential association, but their peer behavior measure was essentially a catchall for any mechanisms that

were not attitudinal. Indeed, in Pratt et al.'s (2010) meta-analysis of social learning theory, they found that differential associations and attitudes favorable to crime were the strongest predictors of behavior and that differential reinforcement and imitation—the two constructs added by Akers to differential association theory—were relatively weak predictors of crime. Again, the differential association measure in Pratt et al.'s (2010) work is essentially a catchall, meaning that much of how peers influence behavior remains unexplained.

Next, research has expanded these core theories and tested some more nuanced arguments flowing from them. For example, McGloin (2009) highlighted that normative influence perspectives focus on the nature of the value system in place—peer influence processes can promote prosocial or antisocial behavior—and that these perspectives also recognize reciprocal influence among social actors. Yet research speaks almost exclusively about the manner whereby individuals are affected in antisocial ways by deviant friends. She argued that the risk posed by deviant peers is not objective but rather relative, in that it depends on the subject's own level of delinquency because people seek a form of social homeostasis (McGloin 2009). In this way, a deviant friend may actually have a prosocial influence if her/his friend is more deviant than she/he is; likewise, a friend may have differential influence on two people depending on their respective levels of delinquency (i.e., the subject who is less delinquent than this friend may see her/his own deviance increase, whereas the subject who is more delinquent than this same friend may decrease her/his delinquency). Using data on best friends from the National Longitudinal Study of Adolescent to Adult Health (AddHealth), McGloin (2009) found evidence to support this view of normative influence by peers. As another example, some research has focused on the fact that adolescents have multilayered, complex social networks and that these layers may shape influence in meaningful ways. Again using the AddHealth data, Payne & Cornwell (2007) identified subjects' friends of friends and found that their self-reported deviance was associated with the subjects' own delinquency, even when accounting for the deviance of direct friends (i.e., those who served as connections to these indirect friends). Most importantly, Payne & Cornwell (2007) observed that the strength of this effect was conditional on how similar these friends' deviance levels were compared with the more proximate friends. Such work offers insight on influence mechanisms because it not only underscores the notion that more important connections have stronger influence but also that those connections shape the effect of other social ties in the network. In short, it urges peer influence scholars to think about peer influence beyond the impact of the friendship group, as there are interdependencies in the broader social network (see also McGloin et al. 2014).

Third, research has demonstrated that propensity and peer influence are best understood as interactive, complementary processes rather than competitors, echoing the earlier discussion of Matza (1969) and Thornberry's (1987) viewpoints. Indeed, several studies suggest the strength of peer influence processes are at least somewhat dependent on an individuals' level of self-control or morality (e.g., Hay & Forrest 2008, Mears et al. 1998, Thomas & McGloin 2013, Wikström 2006, Wright et al. 2001). For example, Thomas & McGloin (2013) argued that individuals high in impulsivity tend to make fast decisions based on immediate, situational stimuli, rather than more deliberate, thoughtful decisions informed by longer-term consequences and enduring norms. Individuals low in impulsivity generally approach decision-making in the opposite way. As a result, they hypothesized that adolescents who were very low in impulsivity would be less vulnerable to the risks posed by unstructured and unsupervised socializing with peers compared to individuals with high impulsivity, whereas they would be more vulnerable to normative influence by deviant peers when compared to their highly impulsive counterparts. Although their empirical analyses were less conclusive regarding informal socializing, they did find support (across three different data sets) for differential vulnerability to normative influence based on impulsivity; i.e., associating with delinquent friends had a much larger impact on the delinquent tendencies of individuals not already

inclined to commit crime (i.e., low in impulsivity; see also McGloin & Stickle 2011). Other research has demonstrated that peer processes are moderated by other factors too, including immigration status (DiPietro & McGloin 2012) and neighborhood context (Zimmerman & Messner 2011). There is certainly more work to be done on this front (McGloin & Thomas 2017), but the notion that people may experience peer influence processes differently depending on an array of factors has opened up important lines of inquiry and serves as one pathway toward moving beyond the selection/socialization debate.

We believe that another notable gain in understanding the mechanisms of peer influence has emerged from scholars integrating peers into research on offender decision-making and rational choice theories. Research documents that individuals use information about their peers' deviance to update their own perceptions of sanction risk (Matsueda et al. 2006; see also Anwar & Loughran 2011). Furthermore, there is evidence that the presence of peers can adjust preferences for risk and reward, i.e., the extent to which individuals weigh these choice-structuring properties when making decisions. Gardner & Steinberg's (2005) experimental study documented that when subjects were in the presence of friends, as opposed to alone, they engaged in riskier behavior and reported a greater preference for risk. Further, under experimental conditions, O'Brien et al. (2011) showed that individuals in the presence of peers show a greater preference for immediate reward than do those who are alone. Finally, there is reason to believe that individuals' perceptions about the costs and rewards associated with deviance (as opposed to their preferences for them) are dependent on the behavior of others in the situation. McGloin & Thomas (2016b; see also McGloin & Rowan 2015) conducted an experiment in which subjects were provided with a hypothetical scenario that described an opportunity to engage in either theft or the destruction of property. The treatment condition, which was randomly assigned across people, was the number of people who were involved in the act before the subject hypothetically participated in the deviant act (i.e., 0, 5, 25, 50, or 75). Results revealed that as the size of the group increased, the anticipated social rewards (i.e., excitement, a sense of belonging) increased while the anticipated informal costs (i.e., sense of responsibility, disappointment from family) and sanction risk (i.e., getting caught by police) decreased. In this way, research suggests that offending decisions are interdependent, opening up another avenue for understanding peer influence mechanisms.

KEY AVENUES FOR FUTURE RESEARCH

The majority of research on peer influence has sought to establish whether peers truly affect delinquent tendencies. Although the question of whether peers cause delinquency "endures as an unresolved. . .question for criminology" (Paternoster et al. 2013, p. 493), we are not convinced that a continued focus on the causality question in the traditional sense will appreciably advance the discipline. We hold this view for both methodological and philosophical reasons. From a methodological standpoint, as noted above, randomized controlled experiments with faithful construct validity are difficult to conduct in criminology (e.g., randomizing individuals to a peer group; see also McGloin & Thomas 2013), which means that tests of peer influence inevitably rely on observational data. With observational data, there will always remain the possibility that some unobserved heterogeneity can bias results, and skeptics of peer effects can continue to dismiss group influence as simply due to selection. In our view, the diversity of data and methods in which peer influence has been observed has provided fairly convincing evidence—albeit without absolute certainty—to the causality question. Indeed, as we stated earlier, if one goal of research is empirical triangulation around key relationships of interest, then the peer influence literature should be viewed in a very favorable light. Skeptics who remain unconvinced that peers influence behavior despite decades of research (Short 1957) using experimental (Gallupe et al. 2016, Paternoster et al.

2013) and quasi-experimental (Fergusson et al. 2002) designs that have all reached similar conclusions (see also Pratt et al. 2010, Warr 2002) will likely never be persuaded; we believe scholars should feel comfortable shifting their attention from addressing such skeptics and instead focus on digging into questions about mechanisms and process.

This recommendation aligns with the philosophical and theoretical reasons to question the traditional pursuance of establishing causality (see also Hirschi & Selvin 1966). We agree with Matza (1964) and Paternoster (2017) that the epistemological stance that human behavior is subject to the same deterministic laws as the natural sciences is misguided and only serves to make human beings less human. Individual behavior is too complex to be ubiquitously caused by some external or internal factor, and we believe that a more complete and realistic understanding of peer influence can be achieved only by asking more complex questions such as how, when, and among whom do peers influence behavior. Moreover, contemporary debates in criminology frame things as either selection or socialization, but this is not the theoretical argument laid forth by the most prominent peer influence perspectives. Sutherland (1947) suggested that the priority modality in differential association likely relates to future offending through selective forces (i.e., by influencing who individuals associate with). Akers (1998) similarly acknowledged that individuals self-select into peer groups but that those peers continue to influence behavior. Put simply, both selection and socialization processes operate. From these philosophical and theoretical perspectives, there is undoubtedly much more work to be done.

Identifying the Mechanisms of Peer Influence

Despite decades of research, some of the core premises of our foundational theories of peer influence remain untested. For example, Sutherland argued that peer influence should be mediated through an individual's definitions favorable to crime. In large part, the literature appears to reject this premise because research tends to show that delinquents disapprove of crime despite engaging in it (Hirschi 1969). Yet these studies have used abstract attitude measures that capture their approval toward a behavior overall (e.g., how wrong is it to get into a fight?) and, as such, have not been faithful representations of Sutherland's theory (see Thomas 2018). Under differential association theory, individuals learn to justify particular crime types and/or behaviors in particular situations, which then translates into respective action rather than generalized delinquent acts. Most of the research purporting to test differential association has focused on either the direct influence of peer behavior (Haynie 2001, 2002) or attitudes (Thomas 2018) on delinquency. This work indicates that both constructs are independently related to offending, which is often cited as evidence in favor of differential association theory (see Pratt et al. 2010). Sutherland's theory does not speak to independent effects, however, but rather to a mediating relationship among peer associations, attitudes, and delinquency—that is, exposure to delinquent friends should predict one's underlying approval of delinquent conduct, which, in turn, should predict one's delinquent tendencies (see Matsueda 1988).

The few studies that have examined such a relationship have mostly been cross-sectional in nature (Matsueda 1982, Tittle et al. 1986), which is obviously limiting when one is interested in mediation. Furthermore, most research has examined whether peer associations and/or attitudes can explain one's general tendency to engage in law-violating behavior. As Warr (2002) notes, simply observing a correlation between crime—general peer behavior/attitudes and crime—general respondent behavior may lead to the erroneous conclusion that there is behavioral overlap even if individuals and their friends are engaging in different types of delinquency. By failing to focus on the nuanced predictions about the specific learning content, we run the risk of leaving a core

premise of the theory untested (Thomas 2015). This is but one example of how we should be digging deeper into some foundational theories, and there are certainly other gaps. For instance, Osgood et al.'s (1996) theory suggests that unstructured and unsupervised socializing should lead to delinquency while in that setting with others, yet studies have not addressed this prediction. First, research has not yet specified when the delinquency occurs; as such, those specifying longitudinal models may be sacrificing theoretical precision for clarity of temporal order (Hoeben & Weerman 2016). It is certainly understandable that scholars want to address the possibility of reverse causality (i.e., delinquents may be more prone to socialize with friends in unsupervised and unstructured settings), but if this is truly a situational risk process, then one needs more fine-grained data than longitudinal surveys offer. Research using space-time budgets (Wikström et al. 2010; see the Peterborough Adolescent and Young Adult Development Study) may hold the key to such insight (see Hoeben et al. 2014, Weerman et al. 2015). Wikström and colleagues' (2010) innovative data collection, based on hour-by-hour recollections, offers the chance to study social behavior in layered social contexts (e.g., neighborhoods, social groups, microplaces) with the situation as the unit of analysis. This holds potential for better understanding not only the mechanisms underlying Osgood and colleagues' (1996) theory but also for (a) other situational perspectives (e.g., McGloin & Thomas 2016b), (b) the interaction of these perspectives with contextual settings, and (c) the unfolding development of deviant peer normative influence over time and across space.

We also encourage scholars to continue “stealing from our friends” in other disciplines (Osgood 1998, p. 1) to help our understanding of the peer effect. For instance, profound insights into human decision-making that may prove relevant for understanding how peers influence behavior have been garnered in behavioral economics and psychology. Some of this work, such as dual-process models of decision-making, have already been incorporated into the study of peers in criminology (Thomas & McGloin 2013), but a plethora of other relevant concepts exist. As just one example, although we often view peers as influencing behavior by providing rewards for crime (e.g., social status), it may be that the threat of losing status for not going along with the group weighs more heavily on an individual's action decision—a notion that is consistent with the phenomenon of loss aversion. Taking this view also highlights the relevance of work in behavioral economics on social pressure, which is tied to social image concerns. Although much of this literature is focused on prosocial behaviors such as voting, the underlying actions and assumptions translate to our domain of focus. Recently, Bursztyjn & Jensen (2017) urged scholars to focus more empirical attention on unpacking the precise (and possibly varied) mechanisms that underlie social pressure—our own discipline would be wise to keep abreast of the work that answers this call.

Furthermore, both Sutherland (1947) and Akers (1998) have discussed the importance of communication in the learning process, and there is a rich literature in organizational management and psychology that has discussed communication strategies that are most effective in gaining behavioral compliance (see Wheeler et al. 1983). The characteristics of such communication strategies may also shed light on how instigators can convince others to engage in delinquency (Alberts et al. 1999, Checton & Greene 2011). Our point is simply that fruitful insights into the mechanisms of peer influence may be gained by thinking outside of our own disciplinary box.

We also advocate that research along these lines at least occasionally step away from making methodological choices based on which approaches will offer the cleanest causal estimates. To some researchers, opting to prioritize gaining rich insight into process by revitalizing a dedicated domain of qualitative and ethnographic work may seem like a step backward in methodological rigor, but it most certainly is not (Blumer 1969). Sampson (2010) argues that criminologists should be catholic in their approach to methods, and we cannot ignore the seminal role that

qualitative work has played in our discipline. The fact that recent papers still use passages from Shaw's (1931, 1966) seminal life-history narratives to illuminate statistical findings on social influence underscores the utility of qualitative approaches as well as their relative dearth in the literature. Likewise, Whyte's (1943) *Street Corner Society* and Short & Strodtbeck's (1965) *Group Process and Gang Delinquency* illuminated the importance of contextualized social interactions in a way that variable-based approaches simply cannot. This is not to suggest that there is no recent qualitative work that highlights peer influence processes. Recent work echoes the importance of understanding social interactions layered within and across situations when studying how deviant behavior emerges (e.g., Cobbina et al. 2016, Hughes & Short 2005). But such work is nonetheless rare and generally focused on street gangs. A more concerted effort to encourage, accept, and engage in qualitative studies would undoubtedly pay intellectual dividends for understanding peer influence mechanisms.

Digging into the Process of Selection

We should also take strides to illuminate selection processes. Given that virtually every peer study in the past several decades has discussed selection effects in some way, the factors that contribute to how individuals actually select friends are surprisingly understudied. The emphasis in the literature has been primarily on treating selection as some nuisance that must be addressed either methodologically or statistically. Although he was not focused on peer influence, Sampson's (2013) arguments about selection when studying neighborhood effects are surely relevant here. From Sampson's (2013) viewpoint, selection is best understood as a theoretical process/effect ready to be unpacked and studied, not as something to be controlled for in our research designs or models. Selection is part of a broader theoretical understanding that sheds light on how and why offending behavior emerges.

In the domain of peer influence studies, stochastic actor-based models have offered some interesting options on this front. These models allow researchers to distinguish between individual-level factors and network processes as sources of selection, which holds the possibility of theoretical gains, but they are still largely couched as a means to account for selection to better estimate peer influence processes (e.g., Baerveldt et al. 2008, Ragan 2014, Weerman 2011). Beyond the initial friendship or peer group formation and delinquency onset question, there is also a need to consider how that selection process is preserved (or not) in the later social dynamics of peer relationships that give rise to delinquent behavior.

Further clarity is also needed on what is meant by the term selection in the context of peer influence. Criminologists often imply that individuals select friends based on their delinquent tendencies, but some research demonstrates that delinquent behavior has little to no impact on friend selection (Weerman 2011). Other research has found that individuals with similar levels of self-control and social bonds do end up forming friendship ties (Young 2011), but it is not entirely clear what these findings mean (e.g., are individuals actively seeking friends with similar levels of self-control?). Moving forward, we believe that it may be useful to distinguish different types of selection that can reflect preferences and/or propinquity. For example, individuals with delinquent tendencies may hang out together because they prefer each other's company, because they are rejected by prosocial peers and have no other options, because shared routines or sanctioning experiences bring them into contact with one another, or some combination thereof. Examining the relative contributions of different selection pathways can add considerable insight into our understanding of adolescent friendship groups.

Understanding Perceptions of Peer Behavior

As stated earlier, we are not convinced that peer deviance measures based on peer self-reports are inherently more valid than perceptual measures, but they most certainly represent an important advance. Their emergence has encouraged criminologists to think more critically about one of our key measures of interest. In moving forward, we believe it is essential that scholars adopt an understanding of how perceptions about peer deviance form and change as a critical part of the research agenda; in this way, they can take a cue from the perceptual deterrence literature that has focused on improving the understanding of perceived sanction risk. This agenda should be an earnest one focused on truly understanding the elements that inform the origination and updating of beliefs about friends, not simply an exercise in confirming or disproving the projection hypothesis. Just as Nagin (2013) said there is a need to understand why there is a disjoint between objective sanction risk and perceived risk (e.g., Kleck et al. 2005), there is also a need to understand the conditions under which objective and perceived peer deviance diverge. And much as there are occasions when objective sanction risk is the appropriate independent variable and others when perceived sanction risk is appropriate, it may be that both perceived and objective peer deviance measures can operate in complementary ways to collectively comment on the validity of theories that afford peers a causal role. Unfortunately, peer scholars have not engaged in the sort of discernment that would offer theoretical and empirical insight on the underlying constructs generating these measures and their relationship to one another. Such work will help us move beyond debates about what measure of peer deviance is better and instead focus on these measures' constituent parts and how they map onto theory.

Thinking Critically About Sources of Peer Influence

Another important avenue for research is to delve more deeply into a fundamental question at the heart of what peer influence scholars study: What constitutes a peer? The overwhelming majority of research purporting to test peer influence could be more appropriately framed as studying close friend influence. But an individual's peer group likely extends far beyond the immediate close friendship network typically studied. Indeed, some recent work has investigated peer effects by focusing on whether and how romantic partners (Haynie et al. 2005, Kreager & Haynie 2011), siblings (Fagan & Najman 2003, Rowan 2016), co-workers (Gould & Kaplan 2011, Piquero et al. 2005), fellow inmates (Chen & Shapiro 2007; see also Osgood & O'Neill Briddell 2006), schoolmates (McGloin et al. 2014), and college roommates (Sacerdote 2001, Stinebrickner & Stinebrickner 2006) shape and/or encourage offending behavior. Ideally, peer influence scholars will be guided by the theoretical mechanisms of interest rather than a commitment to a particular way of operationalizing the source of peer influence. Doing so would embrace the reality of social associates and networks, potentially moving us closer to an understanding of how complex social processes interact and shape behavior.

Even if we continue to prioritize friendship groups in our research, it is likely that our operationalizations here also require expansion. We can no longer ignore that advances in technology have changed the very landscape and nature of adolescent social networks. Whereas access to peers used to be constrained by neighborhood and school boundaries, the growth of social media has meant that individuals are now able to routinely socialize with friends in different cities, states, and even countries. The influence of this virtual peer group (Warr 2002) has only begun to receive empirical attention, but there is some evidence that online exposure to deviant peers does influence delinquent tendencies (e.g., McCuddy & Vogel 2015). However, most of this research is cross-sectional and does not control for one's in-person peer network, leaving the door wide open for further inquiry and advancement.

Considering the Role of Peers Over the Life Course of Crime

The bulk of peer influence literature focuses on adolescents. This makes sense given that friends play a particularly salient role in the social lives of individuals during this developmental phase (Brown 1990, Warr 2002) and that, as mentioned above, the great majority of peer influence research operationalizes “peers” as the friendship group. But it also means that our understanding of how peers fit into life-course criminology is underdeveloped. To be sure, some important insights exist. Warr (1993) has shown that time spent with friends and associations with delinquent friends accounts for an important portion of the age-crime relationship and that this may be able to explain the decline in crime that is observed postmarriage (Warr 1998). Laub & Sampson (2003) argued that one reason marriage reduces offending behavior is that it reduces the time that individuals (at least men) spend with friends in criminogenic settings. Much more research is needed to disentangle the age-peer-crime relationship, however. For example, although Warr (1993) has provided evidence that individuals are less likely to associate with offenders in adulthood relative to adolescence, the processes driving this phenomenon have not been explored. The knifing off of deviant friends suggests a conscious choice to leave deviant others behind, but it could also be that all individuals are naturally desisting (Gottfredson & Hirschi 1990); thus, the delinquency of the peer group is simultaneously changing with the delinquent tendencies of the individual. This may be answered through a relatively simple question: Are individuals changing friends or is the behavior of the friends changing? Or it could be that individuals are better able to resist peer influences as they enter adulthood (Chein et al. 2011, Gardner & Steinberg 2005).

As part of this research agenda, it would also be insightful to investigate whether meaningful sources of peer influence change over the life course; that is, normative and situational social influence mechanisms may remain salient over the life course, even as the primary sources of that influence shift over time. Literature has been sensitive to this issue in childhood and adolescence by studying the relative impact of parents and friends as sources of influence (e.g., Berndt 1979, Wood et al. 2004), but surely there is progress to be made in later stages of the life course. Addressing the prior point about expanding our operationalization of the word “peer” may pay dividends here. If the discipline truly embraces a wider view of who may serve as sources of peer influence, such as romantic partners, co-workers, neighbors, and others, this would invite questions about how the sources of theoretically meaningful processes change as individuals develop over time [see, for instance, a parallel discussion about the shifting salience of sources of social control in Laub & Sampson (2003) and Thornberry (1987)].

CONCLUSION

For more than a century now, criminological theories and research have sought to illuminate whether and how peers shape offending behavior. Over that time, the discipline has undoubtedly gained an improved understanding of peer influence and has seemed to reach a robust conclusion that peers matter. Yet, on the whole, the intellectual gains do not quite square up with the size of the literature after decades worth of inquiry. In large part, this is due to the tendency of peer influence scholars to continually revisit the criticisms about spuriousness raised by skeptics. It is time to aggressively pursue added value around an agenda invested in mechanisms, not in identifying a causal point estimate. This will of course be unsatisfactory to some, but we believe this offers the best avenue for ensuring that reviews in the future will document progress among this generation of criminological scholarship.

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LITERATURE CITED

- Achen CH. 2001. *Why Lagged Dependent Variables Can Suppress the Explanatory Power of Other Variables*. Ann Arbor: Univ. Mich.
- Agnew R. 1991. The interactive effects of peer variables on delinquency. *Criminology* 29(1):47–72
- Akers RL. 1973. *Deviant Behavior: A Social Learning Approach*. Belmont, CA: Wadsworth
- Akers RL. 1998. *Social Learning and Social Structure: A General Theory of Crime and Deviance*. Boston: Northeastern Univ. Press
- Akers RL, Krohn MD, Lanza-Kaduce L, Radosevich M. 1979. Social learning and deviant behavior: a specific test of a general theory. *Am. Sociol. Rev.* 44(4):636–55
- Akers RL, Lee G. 1996. A longitudinal test of social learning theory: adolescent smoking. *J. Drug Issues* 26(2):317–43
- Alberts JK, Hecht ML, Miller-Rassulo M, Krizel RL. 1999. The communicative process of drug resistance among high school students. *Adolescence* 27:203–26
- Anwar S, Loughran TA. 2011. Testing a Bayesian learning theory of deterrence among serious juvenile offenders. *Criminology* 49(3):667–98
- Augustyn MB, McGloin JM. 2013. The risk of informal socializing with peers: considering gender differences across predatory delinquency and substance use. *Justice Q.* 30(1):117–43
- Baerveldt C, Völker B, Van Rossem R. 2008. Revisiting selection and influence: An inquiry into the friendship networks of high school students and their association with delinquency. *Can. J. Criminol. Crim. Justice* 50(5):559–87
- Berndt TJ. 1979. Developmental changes in conformity to peers and parents. *Dev. Psychol.* 15(6):608–16
- Blumer H. 1969. The methodological position of symbolic interactionism. *Sociol. Thought Action* 2(2):147–56
- Boeringer SB, Shehan CL, Akers RL. 1991. Social contexts and social learning in sexual coercion and aggression: assessing the contribution of fraternity membership. *Fam. Relat.* 40(1):58–64
- Boman JH IV. 2017. The peer group. In *The Encyclopedia of Juvenile Delinquency and Justice*, ed. CJ Schreck, M Leiber, HV Miller, K Welch, pp. 1–6. Hoboken, NJ: Wiley
- Boman JH IV, Stogner JM, Miller BL, Griffin OH III, Krohn MD. 2012a. On the operational validity of perceptual peer delinquency: exploring projection and elements contained in perceptions. *J. Res. Crime Delinquency* 49(4):601–2
- Boman JH IV, Ward JT. 2014. Beyond projection: specifying the types of peer delinquency misperception at the item and scale levels. *Deviant Behav.* 35(7):555–80
- Boman JH IV, Ward JT, Gibson CL, Leite WL. 2012b. Can a perceptual peer deviance measure accurately measure a peer's self-reported deviance? *J. Crim. Justice* 40(6):463–71
- Brechwald WA, Prinstein MJ. 2011. Beyond homophily: a decade of advances in understanding peer influence processes. *J. Res. Adolesc.* 21(1):166–79
- Brekinridge SP, Abbott E. 1912. *The Delinquent Child and the Home*. New York: Russell Sage
- Brown BB. 1990. Peer groups and peer cultures. In *At The Threshold: The Developing Adolescent*, ed. SS Feldman, GR Elliott, pp. 171–96. Cambridge, MA: Harvard Univ. Press
- Burgess RL, Akers RL. 1966. A differential association-reinforcement theory of criminal behavior. *Soc. Probl.* 14(2):128–47
- Bursztyjn L, Jensen R. 2017. Social image and economic behavior in the field: identifying, understanding, and shaping social pressure. *Annu. Rev. Econ.* 9:131–53

- Carrington PJ. 2009. Co-offending and the development of the delinquent career. *Criminology* 47(4):1295–329
- Checton MG, Greene K. 2011. College students' use of compliance-gaining strategies to obtain prescription stimulant medication for illicit use. *Health Educ. J.* 70:260–73
- Chen J, Albert D, O'Brien L, Uckert K, Steinberg L. 2011. Peers increase adolescent risk taking by enhancing activity in the brain's reward circuitry. *Dev. Sci.* 14(2):F1–10
- Chen MK, Shapiro JM. 2007. Do harsher prison conditions reduce recidivism? A discontinuity-based approach. *Am. Law Econ. Rev.* 9:1–29
- Cobbina JE, Like TZ, Miller J. 2016. Gender-specific conflicts among urban African-American youth: the roles of situational context and issues of contention. *Deviant Behav.* 37(9):1032–51
- Cressey DR. 1955. Changing criminals: the application of the theory of differential association. *Am. J. Sociol.* 61(2):116–20
- Davies M, Kandel DB. 1981. Parental and peer influences on adolescents' educational plans: some further evidence. *Am. J. Sociol.* 87(2):363–87
- DiPietro SM, McGloin JM. 2012. Differential susceptibility? Immigrant youth and peer influence. *Criminology* 50(3):711–42
- Dishion TJ, Owen LD. 2002. A longitudinal analysis of friendships and substance use: bidirectional influence from adolescence to adulthood. *Dev. Psychol.* 38:480–91
- Dishion TJ, Spracklen KM, Andrews DW, Patterson GR. 1996. Deviancy training in male adolescent friendships. *Behav. Ther.* 27:373–90
- Duncan GJ, Boisjoly J, Kreme M, Levy DM, Eccles J. 2005. Peer effects in drug use and sex among college students. *J. Abnorm. Child Psychol.* 33(3):375–85
- Elliott D, Menard S. 1996. Delinquent friends and delinquent behavior. In *Delinquency and Crime: Current Theories*, ed. JD Hawkins, pp. 28–67. New York: Cambridge Univ. Press
- Fagan AA, Najman JM. 2003. Sibling influences on adolescent delinquent behaviour: an Australian longitudinal study. *J. Adolesc.* 26(5):546–58
- Fergusson DM, Swain-Campbell NR, Horwood LJ. 2002. Deviant peer affiliations, crime and substance use: a fixed effects regression analysis. *J. Abnorm. Child Psychol.* 30:419–30
- Gallupe O, Nguyen H, Bouchard M, Schulenberg JL, Chenier A, Cook KD. 2016. An experimental test of deviant modeling. *J. Res. Crime Delinquency* 53(4):482–505
- Gardner M, Steinberg L. 2005. Peer influence on risk taking, risk preference, and risky decision making in adolescence and adulthood: an experimental study. *Dev. Psychol.* 41(4):625–35
- Giordano PC, Cernkovich SA, Pugh MD. 1986. Friendships and delinquency. *Am. J. Sociol.* 91(5):1170–202
- Giordano PC, Cernkovich SA, Rudolph JL. 2002. Gender, crime, and desistance: toward a theory of cognitive transformation. *Am. J. Sociol.* 107(4):990–1064
- Glaser D. 1960. Differential association and criminological prediction. *Soc. Probl.* 8(1):6–14
- Glueck S, Glueck ET. 1950. *Unraveling Juvenile Delinquency*. New York: Harvard Univ. Press
- Goffman E. 1959. *The Presentation of Self in Everyday Life*. New York: Random House
- Gold M. 1970. *Delinquent Behavior in an American City*. Belmont, CA: Brooks/Cole
- Gottfredson MR, Hirschi T. 1990. *A General Theory of Crime*. Stanford: Stanford Univ. Press
- Gould ED, Kaplan TR. 2011. Learning unethical practices from a co-worker: the peer effect of Jose Canseco. *Labour Econ.* 18(3):338–48
- Hay C, Forrest W. 2008. Self-control theory and the concept of opportunity: the case for a more systematic union. *Criminology* 46(4):1039–72
- Haynie DL. 2001. Delinquent peers revisited: Does network structure matter? *Am. J. Sociol.* 106(4):1013–57
- Haynie DL. 2002. Friendship networks and delinquency: the relative nature of peer delinquency. *J. Quant. Criminol.* 18(2):99–134
- Haynie DL, Giordano PC, Manning WD, Longmore MA. 2005. Adolescent romantic relationships and delinquency involvement. *Criminology* 43(1):177–210
- Haynie DL, Osgood DW. 2005. Reconsidering peers and delinquency: How do peers matter? *Soc. Forces* 84(2):1109–30
- Hirschi T. 1969. *Causes of Delinquency*. Berkeley: Univ. Calif. Press
- Hirschi T, Selvin HC. 1966. False criteria of causality in delinquency research. *Soc. Probl.* 13(3):254–68

- Hochstetler A. 2001. Opportunities and decisions: interactional dynamics in robbery and burglary groups. *Criminology* 39(3):737–64
- Hoeben E, Weerman F. 2014. Situational conditions and adolescent offending: Does the impact of unstructured socializing depend on its location? *Eur. J. Criminol.* 11(4):481–99
- Hoeben EM, Bernasco W, Weerman FM, Pauwels L, van Halem S. 2014. The space-time budget method in criminological research. *Crime Sci.* 3(1):1–15
- Hoeben EM, Weerman FM. 2016. Why is involvement in unstructured socializing related to adolescent delinquency? *Criminology* 54:242–81
- Hughes LA, Short JF. 2005. Disputes involving youth street gang members: micro-social contexts. *Criminology* 43(1):43–76
- Jeffery CR. 1965. Criminal behavior and learning theory. *J. Crim. Law Criminol. Police Sci.* 56:294–300
- Jussim L, Osgood DW. 1989. Influence and similarity among friends: an integrative model applied to incarcerated adolescents. *Soc. Psychol. Q.* 52(2):98–112
- Kandel DB. 1996. The parental and peer contexts of adolescent deviance: an algebra of interpersonal influences. *J. Drug Issues* 26(2):289–315
- Keenan K, Loeber R, Zhang Q, Stouthamer-Loeber M, Van Kammen WB. 1995. The influence of deviant peers on the development of boys' disruptive and delinquent behavior: a temporal analysis. *Dev. Psychopathol.* 7(4):715–26
- Kleck G, Sever B, Li S, Gertz M. 2005. The missing link in general deterrence research. *Criminology* 43(3):623–60
- Knecht A, Snijders TA, Baerveldt C, Steglich CE, Raub W. 2010. Friendship and delinquency: selection and influence processes in early adolescence. *Soc. Dev.* 19(3):494–514
- Kreager DA, Haynie DL. 2011. Dangerous liaisons? Dating and drinking diffusion in adolescent peer networks. *Am. Sociol. Rev.* 76(5):737–63
- Laub JH, Sampson RJ. 2003. *Shared Beginnings. Divergent Lives: Delinquent Boys to Age 70*. Cambridge, MA: Harvard Univ. Press
- Maimon D, Browning CR. 2010. Unstructured socializing, collective efficacy, and violent behavior among urban youth. *Criminology* 48(2):443–74
- Matsueda RL. 1982. Testing control theory and differential association: a causal modeling approach. *Am. Sociol. Rev.* 47(4):489–504
- Matsueda RL. 1988. The current state of differential association theory. *Crime Delinquency* 34(3):277–306
- Matsueda RL. 1992. Reflected appraisals, parental labeling, and delinquency: specifying a symbolic interactionist theory. *Am. J. Sociol.* 97(6):1577–611
- Matsueda RL, Anderson K. 1998. The dynamics of delinquent peers and delinquent behavior. *Criminology* 36(2):269–308
- Matsueda RL, Heimer K. 1987. Race, family structure, and delinquency: a test of differential association and social control theories. *Am. Sociol. Rev.* 52(6):826–40
- Matsueda RL, Kreager DA, Huizinga D. 2006. Detering delinquents: a rational choice model of theft and violence. *Am. Sociol. Rev.* 71(1):95–122
- Matza D. 1964. *Delinquency and Drift*. New York: Wiley and Sons
- Matza D. 1969. *Becoming Deviant*. Englewood Cliffs, NJ: Prentice-Hall
- McCuddy T, Vogel M. 2015. More than just friends: online social networks and offending. *Crim. Justice Rev.* 40(2):169–89
- McGloin JM. 2009. Delinquency balance: revisiting peer influence. *Criminology* 47(2):439–77
- McGloin JM, Nguyen H. 2012. It was my idea: considering the instigation of co-offending. *Criminology* 50(2):463–94
- McGloin JM, Rowan ZR. 2015. A threshold model of collective crime. *Criminology* 53(3):484–512
- McGloin JM, Shermer LO. 2009. Self-control and deviant peer network structure. *J. Res. Crime Delinquency* 46(1):35–72
- McGloin JM, Stickle WP. 2011. Influence or convenience? Disentangling peer influence and co-offending for chronic offenders. *J. Res. Crime Delinquency* 48(3):419–47
- McGloin JM, Sullivan CJ, Piquero AR, Bacon S. 2008. Investigating the stability of co-offending and co-offenders among a sample of youthful offenders. *Criminology* 46(1):155–88

- McGloin JM, Sullivan CJ, Thomas KJ. 2014. Peer influence and context: the interdependence of friendship groups, schoolmates and network density in predicting substance use. *J. Youth Adolesc.* 43(9):1436–52
- McGloin JM, Thomas KJ. 2013. Experimental tests of criminological theory. In *Experimental Criminology: Prospects for Advancing Science and Public Policy*, ed. BC Welsh, AA Braga, GJN Bruinsma, pp. 15–42. New York: Cambridge Univ. Press
- McGloin JM, Thomas KJ. 2016a. Considering the elements that inform perceived peer deviance. *J. Res. Crime Delinquency* 53(5):597–627
- McGloin JM, Thomas KJ. 2016b. Incentives for collective deviance: group size and changes in perceived risk, cost, and reward. *Criminology* 54(3):459–86
- McGloin JM, Thomas KJ. 2017. Revisiting Matza’s concepts of affinity and affiliation: lessons for the study of peer influences in criminology. In *Advances in Criminological Theories: Delinquency and Drift Revisited*, ed. T Blomberg, C Carlsson, CL Johnson, F Cullen, pp. 179–97. Piscataway, NJ: Transaction Publ.
- Mead GH. 1934. *Mind, Self and Society*. Chicago: Univ. Chicago Press
- Mears DP, Ploeger M, Warr M. 1998. Explaining the gender gap in delinquency: peer influence and moral evaluations of behavior. *J. Res. Crime Delinquency* 35(3):251–66
- Monahan KC, Steinberg L, Cauffman E, Mulvey EP. 2009. Trajectories of antisocial behavior and psychosocial maturity from adolescence to young adulthood. *Dev. Psychol.* 45(6):1654–68
- Nagin DS. 2013. Deterrence in the twenty-first century. *Crime Justice* 42(1):199–263
- Neighbors C, Oster-Aaland L, Bergstrom RL, Lewis MA. 2006. Event- and context-specific normative misperceptions and high-risk drinking: 21st birthday celebrations and football tailgating. *J. Stud. Alcohol* 67:282–89
- O’Brien L, Albert D, Chein J, Steinberg L. 2011. Adolescents prefer more immediate rewards when in the presence of their peers. *J. Res. Adolesc.* 21(4):747–53
- Osgood DW. 1998. Interdisciplinary integration: building criminology by stealing from our friends. *Criminologist* 23(4):1–10
- Osgood DW, Anderson AL. 2004. Unstructured socializing and rates of delinquency. *Criminology* 42(3):519–50
- Osgood DW, O’Neill Briddell L. 2006. Peer effects in juvenile justice. In *Deviant Peer Influences in Programs for Youth*, ed. KA Dodge, TJ Dishion, JE Lansford, pp. 141–61. New York: Guilford Press
- Osgood DW, Ragan DT, Wallace L, Gest SD, Feinberg ME, Moody J. 2013. Peers and the emergence of alcohol use: influence and selection processes in adolescent friendship networks. *J. Res. Adolesc.* 23(3):500–12
- Osgood DW, Wilson JK, O’Malley PM, Bachman JG, Johnston LD. 1996. Routine activities and individual deviant behavior. *Am. Sociol. Rev.* 61(4):635–55
- Paternoster R. 2017. Happenings, acts, and actions: articulating the meaning and implications of human agency for criminology. *J. Dev. Life-Course Criminol.* 3(4):350–72
- Paternoster R, McGloin JM, Nguyen H, Thomas KJ. 2013. The causal impact of exposure to deviant peers: an experimental investigation. *J. Res. Crime Delinquency* 50(4):476–503
- Payne DC, Cornwell B. 2007. Reconsidering peer influences on delinquency: Do less proximate contacts matter? *J. Quant. Criminol.* 23(2):127–49
- Piquero NL, Tibbetts SG, Blankenship MB. 2005. Examining the role of differential association and techniques of neutralization in explaining corporate crime. *Deviant Behav.* 26(2):159–88
- Pratt TC, Cullen FT, Sellers CS, Winfree LT Jr., Madensen TD, et al. 2010. The empirical status of social learning theory: a meta-analysis. *Justice Q.* 27(6):765–802
- Ragan DT. 2014. Revisiting “what they think”: adolescent drinking and the importance of peer beliefs. *Criminology* 52(3):488–513
- Rebellon CJ, Modecki KL. 2014. Accounting for projection bias in models of delinquent peer influence: the utility and limits of latent variable approaches. *J. Quant. Criminol.* 30(2):163–86
- Reiss AJ Jr., Rhodes AL. 1964. An empirical test of differential association theory. *J. Res. Crime Delinquency* 1(1):5–18
- Rowan ZR. 2016. Social risk factors of black and white adolescents’ substance use: the differential role of siblings and best friends. *J. Youth Adolesc.* 45(7):1482–96
- Rubin DB. 2008. For objective causal inference, design trumps analysis. *Ann. Appl. Stat.* 2(3):808–40

- Sacerdote B. 2001. Peer effects with random assignment: results for Dartmouth roommates. *Q. J. Econ.* 116(2):681–704
- Sampson RJ. 2010. Gold standard myths: observations on the experimental turn in quantitative criminology. *J. Quant. Criminol.* 26(4):489–500
- Sampson RJ. 2013. The place of context: a theory and strategy for criminology's hard problems. *Criminology* 51(1):1–31
- Sarnecki J. 2001. *Delinquent Networks: Youth Co-Offending in Stockholm*. Cambridge, UK: Cambridge Univ. Press
- Schaefer DR. 2012. Youth co-offending networks: an investigation of social and spatial effects. *Soc. Netw.* 34(1):141–49
- Shadish WR, Cook TD, Campbell DT. 2002. *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Boston: Houghton-Mifflin
- Shaw CR. 1931. *The Natural History of a Delinquent Career*. Chicago: Univ. Chicago Press
- Shaw CR. 1966. *The Jack-Roller: A Delinquent Boy's Own Story*. Chicago: Univ. Chicago Press
- Short JF. 1957. Differential association and delinquency. *Soc. Probl.* 4(3):233–39
- Short JF, Strodtbeck FL. 1965. *Group Process and Gang Delinquency*. Chicago: Univ. Chicago Press
- Stinebrickner R, Stinebrickner TR. 2006. What can be learned about peer effects using college roommates? Evidence from new survey data and students from disadvantaged backgrounds. *J. Public Econ.* 90(8–9):1435–54
- Sutherland EH. 1947. *Principles of Criminology*. Philadelphia, PA: Lippincott. 4th ed.
- Sutherland EH. 1973. Critique of the theory. In *Edwin H. Sutherland on Analyzing Crime*, ed. K Schuessler, pp. 30–41. Chicago: Univ. Chicago Press
- Sykes GM, Matza D. 1957. Techniques of neutralization: a theory of delinquency. *Am. Sociol. Rev.* 22(6):664–70
- Thomas KJ. 2015. Delinquent peer influence on offending versatility: Can peers promote specialized delinquency? *Criminology* 53(2):280–308
- Thomas KJ. 2018. Revisiting delinquent attitudes: measurement, dimensionality and behavioral effects. *J. Quant. Criminol.* 34:313–41
- Thomas KJ, McGloin JM. 2013. A dual-systems approach for understanding differential susceptibility to processes of peer influence. *Criminology* 51(2):435–74
- Thomas KJ, McGloin JM, Sullivan CJ. 2018. Quantifying the likelihood of false positives: using sensitivity analysis to bound statistical inference. *J. Quant. Criminol.* In press. <https://doi.org/10.1007/s10940-018-9385-x>
- Thomas WI, Thomas DS. 1928. *The Child in America: Behavior Problems and Programs*. New York: Knopf
- Thornberry TP. 1987. Toward an interactional theory of delinquency. *Criminology* 25(4):863–92
- Thornberry TP, Lizotte AJ, Krohn MD, Farnworth M, Jang SJ. 1994. Delinquent peers, beliefs, and delinquent behavior: a longitudinal test of interactional theory. *Criminology* 32(1):47–83
- Tittle CR, Burke MJ, Jackson EF. 1986. Modeling Sutherland's theory of differential association: toward an empirical clarification. *Soc. Forces* 65(2):405–32
- Voss HL. 1964. Differential association and reported delinquent behavior: a replication. *Soc. Probl.* 12(1):78–85
- Warr M. 1993. Age, peers, and delinquency. *Criminology* 31(1):17–40
- Warr M. 1998. Life-course transitions and desistance from crime. *Criminology* 36(2):183–216
- Warr M. 2002. *Companions in Crime: The Social Aspects of Criminal Conduct*. Cambridge, UK: Cambridge Univ. Press
- Warr M, Stafford M. 1991. The influence of delinquent peers: what they think or what they do? *Criminology* 29(4):851–66
- Weerman FM. 2011. Delinquent peers in context: a longitudinal network analysis of selection and influence effects. *Criminology* 49(1):253–86
- Weerman FM, Bernasco W, Bruinsma GJ, Pauwels LJ. 2015. When is spending time with peers related to delinquency? The importance of where, what, and with whom. *Crime Delinquency* 61(10):1386–413
- Weerman FM, Smeenk WH. 2005. Peer similarity in delinquency for different types of friends: a comparison using two measurement methods. *Criminology* 43(2):499–524
- Wheless LR, Barraclough R, Stewart R. 1983. Compliance-gaining and power in persuasion. *Ann. Int. Commun. Assoc.* 7:105–45

- Whyte WF. 1943. *Street Corner Society*. Chicago: Univ. Chicago Press
- Wikström P-OH. 2006. Individuals, settings, and acts of crime: situational mechanisms and the explanation of crime. In *The Explanation of Crime: Context, Mechanisms and Development*, ed. P-OH Wikström, RJ Sampson, pp. 61–107. New York: Cambridge Univ. Press
- Wikström P-OH, Ceccato V, Hardie B, Treiber K. 2010. Activity fields and the dynamics of crime: advancing knowledge about the role of the environment in crime causation. *J. Quant. Criminol.* 26(1):55–87
- Wilcox S, Udry JR. 1986. Autism and accuracy in adolescent perceptions of friends' sexual attitudes and behavior. *J. Appl. Soc. Psychol.* 16(4):361–74
- Wood MD, Read JP, Mitchell RE, Brand NH. 2004. Do parents still matter? Parent and peer influences on alcohol involvement among recent high school graduates. *Psychol. Addict. Behav.* 18(1):19–30
- Wright BRE, Caspi A, Moffitt TE, Silva PA. 2001. The effects of social ties on crime vary by criminal propensity: a life-course model of interdependence. *Criminology* 39(2):321–48
- Young JTN. 2011. How do they 'end up together'? A social network analysis of self-control, homophily, and adolescent relationships. *J. Quant. Criminol.* 27(3):251–73
- Young JTN. 2014. A sensitivity analysis of egocentric measures of peer delinquency to latent homophily: a research note. *J. Quant Criminol.* 30(3):373–87
- Young JTN, Rebellon CJ, Barnes JC, Weerman FM. 2014. Unpacking the black box of peer similarity in deviance: understanding the mechanisms linking personal behavior, peer behavior, and perceptions. *Criminology* 52(1):60–86
- Young JTN, Rebellon CJ, Barnes JC, Weerman FM. 2015. What do alternative measures of peer behavior tell us? Examining the discriminant validity of multiple methods of measuring peer deviance and the implications for etiological models. *Justice Q.* 32(4):626–52
- Zhang L, Messner SF. 2000. The effects of alternative measures of delinquent peers on self-reported delinquency. *J. Res. Crime Delinquency* 37(3):323–37
- Zimmerman GM, Messner SF. 2011. Neighborhood context and nonlinear peer effects on adolescent violent crime. *Criminology* 49(3):873–903



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