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CHAPTER 3

Pathways, Networks, and Norms

A Sociological Perspective on Peer Research

**René Veenstra, Jan Kornelis Dijkstra,
and Derek A. Kreager**

The sociological approach to human development, including research on the life course, social networks, and social norms, focuses on the dynamic interplay between the individual and his or her ever-changing environment (Dannefer, 1984; Elder & Giele, 2009). Sociologists emphasize between- and within-person variability in lived experiences and normative heterogeneity as essential for understanding behavioral change (Elder & Giele, 2009). Sociological approaches then begin with the assumption that variability in the timing, history, cohort, and normative circumstances surrounding individuals' peer contexts is critical for the measurement, meaning, and influence of peer relationships on behavior.

MAIN ISSUES

In this chapter, we summarize theories, methods, and research on peer relationships and social development, with a primary focus on the adolescent life stage. Throughout, we emphasize the interdependence of social action (i.e., linked lives), environmental context, and individual agency when understanding the intersection of peers and adolescent behavioral trajectories. These foci distinguish this chapter from others in the volume and provide an important counterpoint to research firmly embedded in the developmental psychology tradition. To organize our discussion, we further divide each of our sections using three interrelated theoretical lenses—the social pathways, social networks, and social norms perspectives—which we define as follows.

THEORETICAL CONSIDERATIONS

Social Pathways

For the past several decades, the life-course paradigm has dominated sociological approaches to peer relationships. Spearheaded by Elder and colleagues (Elder, 1998; Elder, Johnson, & Crosnoe, 2003; Elder & Rockwell, 1979), the life-course perspective focuses on *social pathways*, or behavioral trajectories, throughout the lifespan. The reason that this perspective is so well suited for an understanding of human development is that it emphasizes contextual variation as critical in understanding behavioral continuity and change over time (Elder et al., 2003; Elder, 1998). A focus on social processes is evident in the paradigm's general principles: (1) the individual life course is shaped by historical time and geographical context; (2) lives are interdependent, and significant others channel individuals' actions and decisions; (3) individuals agentically select themselves into roles and situations within the opportunities and constraints of historical and social circumstances; and (4) life transitions, events, and trajectories vary according to their timing in an individual's life.

In this chapter, we focus on the antecedents and consequences of changing peer relationships during adolescence, the life stage when the frequency and salience of peer interactions peak (Giordano, 2003; Johnson, Crosnoe, & Elder, 2011). Linking the content and structure of peer interactions, relationships, and groups with the transition from childhood to adolescence as well as from adolescence to adulthood has been at the forefront of developmental research.

Nowhere have life-course approaches to peer relationships grown as fast as in the study of delinquency and problem behavior. One of the earliest, and still most influential, life-course theories of criminal offending was the age-graded theory of informal social control (Sampson & Laub, 1993). Although a seminal work in the area, this theory generally downplayed peer mechanisms to explain changes in delinquency (i.e., the age-crime curve) in favor of individuals' changing bonds with conventional institutions, such as family, school, and work. It was not until social learning scholars reacted to Sampson and Laub's (1993) research that peers became a central domain for life-course approaches to crime and delinquency. The work of Warr (2002) exemplified this new line of research. He demonstrated that self-reported measures of peer delinquency and time spent with peers attenuate much or even all of the association between age and crime (see also Sweeten, Piquero, & Steinberg, 2013). Warr (1998) also found that the correlation between the transition to marriage and criminal desistance is largely explained by reductions in time spent with friends and exposure to delinquent peers. Warr's studies pushed peers into the forefront of the life-course perspective.

Social Networks

Sociologists are also interested in how individuals affect social structure and whether the social environment affects individual outcomes. Within the life-course perspective, this interdependence is captured by the concept of *linked lives*. Most prominently, social network researchers focus on individuals' characteristics and their relationships with other individuals to understand network-behavior dynamics (Veenstra, Dijkstra, Steglich, & van Zalk, 2013). A social network is defined as a set of individuals (e.g., students) and the dyadic relationships (e.g., friendships) that connect the individuals into a social structure (e.g., in a classroom).

A network approach is particularly useful for disentangling two fundamental processes underlying correlations between behavior of individuals and their peers: selection and influence. *Selection processes* refer to mechanisms by which individuals sort themselves non-randomly into friendships, often selecting peers who are similar to themselves in important ways. *Influence processes* refer to individuals changing their behaviors or attitudes in response to their friends' behaviors or attitudes.

The idea that humans select their friends based on similarity can be traced back to Lazarsfeld and Merton (1954) and Homans (1961). People select similar others as friends because, on average, those who are similar in behaviors, characteristics, and attitudes understand each other better, communicate with less effort, and find each other more trustworthy and predictable—which, taken together, make these relationships more rewarding, stable, and less prone to conflict (Byrne, 1971; McPherson, Smith-Lovin, & Cook, 2001). In addition to providing a basis for mutual approval, shared characteristics provide a source of validation for identity development (Hallinan, 1980). Similarity between friends is therefore an important basis for the maintenance of the friendship.

Peer selection is steered not only by preferences but also depends on the composition of the pool of available peers, which structures and restricts relational choices (Blau, 1977). For instance, the student body within a school tends to have much more in common, such as socioeconomic status, ethnicity, or intelligence, than do individuals in society at large. In the United States, despite long-standing efforts at reducing between-school inequality through busing and redistricting, schools continue to be relatively homogenous and the chances of meeting and affiliating with similar peers are high (Frankenberg & Orfield, 2012; Orfield & Frankenberg, 2013). The school setting thus increases the likelihood of friendships with similar others (Feld, 1982). Similarity of friends may therefore be the largely unintended result of the greater or lesser opportunities to meet similar others in one's daily life (Lomi & Stadtfeld, 2014; Rivera, Soderstrom, & Uzzi, 2010).

Similarity in behavior can also be the result of influence processes in which individuals adopt behaviors and attitudes of their peers in the network. Recognition of the importance of relationships as socializing agents can be traced back to Durkheim (1897), who argued that all types of behaviors are influenced by social norms and that norm conformity is enforced through membership and integration in social groups. More specifically, prominent theories on influence processes focus on differential association (Sutherland, 1939), expected rewards of conformity (Burgess & Akers, 1966), social learning and imitation (Akers, 2011), and peer pressure (Warr, 2002).

Social Norms

Sociologists also invoke norms to understand the interplay between individuals and their environment (i.e., the micro-to-macro link; Coleman, 1990). Norms reflect the consensus on what is considered as appropriate and acceptable behavior in a given setting. Norms are social facts that originate from individuals' attitudes and behaviors, but in turn affect individual attitudes, decisions, and behaviors. Thus, norms emerge from group consensus about what is appropriate in given social circumstances, but they also shape, constrain, and redirect behavior at the individual level. In that respect, norms are different from personal attitudes and behaviors, because norms are shared within a group or setting (Cialdini, Kallgren, & Reno, 1991).

There are various conceptions of norms within sociology (Willer, Kuwabara, & Macy, 2009). A functionalist perspective emphasizes the way norms contribute to integrating social systems, referring to the importance of norms for their usefulness to broader society. A conflict perspective emphasizes that norms protect the interests of dominant groups. In that respect, norms are useful as they align with the interests of powerful and dominant social categories. A rational, utilitarian perspective emphasizes that norms prevent negative consequences of behavior for others, so-called externalities, and promote positive ones.

In line with this utilitarian perspective, Coleman (1990) argued that the group for whom norms count and who benefit the most from norms (so-called *beneficiaries of the norm*) has the right to control individual behavior and sanction individuals when norms are violated to mitigate the negative impact of behavior upon others. For instance, teachers punish noisy children to create a quiet classroom. Norms are thus always connected with social sanctions and consequences for conformity and deviation. As norms entail expectations about behaviors that align with the group, setting, or circumstances, they have an important socializing function by prescribing what is appropriate or not. It is this socialization process that connects norms to the individual life perspective and to explanations for behavioral trajectories.

Conforming to the norm is likely to result in positive external benefits and rewards, such as social inclusion, approval, and status. When norms are internalized, they are likely to result in internal rewards, such as feeling good about oneself. By contrast, deviation from the norm entails the risk of facing negative social consequences, such as rejection, victimization, ridicule, harassment, and ostracism, as well as negative internal sanctions such as feeling guilty or bad about oneself. In peer relation research, the social misfit model (also known as the *person–environment congruency model* or the *person–group similarity model*) assumes that similar people are attracted to each other and that dissimilarity (deviation) by means of non-normative behavior results in higher rejection or lower acceptance (Wright, Giammarino, & Parad, 1986).

Hence, following norms by imitating behaviors or attitudes of peers increases the chances of belonging and reduces the chances of rejection. As such, the power of norms lies in its ability to contribute to the need to belong by steering a strong tendency to conform to others (Coleman, 1961).

This norm conformity can also be an efficient means that guides individual behavior in case of uncertainty and ambiguity. It might, however, also result in pluralistic ignorance, where individuals privately reject a norm, but incorrectly assume that most others accept it, and therefore go along with it (Miller & McFarland, 1991). Pluralistic ignorance reflects the need for social approval and is based on a false belief that becomes self-reinforcing. In cases of pluralistic ignorance, people suppress their dissent and copy the behavior of others, who are incorrectly assumed to represent the popular majority (Willer et al., 2009).

MEASURES AND METHODS

Social Pathways

The life-course perspective has moved social science research away from large-scale cross-sectional data into longitudinal panel designs that follow individuals' behaviors and

contexts across time (Elder & Giele, 2009). With repeated measures of behavior, life events, and time-varying social circumstances, researchers are able to plot and compare individual behavioral trajectories, and to test if the behavioral impact of life events depends on when they occur in individuals' lives. Additionally, the application of longitudinal statistical methodologies allows life-course scholars to accurately estimate associations between potential "turning points" and behaviors over time. Important developmental research methods to study social pathways are survival and event-history analyses (Mills, 2011), group-based trajectory modeling (Nagin & Odgers, 2012), multilevel analyses (Snijders & Bosker, 2012), and fixed effects analyses (Allison, 2009).

Social Networks

Longitudinal social network models, such as stochastic actor-oriented models (Snijders, van de Bunt, & Steglich, 2010; Veenstra et al., 2013), also prioritize the life-course principles of interdependence and individual agency. Longitudinal social network analysis is often used to determine whether behavioral similarity results from similar individuals creating ties with one another (selection) or from connected individuals becoming increasingly similar over time (influence). Such analyses require all, or close to all, individuals in a network to report on their own behavior. This sounds obvious, but many studies ask respondents to report the behavior of their friends (e.g., "How many of your friends have engaged in X?") rather than obtain behavioral information directly from the individuals themselves. Self-reports about friends' behavior result in more biased estimates of behavioral similarity than if all people in the network report independently about their behavior, because individuals are likely to project their own behavior onto their friends, referring to assumed similarity or consensus bias. Rectifying this bias requires objective behavioral measures provided by the peers themselves.

Social Norms

In research on social norms, a key distinction is made between injunctive and descriptive norms (Cialdini et al., 1991). Injunctive norms reflect what adolescents approve ("what ought to be done") and represent perceived moral rules of the peer group (also known as "prescriptive norms"). This type of norm is often equated with attitudes. Descriptive norms cover what adolescents actually do ("what is done") and reflect what kind of behavior is most prevalent in a given setting.

Social norms are typically measured by aggregating individual attitudes (injunctive norms) or behaviors (descriptive norms) in a school class. This aggregating strategy results in a mean level of behaviors or attitudes, reflecting what is considered as appropriate or acceptable in a class. In contrast, norm salience, as another strategy to measure social norms, links behaviors to prestige or sanctions in a particular setting (Henry et al., 2000). Norm salience is usually measured by the within-classroom correlation between behavior and prestige (e.g., popularity) or sanctions (e.g., rejection, reprimands). Overall, norms have been studied using different methods, such as trajectory modeling (e.g., Mercer, McMillen, & DeRosier, 2009), multilevel analyses (e.g., Sentse, Scholte, Salmivalli, & Voeten, 2007), and social network analyses (e.g., Rambaran, Dijkstra, & Stark, 2013).

CENTRAL RESEARCH FINDINGS

The flexibility of the life-course perspective and normative approaches to peer relationships have allowed scholars to use sociological concepts and associated methods (e.g., social network analysis) to examine a wide variety of peer-related events, contexts, and adolescent behavioral changes. In this section, we focus on associations that are of particular relevance to peer relationships during the teenage years. Many of the themes we cover overlap substantially, so at times the substantive distinctions may appear artificial. We address this challenge by placing similar topics adjacent to one another in the text and by drawing connections wherever possible.

Peers and Pubertal Timing

The life-course perspective of peer relations has been applied to the connection between peers and puberty, particularly the association between girls' pubertal timing and romantic involvement and delinquency (Johnson et al., 2011). One of the earliest studies on the topic found that the association between girls' early puberty (measured as self-reported age of menarche) and delinquency depended on the gender composition of the schools that respondents attended, such that early-maturing girls in mixed-gender schools reported significantly higher delinquency than girls in all-girl schools (Caspi, Lynam, Moffitt, & Silva, 1993). The study provided support for the notion that early sexual development provided girls their ticket of entry into the delinquent world of boys. Although not explicitly drawing on life-course terminology, this study provides a powerful illustration of the perspective by focusing on the interdependence of social action, the timing of life events, and the variation in turning points across different social contexts.

Subsequent work continues to focus on the impact of pubertal timing and its social contexts (e.g., peers, race, and schools) on adolescent behavioral trajectories. Research using data from the National Longitudinal Study of Adolescent Health (Add Health) revealed that adolescent girls who are more developed than same-age peers were at greater risk of party deviance (smoking, drinking, truancy, cannabis use, lying to parents, and disorderly conduct) as well as delinquency. These associations were primarily explained by peer delinquency (Haynie, 2003). However, more developed girls neither had more male or older school friends nor were they more popular among male peers. So, this study does not provide evidence for the role of male peer influence. Instead, it was suggested that the desire for adult status—overcoming the so-called maturity gap (Moffitt, 1993)—might be the primary mechanism explaining the puberty–delinquency association (see also Dijkstra et al., 2015). A subsequent study using Add Health examined the race/ethnic contexts of female pubertal development. Results indicated that early maturity was more likely associated with the transition to early sex and romantic involvement among white and Latina versus black girls (Cavanagh, 2004). Additionally, the associations between early puberty and sexual behavior among white girls were driven by their peer context, a finding not replicated in the Latina sample. Building on the life-course perspective, it was concluded that meaning attached to puberty differs across race and ethnicity.

Peers and Sexual and Romantic Relationships

Another line of inquiry finds significant associations between early adolescent transitions to sexual and romantic relationships and increased psychological distress and problem behaviors, particularly among girls. For example, it was found that the majority of adolescents did not experience mental health detriments after sexual debut (Meier, 2007). However, girls who debuted at younger ages relative to their peers were at greater risk of depression and, if they had sex outside the context of a romantic relationship, decreased self-esteem. Such results suggest that gendered sexual scripts surrounding the age and relationship contexts of sexual debut elicit social sanctions and internalizing symptoms among girls who violate these norms. It was also found that girls' early sexual debut was linked to greater involvement in delinquency (Armour & Haynie, 2007). However, such an association may be conditioned by the context of the sexual relationship. For example, results from a related study indicated that adolescent sexual behavior was only associated with subsequent delinquency and substance use if it occurred outside of a romantic relationship (McCarthy & Casey, 2008). Moreover, involvement in a loving romantic relationship, independent of sexual behavior, was generally protective against adolescent delinquency and substance use.

Networks and Internalizing Problems

Using social network data and methods, selection and influence processes have been investigated with respect to youth internalizing problems such as anxiety, depression, and loneliness. There is support for a greater likelihood of friendship formation among adolescents with similar levels of internalizing problems (Kiuru, Burk, Laursen, Nurmi, & Salmela-Aro, 2012; van Zalk, Kerr, Branje, Stattin, & Meeus, 2010). It has been found that individuals prone to depressive symptoms often lack the social skills necessary to provide support and closeness, which, in turn, increases the chances of dissatisfaction with, and a dissolution of, the relationship by nondepressive friends (Kiuru et al., 2012; van Zalk et al., 2010). Another study showed that the chances of relationship dissolution are higher if friends are dissimilar in happiness (van Workum, Scholte, Cillessen, Lodder, & Giletta, 2013). Adolescents with friends who are unhappier than they are may be influenced by their friends' moods, which may induce negative feelings. These negative feelings may trigger dissatisfaction with the friendship and, therefore, increase the chances of the friendship ending. These findings show that it is important to examine the processes that lead to starting as well as ending a friendship. A promising step in this direction showed that dissimilarity, rather than individual levels of undesirable traits, fosters negativity and creates inequalities, both of which take a toll on relationship satisfaction (Hartl, Laursen, & Cillessen, 2015). Dissatisfied friends are inclined to dissolve dissimilar friendships and find new, more appealing friends.

Social network analysis allows researchers to examine not only direct influence processes—for instance, that friends' anxiety, depression, or loneliness influences children's own internalizing problems (van Zalk et al., 2010)—but also cross-behavioral influence processes. The first study to examine indirect influence processes in longitudinal social network analysis concerned whether nonsuicidal self-injury by adolescents is influenced by the behavior of friends as well as by other characteristics of friends that promote risky environments for adolescent development (Giletta, Burk, Scholte, Engels, & Prinstein, 2013).

The results indicated that friend-depressive symptoms predicted changes in adolescent non-suicidal self-injury. In addition, friend impulsivity also predicted changes in nonsuicidal self-injury among boys.

Network studies can also be used to examine whether online friendships can compensate for the lack of offline friendships. The first study to examine this possible relationship showed that virtual interactions can indeed be a safe way for shy adolescents to form relationships with others (van Zalk, van Zalk, Kerr, & Stattin, 2014). These online relationships may increase their self-esteem and ultimately contribute to more offline friendships.

Networks and Externalizing Problems

Selection and influence processes have also been investigated with respect to externalizing problems such as aggression and delinquency. Youth aggressiveness and delinquency appear, in part, to be influenced by the extent to which friends exhibit that behavior. Children and adolescents who have aggressive and delinquent friends become more antisocial over time themselves (Jose, Hipp, Butts, Wang, & Lakon, 2016; Logis, Rodkin, Gest, & Ahn, 2013; Osgood, Feinberg, & Ragan, 2015). Research provides limited support for selection similarity in aggression (Dijkstra, Berger, & Lindenberg, 2011; Logis et al., 2013). However, selection similarity has been found for delinquency (Jose et al., 2016; Osgood et al., 2015).

Networks and Substance Use

Selection and influence processes also play a role in tobacco, alcohol, and cannabis use. Selection is more important than influence in explaining similarity in the cigarette smoking behavior of friends during middle and late adolescence (DeLay, Laursen, Kiuru, Nurmi, & Salmela-Aro, 2013; Mathys, Burk, & Cillessen, 2013). This finding is consistent with the idea that tobacco use is addictive and that once adolescents start smoking, social influence becomes less important to smoking progression. Spatial segregation of smokers may provide an explanation for the selection effect: Society separates smokers from nonsmokers by means of smoking designated areas, creating an opportunity structure in which smokers are more likely to establish new contacts with other smokers and then affiliate with each other. Influence processes, however, seem to play a role in tobacco use in early adolescence (Osgood et al., 2015; Ragan, 2016; Steglich, Snijders, & Pearson, 2010).

Peer networks also play an important role in the onset of alcohol consumption. Friends who have already begun drinking supply information about socially attractive events such as parties and provide a context in which peers model such behavior. Adolescents know that in such a context, they can count on approval if they start drinking themselves (Light, Greenan, Rusby, Nies, & Snijders, 2013; Osgood, Ragan, et al., 2013). Influence on alcohol consumption also takes place in networks of indirect relationships, so-called weak ties. Young people are affected not only by their own friends, but also indirectly by the friends of their friends (Cheadle, Stevens, Williams, & Goosby, 2013). In certain social settings, such as bars or parties, indirect contacts are likely to occur, and situational norms and opportunities affect alcohol use. Influence processes can thus occur in settings in which adolescents know each other only superficially.

Networks and School Behavior

With respect to school adjustment, it appears that adolescents select each other as friends depending on how well they pay attention during class and do their homework. Accordingly, adolescents who are active at school would choose each other as friends, as would those who are inattentive and disengaged. Adolescents also influence each other in their attention during class and homework activity (Geven, Weesie, & van Tubergen, 2013). Results from a similar study indicate that preadolescents select and influence each other on the goal of developing academic competence (Shin & Ryan, 2014). Interestingly, teacher emotional support is able to buffer the influence of friends' disruptive behavior. During the school year, disruptive behavior remained the lowest in classes high in teacher emotional support (Shin & Ryan, 2017).

Other studies found that adolescents extended more friendship nominations to peers who were similar in truancy or academic achievement (Gremmen et al., 2017; Rambaran et al., 2017; Stark, Leszczensky, & Pink, 2017). It was shown that students with high levels of truancy were relatively more negatively assessed by peers and received fewer friendship nominations than peers with low levels of truancy (Rambaran et al., 2017). This can be seen as a form of peer rejection, which puts truant adolescents in a disadvantaged and potentially isolating social position. The consequences are that truants are unwillingly stuck with peers who show low academic performance (i.e., the concept of default selection; see Deptula & Cohen, 2004; Sijtsema, Lindenberg, & Veenstra, 2010). Similarity in academic functioning was also explained by peer influence (Rambaran et al., 2017). Adolescents influenced one another to increase, rather than decrease, achievement as well as truancy. Moreover, adolescents who occupied central positions in the network exerted more influence in mutual friendships than other peers.

Social Norms

Another line of inquiry focuses on how differences in associations between behavior and social outcomes could be attributed to differences between groups in which these associations emerge. This research on social norms centers around the idea that behavior and outcomes are best predicted by individual and situational characteristics and their mutual interplay.

Most prominent has been the research focusing on how norms in a given setting, mostly classrooms, strengthen or mitigate the effects of individual behaviors on acceptance, rejection, or social preference. The social misfit model (Wright et al., 1986) is often a starting point for research on social norms. The first test of this model, focused on a summer camp, examined if the associations among aggression, prosocial behavior, withdrawal, and peer acceptance depended on the average level of aggression in groups (Wright et al., 1986). Aggression was negatively associated with acceptance in low-aggressive groups, but unrelated to acceptance in high-aggressive groups. Prosocial behavior was more strongly linked to acceptance in low-aggressive groups than in high-aggressive groups. Finally, withdrawal was particularly negatively related to acceptance in high-aggressive groups.

Social norms also featured prominently in a classic observational study among first and third graders in play groups (Boivin, Dodge, & Coie, 1995). The findings indicate that

reactive aggression and solitary play were only associated with lower social preference in groups in which the prevalence of such behavior was below average. Positive interactive behavior was positively related to social preference in groups in which the prevalence of such behavior was above average. Contrary to the social misfit model, proactive aggression was positively linked to social preference in groups with low levels of proactive aggression. Proactive aggression in low-proactive groups, with predominantly egalitarian, harmonious social relationships, might be more a means to structure the peer interactions in the group, with proactive children contributing to the groups' benefit. In contrast, in high-proactive groups the focus might be more on competition and less on the groups' benefit. This finding suggests that in some contexts, deviation may be beneficial to social status and conformity may not (Coleman, 1961).

A subsequent study showed that aggression was negatively related to peer preference in low-aggressive classrooms but positively related to peer preference in high-aggressive classrooms (Stormshak et al., 1999). Results from a similar study revealed that bullies were more accepted and victims were more rejected when bullying was normative in classrooms (Sentse et al., 2007). Gender-specific norms (separating the effects of norms of same-sex classmates and cross-sex classmates) featured prominently in a recent study that found that girls who were rejected by female classmates were more likely to be victimized in classes where bullying behavior was more common and antibullying attitudes were rare among girls (Isaacs, Voeten, & Salmivalli, 2013). In a similar vein, another study found that the extent to which a class community considers aggression as normative and acceptable defines the boundary conditions for the manifestation and development of individual differences in aggressive behavior over time (Busching & Krahé, 2015). Adolescents became more physically aggressive over the course of 3 years when they were in a class with a high tolerance for aggression. By contrast, classes with a low tolerance for aggression attenuated aggressive behavior in adolescents with a high normative acceptance of aggression. Moreover, the female students in a class were found to be particularly important in creating the space in which their classmates' normative beliefs about aggression were shaped and translated into aggressive behavior (Busching & Krahé, 2015; see also Haynie, Doogan, & Soller, 2014; McCarthy, Felmlee, & Hagan, 2004).

Norm Salience

A different approach to social norms focuses on the norms set by popular adolescents. This line of research on so-called *norm salience* links behaviors to prestige (e.g., popularity) or sanctions (e.g., rejection) in a particular setting. In this vein, a study of elementary school children examined whether descriptive norms (class-level aggression), injunctive norms (class level of individuals' beliefs about aggression), and norm salience (within-classroom correlations between aggression and acceptance, rejection, and teachers' reprimands of aggression) predicted changes in aggression over time (Henry et al., 2000). Results suggested that injunctive norms predicted increases of aggression over time, whereas aggression declined in classrooms disapproving of aggression (reflected by norm salience).

A subsequent study demonstrated that that the behavior of popular peers is more important for imitation than the behaviors of average peers (Dijkstra, Lindenberg, & Veenstra, 2008). It was shown that the negative effect of bullying on acceptance and rejection was mitigated by bullying by popular adolescents rather than by all classmates, indicating that

particularly popular adolescents set the norm in the class. Another study showed that prosociality and academic reputation are more strongly related to peer acceptance in classes with prosocial and academic norm salience (within-classroom correlation of popularity with prosocial behavior and academic reputation, respectively) than in classes defined by the average behavior of peers (Dijkstra & Gest, 2015). In a similar study it was shown that popularity is related to defending behavior (taking a stand on behalf of a victim of bullying by directly stepping in, seeking help, or comforting the victim), particularly when norm salience for bullying is negative in classrooms (Peets, Pöyhönen, Juvonen, & Salmivalli, 2015). That is, the strongest relation between popularity and defending was found in classrooms where popularity was negatively related to bullying, suggesting that popular children not only set the norm but also vary their behavior depending on the context and the rewards proffered by peers.

In a different approach to examining norms set by popular adolescents, classrooms were categorized into three groups, depending on the strength of the within-classroom correlation between popularity and attitudes concerning risk behaviors, such as smoking and vandalism (Rambaran et al., 2013). Influence processes gradually increased in strength in classrooms with norms favoring risk attitudes. No differences were found in selection and influence processes, however, when norms were defined by the average risk attitudes of peers in the classroom, suggesting that attitudes of popular adolescents matter more than the average of all peers. In line with this finding, another study has revealed that both selection and influence processes gained strength when norm salience regarding aggression increases in classrooms (Laninga-Wijnen et al., 2017).

IMPLICATIONS

Sociologically informed research on adolescent peer relationships has clear implications for intervention designs. Consistent with a life-course perspective, research suggests that selection and influence processes vary in magnitude over age. Interventions that aim to counter influence effects on smoking should therefore take place in early adolescence, because selection and not influence affects the increase in smoking similarity in middle or late adolescence.

Valente (2012) outlines three intervention strategies. First, interventions may best be aimed at individuals (or groups) occupying specific positions in the network. For example, in an intervention to prevent smoking, popular adolescents were employed as role models to set the norm and influence the behavior of other students (Steglich, Sinclair, Holliday, & Moore, 2012; see also Paluck, Shepherd, & Aronow, 2016). Second, interventions could be aimed at altering the pattern of connections. For example, an intervention may be designed to alter friendship networks in ways that reduce the potential for peer influence toward problem behaviors (Osgood, Feinberg, et al., 2013). Third, interventions may be aimed at changing the entire network structure. For example, an intervention may be designed to promote peer integration across the network. There is evidence that ethnic mixing can foster students' integration if it is accompanied by additional efforts to promote positive interpersonal relationships among minority and majority group students (Stark & Flache, 2012). However, raising awareness of shared interests may backfire and increase segregation when opinions about interests are associated with the ethnicity of the students. At the classroom

level, the identification of norms might help to launch classroom management techniques and thereby help teachers to improve the overall class atmosphere (Gest & Rodkin, 2011; Tseng & Seidman, 2007).

Another avenue for interventions focuses on correcting misperceptions of group norms. Research on norms related to risk behaviors, such as smoking and alcohol use, often focus on the discrepancies between actual and perceived peer behavior. Individuals generally tend to overestimate the risk behaviors of their peers (Borsari & Carey, 2001). By one account, early adolescents overestimated the smoking behaviors of their peers by more than 20% and, as a consequence, individuals may be more susceptible to engage in health risk behaviors (Elsey et al., 2015). Misperception can be corrected by providing actual risk behavior statistics gained from aggregating network behavioral data (Cialdini et al., 1991).

FUTURE DIRECTIONS

Although substantial progress has been made in understanding peer dynamics and adolescent development from life-course and normative perspectives, considerable knowledge gaps remain. In this section, we summarize some of the most promising avenues for future research and initial steps already taken down each path. One area requiring additional research is the changing nature of peer relationships and network characteristics during the transition to adulthood. As Warr (1998, 2002) argued, cutting delinquent ties and time with friends in early adulthood may explain criminal desistance. Life-course transitions, such as marriage and school, may also alter criminal trajectories. There has not been enough longitudinal research of peer networks that follows individuals as they exit secondary education. From a measurement standpoint, longitudinal network data collection during this developmental period is complicated because the boundaries of school and community become increasingly unstable and fluid. A suitable methodology would be to collect egocentric network data as individuals age, focusing on the size, strength, cohesion, and behaviors in peer networks.

Another fruitful avenue for peer research is to investigate the intersection of varying peer domains and their joint association with behavioral trajectories over time. For example, it is clear that romantic relationships have strong connections with friendship networks during adolescence (Connolly, Craig, Goldberg, & Pepler, 2004; Kreager, Molloy, Moody, & Feinberg, 2016). Yet, research connecting these domains to behavioral trajectories is relatively rare. A promising step in this direction tested whether romantic partners bridge adolescents to new, and potentially high-risk, peer settings (Kreager & Haynie, 2011). Similar research that connects romantic and friendship networks over time would be worthwhile (for an innovative study about how partnership ties shape friendship networks, see Stadtfeld & Pentland, 2015). Likewise, research connecting parent–child relationships, peer networks, and parent–peer relationships (e.g., intergenerational closure) has the potential to broaden our understanding of the interdependence of peers and other social relationships (Ragan, Osgood, & Feinberg, 2014).

The life-course principle of historical time and place has received only cursory examination in peer research. Typical approaches to peers and historical contexts rely on archival, qualitative, or intergenerational data, making it difficult to disentangle period, age, and cohort effects. The maturation of multi-cohort longitudinal data collections will allow

researchers to compare social development across historical contexts. Such opportunities should only continue to grow as samples from child-based data collections age.

Despite the enormous growth in social network studies, there remains much to do. The coming years will hopefully provide insights concerning which students are influential and which students are susceptible to influence (see van Zalk & van Zalk, 2015). Insight is also needed into the processes that play a role in adolescents' entering into or breaking off friendships (creation vs. maintenance of friendships) as well as processes that lead to the initiation (or an increase) versus the cessation (or a decrease) in behavior, similar to research indicating that friends affect the initiation but not the cessation of smoking (Haas & Schaefer, 2014). Future research should continue to elaborate on the conditions of peer influence across varying social positions and dimensions of social ties.

Notwithstanding the richness of studies on social norms, there remain several avenues for future research in this area. First, the impact of conflicting norms on adolescent outcomes has not been adequately explored. For example, adolescent peer groups may value nonscholastic achievements, such as sports participation, dating, or material belongings, which directly compete with parents' and teachers' values focused on educational success (Coleman, 1961). In the case of adolescent peer values, individual adolescents are both the target and the beneficiaries of group norms, defining a conjoint norm (Coleman, 1990). In the case of parent and teacher values, however, adolescents are the targets of the norm, whereas parents and teachers are the beneficiaries of the norm, defining a disjoint norm (Coleman, 1990). Distinctions between conjoint and disjoint norms push researchers to acknowledge that groups outside of peers are important—potentially opposing—influences on adolescent development (Bellmore, Witkow, Graham, & Juvonen, 2004; Chang, 2003).

Second, situations of within-individual conflicting norms and the resulting cognitive dissonance remain underexamined by peer researchers. One interesting example is bullying, which, despite being generally disapproved by individuals, is common in peer groups, suggesting that individual attitudes are overruled by group behavior (Salmivalli & Voeten, 2004).

Third, the role of dissimilarity in behavior has received little research attention. One of the few exceptions was a study that showed that disruptive behavior contributed to social dominance when this behavior was less normative (Jonkmann, Trautwein, & Lüdtke, 2009). Future research may also want to focus on potential benefits of dissimilarity.

Fourth, the role of structural network features on norms has not been adequately investigated. The way peer norms function might depend on structural features of the context, such as hierarchical ordering in the classroom. A challenging avenue for future research would be to combine behavioral norms with structural network features, unraveling the complexity of social network dynamics (see McFarland, Moody, Diehl, Smith, & Thomas, 2014). A promising step in this direction is a study that examined how structural network features impacted the association between prejudice and the avoidance of ethnic outgroup friendships (Stark, 2015). Results of this study suggested that more prejudiced majority group members formed fewer ethnic outgroup friendships than less prejudiced majority group members. This outcome was caused indirectly by the preference to become friends with one's friends' friends (triadic closure). More prejudiced majority members had the tendency to avoid friends who already had ethnic outgroup friends and thus could not be introduced to potential outgroup friends. Instead they became friends with the majority group friends of their friends. This study demonstrates how a social network perspective can further our understanding of the processes underlying intergroup contact.

CONCLUSION

Sociological approaches to peer relationships emphasize that adolescent behavior develops in complex social environments and that, simultaneously, behavior feeds back to shape adolescents' environments. In this chapter, we have drawn heavily from the life-course perspective, social network research, and theories of social norms to highlight innovative ways that sociologists use to push the boundaries of peer research. The life-course approach to human development has spurred much recent sociological research on peer relationships and within-person social pathways and will continue to do so into the foreseeable future. Likewise, research on social networks has tested long-held claims of peer influence, opportunities, and selection processes. Finally, the study of social norms has gained much traction in peer relation research, focusing our attention on group-level processes for creating and sustaining shared meanings that impact adolescent behavioral and social adjustment.

The central theme of the chapter, and more broadly of the sociological approach to peer relations, is that one must first recognize the within-person variability in, and interdependence of, lived experiences prior to connecting these to changes in behavior over time. Given this recognition, research in this area has utilized increasingly sophisticated methods (e.g., longitudinal and trajectory analyses, network analyses, and multi-cohort designs) to test associations between adolescent life events and behavioral change. These efforts have pointed to specific peer-based programs and interventions to reduce health-risk behaviors and improve the lives of adolescents.

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