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# Social Networking in Online and Offline Contexts


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Without Abstract

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## Overview

Adolescence is a developmental period in which social networks (cohesive groupings of peers to which the youth belongs) become important for identity, adjustment, and future relationships. This essay provides an overview of what is known about the characterization, formation, and maintenance of social networks during adolescence. Given the recent explosion of online social networks, such as the Web sites Facebook and MySpace, discussion of adolescents' involvement in these online social networks is included in the essay. Online and offline social networks are compared, taking into account their function, composition, and impact on the adolescent's behavioral adjustment. Finally, directions for future research on these topics are discussed.

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## Relevance of Social Networking to the Adolescent Developmental Period

Adolescence is the developmental period during which youth are optimally attuned to their peer group (Collins [1997](#); Gifford-Smith and Brownell [2003](#)). The proportion of each day spent with the peer group as well as the intimacy and closeness in relationships with peers, all rise dramatically during this time (Berndt [1999](#); Furman and Buhrmester [1992](#)). The amount to which youth are influenced by the behaviors of their peer group is similarly suggested to peak in adolescence (Dishion and Owen [2002](#); Harris [1995](#)). In sum, it is during adolescence when social networks (groups of peers to which the youth belongs) are arguably the most important.

The emphasis in adolescence on the peer group is considered developmentally appropriate. Adolescents are theorized to be differentiating themselves from their family of origin and to use the reactions of their peers to

assist them in creating their own identity (Adler and Adler [1998](#); Brown [2004](#); Brown et al. [1986](#)). Moreover, the templates that peer relationships establish in adolescence may become critical to set the stage for healthy socializing in adulthood (Sullivan [1953](#)). In fact, longitudinal work suggests that qualities of peer interactions in early adolescence are repeated in young adult relationships with romantic partners (Stocker and Richmond [2007](#)) and friends (Bagwell et al. [1998](#); Eisenberg et al. [2002](#)). Collectively, these findings underscore the particular importance of social networks during the adolescent period.

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## Social Network Theory

Adolescents' peer interactions may be characterized in multiple ways, but this essay focuses on a particular aspect of the relationship with the peer group known as the social network. Social networks, sometimes referred to as cliques, are cohesive groups of youth who interact more with one another than with other youth (Adler and Adler [1998](#); Urberg et al. [1995](#)). Social networks may be organized around participation in common activities, such as studying or skateboarding, or may simply be defined by common friendships. Most importantly, however, these networks typically provide a social setting in which adolescents spend time together, form close ties, and learn interpersonal skills that are important in both adolescence and adulthood (Brown [2004](#)).

Adolescents' social networks are structurally different from the crowds that frequently typify high schools. Whereas social networks are comprised of adolescents who actually hang out together, crowds are reputation-based groups, whose members may or may not consider each other friends, such as "the brains, the jocks, the geeks, the popular crowd" (Adler and Adler [1998](#); Gest et al. [2007a](#)). Thus, crowds often define the social structure of schools, sometimes helping adolescents to classify hierarchies within the peer group (Brown [2004](#)). However, because crowd membership is not necessarily based on actual interactions or affiliations among peers, these groups are likely to contribute more to the teens' sense of identity than the development of their social skills (Steinberg [2005](#)).

Social networks are also different from dyadic friendships (close, mutual relationships between two youth) in that networks may provide adolescents with group support and a sense of a collective identity as a group member, which dyadic friendships may not offer (Gifford-Smith and Brownell [2003](#)). Social networks can also be distinguished from sociometric status (being globally regarded as liked by the peer group at large) because social networks assess adolescents' actual interactions and affiliations with peers, whereas sociometric status measures perceptions of liking (Gifford-Smith and Brownell [2003](#)). For instance, an adolescent could have a strong, tight-knit social network of a few close peers, while being broadly considered as unpopular by the rest of the school. That said, past research has found positive correlations between the likelihood that someone is a member of a social network and the presence of dyadic friendship and high sociometric popularity (Gest et al. [2001](#); Wentzel and Caldwell [1997](#)). Nonetheless, correlations are modest, underscoring the need to assess social networks as a distinct construct from dyadic friendships and sociometric status (Gest et al. [2001](#)).

In the field of psychology, social networks are typically assessed using sociometric nomination measures where, for example, adolescents are asked to name the "people they hang out with" from their grade at school (Cairns et al. [1988](#); Gest et al. [2007b](#)). Social networks can then be identified by comparing the nominations for everyone at that grade level to find the presence of consistent groupings. Adolescents may also be asked to list "the people they hang out with together," in addition to listing the people with whom they associate personally, which is a way to compensate for having missing participants in a sample (Gest [2007](#)). Computerized software such as Kliquefinder (Frank [1995](#), [1996](#)) may be used to process the sociometric nomination information using a clustering algorithm in order to group participants into social networks. Observational studies suggest that the social networks determined from sociometric nominations do correlate with visible patterns of interaction; for example, members of the same social network were recorded by independent observers to interact with one another four times more often than with other same-sex adolescents not found to be in their social network (Gest

et al. [2003](#)).

Importantly, although sociometrics are considered the standard procedure in the field for assessing social networks, limitations to this methodology do exist. One key limitation is that this method only maps social networks that an individual has within a set context such as school. This is because this procedure requires a majority of individuals in a single context to report on everyone's networks (e.g., all the students in one grade at a single high school report on the social networks in that grade level). However, unlike among children for whom their primary peer relationships are in the classroom, in adolescence many important relationships are formed with individuals who do not attend the same school (Keisner et al. [2003](#); Poulin and Pedersen [2007](#)). Thus, although sociometric procedures provide information about social networks within a particular context, they do not consider adolescents' broader affiliations with peers. For instance, an adolescent could have a strong social network of a few peers outside school (e.g., in the neighborhood or church), while being isolated in his or her school.

Social networks vary in size, cohesiveness, stability, and centrality (Gest et al. [2007a](#)). First, most social networks are thought to have about four to five members, but variability exists with some being significantly larger or smaller (Gest et al. [2007b](#)). Second, social networks can vary on how tight knit and exclusive they are, sometimes referred to as the density of the social network versus diffuse in boundaries. Third, just as in friendships, some social networks are highly stable whereas in others, members come and go. Finally, centrality is a term used to describe whether the social network is perceived to be influential and socially dominant in the organization at large, with members who are well connected with many other groups versus whether the social network is a marginalized group.

Research about what causes adolescents to form the social networks they do has generally suggested homophily as a guiding principle (McPherson et al. [2001](#)). That is, adolescents are drawn to form social networks with peers who are similar to themselves. Importantly, homophily in social network membership exists for a broad range of constructs, including interests, attitudes, status, and also in regard to drug and alcohol use, externalizing problems, and internalizing problems (Cairns et al. [1988](#); Hogue and Steinberg [1995](#)).

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## Online Social Networks

Although traditional investigations of social networking have relied upon networks representing face-to-face relationships among adolescents in a single school, explosive growth has occurred in recent years in online social communication (Madden [2006](#)). Importantly, adolescents are the age group disproportionately affected by this new technology (Pew Internet and American Life Project [2009](#)). While Internet use is now common among all age groups, it is adolescents who predominately use the social communication functions of the Internet, that is, to make and maintain relationships with peers online (Bargh and McKenna [2004](#)).

Social networking Web sites, the most popular of which are Facebook and MySpace, exemplify online social communication. Both originated in 2003–2004 but together they have approximately 230 million unique active users every month worldwide (TechCrunch [2008](#)). On both of these Web sites, users maintain their own page, where they typically include their name, photos, and information about themselves. Web site users are linked to friends in a social network, and friends post comments and pictures on each others' pages that may be viewed by all network members. The purpose of these Web sites is to enhance communication and the sharing of social information between members of the same social network as well as to recognize the ways in which social networks of friends overlap.

Because of the recency of social networking Web sites, little is known about adolescents' patterns of communication and friendship in this online sphere, and how these patterns may compare to those in the adolescents' offline social networks. Nonetheless, although preliminary, growing evidence suggests continuity

between both types of social networks. First, there is evidence that adolescents report communicating with the same individuals on their Facebook and MySpace pages as they do in real life, suggesting considerable overlap in the members of online and offline social networks (Subrahmanyam et al. [2008](#)). Second, positive correlations have been found among college students between their sociability on campus and the number of friends they have on their Facebook Web site (Ellison et al. [2007](#)). This relationship held after statistical control of total Internet use, suggesting a unique function of Facebook in relation to social communication (Ellison et al. [2007](#)).

Mikami et al. ([2010](#)) have conducted a series of studies in a sample of youth, followed from ages 13–14 through ages 20–22, where participants' Facebook and MySpace pages were observationally coded. Results have suggested considerable continuity between patterns of communication and quality of friendship in face-to-face relationships with the same behaviors online on social networking Web sites. For example, youths' number of friends on their web page and indicators of connection and support with friends as coded from posts left on their web page were positively predicted by early adolescent sociometric popularity and observations of support and relatedness in an interaction with a close friend (Mikami et al. [2010](#)). Early adolescent behavior problems (self-reported and mother-reported) also predicted the presence of hostility in youths' description of themselves on the web page and inappropriate pictures posted on the web page (Mikami et al. [2010](#)). In addition, problems in early adolescents' relationships with their mothers predicted poorer later peer interactions on youths' social networking web pages (Szwedo et al. in press). Early relationship difficulties also predicted youth having fewer observed peers in photos posted to their web page (Szwedo et al. in press), again suggesting that offline relationship problems may be manifested online.

It is important to note that the nature of adolescents' interactions on social networking Web sites may differ from their interactions on other types of online media such as chat rooms, instant messaging, and Internet gaming. The non-anonymous nature of social networking Web sites may encourage youth to use these Web sites to communicate in a similar way as they would in face-to-face relationships. In addition, the fact that these Web sites have very high prevalence rates of usage among adolescents may make the interactions on them more reflective of the interactions that are occurring in face to face. For these reasons, newer results may differ from previous research using different Internet media which found Internet interactions to be superficial and to occur predominantly among maladjusted youth (see summary in Bargh and McKenna [2004](#); Valkenburg and Peter [2009](#)).

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## Relationships Between Social Networking and Adjustment

Consistent with the findings that collectively suggest good peer relationships promote positive adjustment, it is theorized that being part of a social network may also be beneficial for adolescents. Being in a social network may provide adolescents with a sense of group support and belongingness as well as with opportunities to negotiate conflicts and take the perspective of other group members (Rubin et al. [2006](#)). In support of these hypotheses, investigators using cross-sectional designs with sixth- and seventh-grade students have found that members of social networks showed higher levels of academic achievement (Henrich et al. [2000](#); Wentzel and Caldwell [1997](#)) and fewer teacher-reported internalizing problems (Henrich et al. [2000](#)) than youth isolated from social networks. However, these findings cannot rule out the possibility that better adjusted youth are included in social networks, as opposed to the fact that social networks contribute to good adjustment.

Although members of social networks may, on average, show lower levels of psychopathology than do individuals who are not part of social networks, research on the predictive value of social network membership to subsequent adjustment has yielded more differentiated results. Crucially, the adjustment and behavior of the other members in the adolescents' social network may influence the adolescent's own adjustment and behavior over time, after statistical control of early levels of behavior (Harris [1995](#)). The presence of homophily (McPherson et al. [2001](#)) suggests that adolescents tend to affiliate with peers who have similar levels of adjustment, and that the

peer group will influence the adolescent to become more similar to the group over time.

This process has been best studied among adolescents with externalizing and delinquent behaviors, who tend to affiliate with peers who display similar problems (Cairns et al. [1988](#); Dishion [1990](#)). It is thought that a delinquent peer group will encourage an adolescent's own delinquency through peer pressure and conformity, a process known as peer contagion effects. For example, the extent to which peers reinforce an adolescent's own talk about deviant actions (by joking, laughing, or saying "right on") has been shown to predict subsequent increases in that adolescent's own delinquent behavior (Dishion et al. [1999](#); Dishion and Owen [2002](#); Patterson et al. [2000](#)). Conversely, having a peer group that is low on externalizing behavior, or who have a strong affiliation toward academic achievement (Wentzel and Caldwell [1997](#)), can similarly influence a youth to engage in these positive practices.

Although the possible risks imposed by having a poorly adjusted social network are best studied in relationship to externalizing problems, there is also a small body of evidence indicating that homophily and conformity in social networks may also occur for internalizing behaviors (Hogue and Steinberg [1995](#); Oh et al. [2008](#); Prinstein [2007](#)). Specifically, adolescents with internalizing problems tend to heighten the levels of internalizing problems in their friends by engaging in collective rumination or moping, processes which are known to exacerbate internalizing distress (Prinstein [2007](#); Stevens and Prinstein [2007](#)). By contrast, adolescents who are in a social network low in internalizing problems are likely to suggest (or initiate) distraction techniques that are known to be effective in reducing internalizing distress over time (Prinstein [2007](#); Stevens and Prinstein [2007](#)).

Similar processes may occur in social networking Web sites. Similar to the research on contagion effects in face-to-face social networks, the presence of deviancy talk comments on youth's web pages as well as pictures on their web pages of deviant behavior may predict increases in externalizing behaviors over a 1-year period, after statistical control of baseline levels of externalizing behaviors (Szwedo et al. [2009](#)). However, the relationship between Web site use and internalizing problems was more complicated than originally thought. Having many friends in youths' online social network and having interactions with more friends online predicted reductions in internalizing problems over the 1-year period, but only for youth who felt less connected in face-to-face relationships at the beginning of the study. By contrast, these same online factors predicted increases in internalizing difficulties for youth who felt more connected in face-to-face relationships at the start of the study (Szwedo et al. [2009](#)). These results suggest that online social networks may help youth who otherwise have difficulty in peer relationships feel connected to peers, and perhaps reduce feelings of depression or anxiety as a result. For youth who do well in peer relationships, on the other hand, online communication through social networking Web sites may be a less rich form of social interaction than they are accustomed to, perhaps leading to an increase in internalizing symptoms if face-to-face relationships are neglected in favor of online socialization.

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## Review and Future Directions

This essay has provided a summary of social networking in adolescence, how it is assessed, and the potential for such networks to influence adjustment. The importance of social networks in both offline and online contexts was discussed. Although results to date are intriguing, there are several limitations in the current research. Future work may expand on the existing state of knowledge.

First, social networks have been established as overlapping with but still conceptually distinct from dyadic friendship and peer sociometric status, as summarized above. However, research about the consequences of social network participation on youths' adjustment has not well differentiated between the contributions of social network membership, friendship, and sociometric status. Missing in the empirical literature are studies that assess all three of these constructs within the same sample and examine the independent contribution of social network membership after statistical control of friendship and sociometric status. One exception is the study by Wentzel

and Caldwell (1997) who found that social network membership, over friendship and sociometric status, had the strongest influence on sixth graders' academic achievement. Similarly, another study using behavioral genetic methodology found that the influence of a best friend on adolescents' alcohol use could be explained by the adolescent's own genetic tendency to both use alcohol and also to select an alcohol-using best friend, but the influence of a deviant social network remained an independent predictor of increased alcohol use using this behavioral genetic framework (Hill et al. 2008).

Another limitation is that the magnitude of peer contagion effects may theoretically differ depending on the cohesiveness of the social network. That is, close-knit and cohesive social networks may have greater socialization influences on their members relative to more diffuse or unstable social networks. In the dyadic friendship literature, the influence of a best friend on an adolescent's own behavior is suggested to be strongest when the friendship is high in quality (Berndt et al. 1999; Berndt and Keefe 1995). A similar process may occur for the influence of social networks, as is suggested by a recent study (Kwon and Lease 2009). This type of differentiated investigation of peer contagion effects should be investigated in future work.

Online social networking Web sites are a recent phenomenon, so relatively little is known about adolescents' patterns of interaction in this medium. However, preliminary work overall suggests that youth's social networks online using these Web sites may show continuity with their face-to-face social networks (Mikami et al. 2010; Szwedo et al. in press). In fact, deviancy talk online may predict increases in deviant behavior similar to the contagion effects suggested to occur in face-to-face social networks (Szwedo et al. 2009). The online medium will continue to be important for social networking. Therefore, future studies might examine characteristics of youths' social networks online, as well as consider both online and offline social networks and social networks assessed outside of school, as predictors of adjustment.

In summary, social networks are highly important for adolescents, and this emphasis on the peer group during the adolescent period is developmentally appropriate. Membership in a social network, or a cohesive group of peers to which the adolescent belongs, is conceptually distinct from participation in a dyadic friendship or the attainment of high sociometric status. Social network membership may provide youth with key negotiation skills as well as a sense of collective identity that may importantly contribute to good adjustment. At the same time, the attitudes, values, and the behaviors of the social network may also influence the youth to become more similar to that network over time, which can potentially exacerbate behavior problems if the social network members are high in problem behaviors. Online social networks may have similar properties to the face-to-face social networks traditionally studied. Future studies might continue to examine youths' social networks, both in online and offline contexts.

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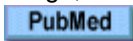
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