

Online Resource 5 – Additional Information on Included Studies

Author, year, country	Network inclusion criteria/additional information about the study	Exposure (network metric(s) assessed and tie definition)	Outcomes (SITBs assessed)	Prevalence of SITBs	Covariates/adjusted for variables in analyses	Overall key network findings
Haynie et al. (2006) USA Longitudinal, Add Health	9594 adolescents They included respondents who participated in both the initial in-school and two waves of the in-home survey, who attended a school in which social network data were collected, who had a parent who participated in the initial in-home survey, who provided valid information on the key explanatory and outcome variables, and for whom sample weights were available. Study network refers to students who provided non-missing data on the wave-one measure of suicide attempts, and had at least one friend.	“List up to five of your closest female and five closest male friends” within the school Network variables: - Isolation (binary variable, 1 for respondent neither sends nor received any friendship nominations, 0 otherwise) - Centrality (Bonacich - respondents network centrality, weighted by centrality of those to whom respondent sends ties) - Friends’ delinquency (network members reports of the frequency of their own deviance during past 12 months/average delinquency calculated) - Friends’ popularity (popularity of members in a respondent’s network/average number of friendship nominations received by friends), - Non-network variable - Friends’ suicidal behavior, based off a question on perception - ‘have any of your friends tried to kill themselves in the past 12 months?’)	Attempts Two questions: Adolescents initially asked if they have ever seriously thought about suicide in past year. Those that were affirmative were then asked: “In the past 12 months, how many times did you actually attempt suicide?”. Dichotomized into those who have and have not attempted in the past year.	Girls attempts: Mover: 7.3%, non-mover: 4.7% Boys attempts: Mover: 1.6%, non-mover: 2.2%	Multivariate logistic regression (b unstandardized coefficient, SE) 8 models Main predictor: Residential mobility (mover vs. non-mover) Simple models (models 1-7): age, ethnicity, parental education, receipt of public assistance, two-parent family, parent education, same-sex attraction, parent child relationship (relationship quality) social capital, victimization, each network variable separately Complex models (model 8): relationship to school (e.g., school attachment), peer network variables (including friend attempted suicide which is a non-network variable), number of extracurricular activities,	Girls Isolation: positively associated with attempts (b:0.700, SE:0.345) in a simple model. Effect remains in a more complex adjusted model (β: 0.623, SE:0.310). Bonacich centrality: no evidence of an association with attempts in any model (e.g., model 8 b:0.111, SE: 0.174). Friends’ delinquency: positively associated with attempts (b:0.068, SE:0.032) in a simple model. Effect is reduced and no longer independently associated in a more complex model (b:0.027, SE:0.041) Friends’ popularity: negatively associated with attempts (b: -0.062, SE:0.031) in a simple model but effect is reduced and no longer independently associated in a more complex model (b: -0.052, SE: 0.048). Boys Isolation: no evidence of an association with attempts (b: 0.458, SE:0.539) Bonacich centrality: no evidence of an association with attempts (b: -0.268, SE:0.296) Friends’ delinquency: no evidence of an association with attempts (b: 0.057, SE:0.067) Friends’ popularity: no evidence of an association with attempts (b: 0.003, SE:0.074). *Non-network variable of friend attempt suicide: Girls Positive association between reporting having friends who have attempted suicide and a girls own suicide attempts (b:0.992, SE:0.217) Boys Positive association between reporting having friends who have reported suicide and a boy’s own suicide attempts (b:1.400, SE:0.311)

					respondents' delinquency,	
Baller and Richardson, (2009) USA Longitudinal, Add Health	2654 adolescents One year follow up Looked at whole sample and at an at-risk subset which refers to 1300 respondents with the highest risk index. Also looks at 'barriers to diffusion' as a context Study network refers to students who provided non-missing data on the wave-one measure of suicide attempts, and had at least one friend	"Name up to five of your closest male and five of your closest female friends" within school Network variables - intransitivity index (control, measures the presence of open ties. Respondents with more open ties produce more friends-of-friends, and score higher on this index) - Number of friends-of-friends who attempted suicide - Number of friends who attempted suicide	Ideation "During the past 12 months, did you ever seriously think about committing suicide?" Affirmative responses are scored 1, and negative responses are scored 0"	NR	Survey logistic regression models (β coefficient, SE) 3 models, all models control for: suicide attempt by a family member, suicide attempts by students in the respondent's school, depression, self-esteem, failure, sex, race, Hispanic/Latino ethnicity, age, participation in active sports, hanging out with friends, church attendance, Catholic, hours worked for pay in a typical non-summer week, length of residence, gun availability in home, and the parent respondent's marital status and educational attainment, the risk index The risk index is the sum of the following standardized variables: participation in physical fights, homosexual attraction, body mass index, getting drunk, and forced	Full sample (model 1) Number of friends with suicide attempts: positively associated with adolescents ideation one year later (β: 0.628, SE: 0.183), $p < .001$). Number of friends-of-friends with suicide attempts: no evidence it is associated with adolescents ideation one year later (β: 0.040, SE: 0.052) Intransitivity index: positively associated with adolescents ideation one year later (β: 1.208, SE: 0.342, $p < .001$) At-risk subset (model 2) Number of friends with suicide attempts: positively associated with adolescents ideation one year later (β: 0.913, SE: 0.268). In a model looking at barriers to diffusion interaction, summer employment weakens the aggravating effect of friends-of-friends attempts (β: -0.014, SE: 0.007, $p < .05$). Number of friends-of-friends with suicide attempts: positively associated with adolescents ideation one year later (β: 0.140, SE: 0.037, $p < .001$) Intransitivity index: positively associated with adolescents ideation one year later (β: 1.246, SE: 0.621, $p < .05$)

					sexual intercourse. The index is not included in the second and third models, but these five separate items are included in those models.	
Copeland et al. (2019) USA Longitudinal, PROSPER survey	11,160 adolescents The study examines only Waves 7 and 8 of the survey, for which variables of interest are available. These waves occurred in 2009 and 2010 (1 year of follow up). Average response rate 78% Any students who were present for the administration of a given wave of the survey was included	“Students can list the names of up to two best friends and five close friends in their grade and school” - Popularity (in-degree/how many nominations a respondent receives) - Sociality (out-degree/how any nominations a respondent sends) - Closeness (centrality) (represents how easily an adolescent can access others across a network, measured by how many steps an individual would need to take to reach others, measure is the inverse of the geodesic distance to other nodes) - Bridging (betweenness centrality/ high values indicating that teens connect peers in the network) - Centrality (Bonacich centrality/degree centrality), measure of overall popularity taking into account the popularity of one's own friends) - Reciprocity (closeness of teens friendships measured by proportion of individual ties in which both parties nominated each other as friends) Friends’ SITBs: Friends’ self-cutting – variable measured as the average value for the outcome	Self-harm (self-cutting) “The dependent variable self-cutting comes from the survey question, “During the past 12 months, how many times have you tried cutting yourself?” Response options were “Never”, “Once”, “Twice”, “Three or four times”, and “Five or more times”. Given the low incidence of cutting overall and the serious nature of any cutting behavior, this is dichotomized as any or no self-cutting”	Self-harm wave 1: 7%	Multi-level logistic regression (β coefficient, SE) 9 models Simple models (models 1-6) adjust for depressive symptoms, friends’ self-cutting, sex, ethnicity, SES, family relations, school adjustment, wave of survey, wave count, treatment, max-out degree, out-of-grade friends Complex models (models 7-9): adjust for all network facets, gender interactions)	Popularity: no evidence of an association with adolescent’s self-harm in any model (β:0.047, SE:0.06). Sociality: negatively associated with adolescent’s self-harm in simple and complex models (β: -0.167, SE:0.05) and this association was primarily driven by a gender interaction i.e., sending more friendship nominations is associated with lower SH for boys (Male X Sociality β: -0.269, SE:0.11). Bonacich centrality: negatively associated with adolescent’s self-harm in a simple model (β: -0.366, SE: 0.12) however in a more complex model the effect was reduced and no longer independently associated (β: -0.268, SE: 0.25) Closeness centrality: no evidence of an association with adolescent’s self-harm in any model (e.g., model 8 β: -1.063, SE: 1.11) Betweenness centrality: positively associated with adolescent’s self-harm in a more complex model (β:2.316, SE:0.79) Reciprocity: no evidence of an association between reciprocity and self-harm (β:0.030, SE:0.22) Friends’ self-harm: positively associated with adolescent’s self-harm (β:1.341, SE: 0.34)

		cutting variable among the individuals' friends				
Bearman and Moody (2004) USA Longitudinal Add Health	13465 adolescents Data drawn from both the in-school surveys and the in-home adolescent interviews. Of the 20745 students who completed an in-home interview, sample weights required for national estimates were available for 18924; 5459 adolescents did not complete the in-school interview, were not on the school network roster, or attended schools for which friendship data were not included.	“Each student was asked to name his or her 5 best female and 5 best male friends in the school” - Isolation (adolescents who had no friends to name, received no friendship nominations from others, or named as a friend a person who had no other friends) Proximal-peer metrics: - Network intransitivity (structure of extended social networks. Index measured the proportion of an individual's friends' friends who were not also the individual's friends) Network wide features: - Density of school (extent to which school provided a focal point for adolescent relationships. In schools with low density, the effect of isolation in the school and behaviors of adolescents are likely to be lower than in schools that are denser) (control variable) Other – - Self-report of having a friend who has attempted suicide (not a network variable)	Ideation and attempts Binary indicators of suicidal ideations in the past year and suicide attempts in the past year	Suicidal ideation: 13%, suicide attempts: 4%	Logistic regression (ORs, 95%CI) Covariates: age, race/ethnicity, parental SES, school, and community characteristics (including attachment to school and urban/rural community type), religion, family and household characteristics, personal characteristics (including depression, self-esteem, frequency of drunkenness, grade point average, sexual experience, homosexual attraction, experience of forced sexual relations, body mass index), friend attempting suicide (not network variable), trouble with people Standard errors of all models corrected for sample clustering and stratification based on religion, ethnic mix, and school type and size.	Girls' ideation: Isolation: positively associated with ideation (OR:2.010, 95% CI: 1.073, 3.765). Intransitivity index: positively associated with ideation (OR:2.198, 95% CI:1.221, 3.956). Density: negatively associated with ideation (OR:0.333, 95% CI: 0.142, 0.783) Girls' attempts (among those with past year ideation): No evidence for an association between network variables and attempts (isolation [OR: 1.187, 95%CI: 0.380, 3.708], intransitivity index [OR: 1.076, 95%CI:0.373, 3.103], density [OR:0.415, 95% CI: 0.086, 1.996]). Boys' ideation: Isolation: no evidence of an association with ideation (OR:0.665, 95%CI:0.307, 1.445) Intransitivity index: no evidence of an association with ideation (OR: 0.747, 95%CI: 0.358, 1.558) Density: no evidence of an association between network density and ideation (OR:1.061, 95%CI:0.375, 2.999) Boys' attempts (among those with past year ideation) Isolation: no evidence of an association with attempts (OR:0.767, 95%CI: 0.159, 3.707) Intransitivity index: no evidence of an association with attempts (OR: 0.444, 95%CI: 0.095, 2.085). Density: negatively associated with attempts (OR: 0.049, 95%CI: 0.005, 0.521) Non-network variable of perception of “friend who has attempted suicide” Girls ideation Peer-norm measure of friends' suicide attempts was positively associated with girls ideation (OR: 2.374 , 95%CI: 2.019, 2.791) Girls attempts Peer-norm measure of friends' suicide attempts was

						positively associated with an a girls own attempts (OR: 1.663, 95%CI: 1.253, 2.207) Boys ideation Peer norm measure of friends' attempts was positively associated with boys ideation (OR: 2.725, 95%CI: 2.187, 3.395) Boys attempts Peer norm measure of friends' attempts was positively associated with boys attempts (OR: 1.710, 95%CI: 1.095, 2.671)
De Luca et al., (2012) USA Cross-sectional, Add Health	1,618 Latina adolescents A sample of 1,618 Latinas were selected for the analysis. The complex sample design, with oversampling of Puerto Rican and Cuban participants, required the use of weighted analysis	“Respondents nominated their female friends and best female friend” - Reciprocated friendships (On both variables (friends, best friend), Latinas who nominated friends, or a best friend, and received nominations by those same friends received a positive reciprocity score (1). A zero score indicated no reciprocity) - Suicidal friends (not a network variable, asked ‘have any of your friends tried to kill themselves in past 12 months’)	Ideation and Attempts “In the past 12 months did you ever seriously think about committing suicide?” a dichotomous variable, and “In the past 12 months how many times did you actually attempt suicide?”.	Suicidal Ideation: 17%, Suicide attempts: 6%	Logistic regression for ideation, Negative binomial regression for attempts Family and adult support, suicidal friends (non-network variable), peer support, cultural status, behavioral health	Friendship reciprocity was not associated with attempts or ideation in any model [results NR] Non-network variable of perception of suicidal friends: Attempts Friends' suicide attempts were positively associated with an adolescent's own suicide attempts (b: 1.21, SE: 0.31, p value <.001, 95%CI: 1.09, 1.83) Ideation Friends' suicide attempts were positively associated with an adolescent's own ideation (b: 2.27, SE: 0.52, p <.001, 95%CI: 1.45-3.56)
Giletta et al. (2013) USA Longitudinal	348 adolescents Of the targeted adolescents, roughly 75% returned consent forms, and approximately 60% of the contacted families (55%, 61%, and 76% for the three schools respectively) granted consent to participate. For each school, retention varied between 90% and 99%	“Adolescents were asked to select an unlimited number of best friends from a list of peers including all their grade-mates.” - Sample of structural network effects used in the SAOM: (number of ties, out-degree, reciprocity, three-triad structure effects e.g., transitive triplets, three-cycle, geodesic	Self-harm (Non-Suicidal Self-Injury (NSSI)) Adolescents asked to report on a 5-point scale (1=never, 5=10 or more times) how frequently they engaged in six different behaviors (e.g., cut or carved skin, burned skin, hit self) during the	Wave 1: Boys self-harm: 1-3 times 19.3%, 4+ times: 5.5% Girls self-harm: 1-3 times 22.2%, 4+times: 10.6%	SAOM to look at socialization and selection of self-harm Network dynamic effects/self-harm dynamic effects, structural network effects, selection effect, ethnicity,	Direct socialization: no evidence for the ‘average alter’ parameter implying that adolescents did not increase their self-harm when they were friends with peers with higher self-harm in model 1 (β:0.21, SE:0.39) or later models. Selection: no strong evidence for self-harm selection similarity which suggests adolescents did not select as friends' peers with similar levels of self-harm in any model (model 3 β:-0.02, SE:0.14) Indirect socialization: evidence that adolescents whose friends reported higher depressive symptoms were more likely to increase (and less likely to decrease) their self-

	between consecutive time points. To properly estimate socialization effects and to limit the impact of missing data, adolescents who took part in at least three of the four waves were selected for inclusion in the primary analyses. This resulted in a final sample of 348 adolescents	distance-two effects) - Selection effects (same-ethnicity parameter, ego effect, alter effect, selection similarity effects for gender and NSSI Sample of peers' characteristics: - Friends' depressive symptoms, self-harm, & Impulsivity (only collected at baseline, a score of friends' impulsivity computed by averaging the individual scores of impulsivity of all peers who target adolescent nominated at baseline) - selection + socialization of self-harm over time (SAOMs)	previous months. NSSI collapsed into three categories distinguishing		gender, depression, impulsivity	harm compared with adolescents with friends reporting lower depressive symptoms (β :0.50, SE:0.21, $p < .05$). There was evidence of an interaction between gender and friends' impulsivity (β : -1.12, SE:0.56, $p < .05$) but not between gender and friends' depressive symptoms (β :0.37, SE:0.70). While friends' impulsivity did not affect changes in self-harm among girls, the OR of increasing self-harm compared with no change increased from 0.6 for boys whose friends reported low impulsivity to 1.2 for males with highly impulsive friends.
Giletta et al. (2015) China Longitudinal	565 adolescents, attended two schools in the Hunan province of mainland China (one urban area other rural area). 8 waves of follow up (every 3 months for 2 years). On average adolescents chose their friends from a pool of 56 peers (Classroom size ranges between 50 and 65 students)	“Adolescents were asked to nominate their best (i.e., closest) friends from a roster including all their classmates. An unlimited nomination procedure including both same and cross-gender nominations were employed” - No reciprocal friends - Reciprocal friends who engaged in NSSI - Reciprocal friends who did not engage in NSSI	Self-harm (NSSI), ideation (They measure suicide attempts, but this is not predicted by peer factors) Self-harm assessed through a 5-item measure (Prinstein et al., 2008). Global Self-harm measure computed by summing participants answers. Ideation – self-report measure of 8 items drawn from the Suicidal Ideation Questionnaire (SIQ; Reynolds 1988). A total SI score was computed by summing answers. Attempts – Item ‘have you ever tried to kill yourself?’	3 months: NSSI males mean: 1.26 (SD: 2.98) NSSI females: mean 0.74 (SD:2.14) Suicidal ideation males: mean 2.85 (SD:5.27) suicidal ideation females: mean 3.11 (SD:4.81)	Multinomial logistic regression (ORs and 95%CI) Depressive symptoms, friend support, peer victimization, gender	Self-harm trajectories (low, moderate, high-stable): After controlling for gender and depressive symptoms, adolescents were less likely to be in the moderate trajectory class for self-harm (compared with low) if they had reciprocal friends who self-harm (OR: 0.46, 95%CI: 0.21, 1.00) or reciprocal friends who did not self-harm (OR: 0.35, 95%CI: 0.16, 0.76) compared with having no reciprocal friends at all (i.e., a lack of reciprocal friends [vs having friends with/without self-harm] was associated with being in a moderate compared with low self-harm trajectory). Ideation trajectories (low, moderate, high): No friendship type effects were found for ideation trajectory groups. *Did measure attempts, but this was not analyzed in the context of network variables.
Ali et al. (2011)	2,209 adolescents	“Our measure of peer social network in	Ideation and Attempts	Suicidal ideation: 10.7%	Multivariate marginal effect	Ideation

Longitudinal Add Health	“we restrict our sample to individuals who nominated the same friends in both the waves. Thus, using the lagged peer group measure in our sample does not involve the limitation of changes in friendship networks between the waves”	this study is based on the respondents’ nomination of close friends” - Percentage of friends with ideation & attempt: For nominated friends they constructed measures pertaining to the percentage of friends who have thought about committing suicide and the percentage of friends who have attempted to commit suicide	(i) Suicidal Thoughts or Ideations – a dichotomous variable indicating whether the respondents have thought about committing suicide in the past 12 months; (ii) Suicide Attempts – a variable measuring whether the individuals have attempted to commit suicide in the past 12 months.	Suicide attempts: 3.4%	probit regression models (β, SEs) using contemporaneous and lagged peer measures Control (parental characteristics; lives with parent's, parent's education levels, whether both parents work full time, whether the family received welfare, whether they chose their current place of residence because of the school district, how old respondent was when they first moved, family members attempts) Other covariates: age, gender, grade level, race, involvement in risky behaviors, weapon possession, being involved in a physical fight, access to guns at home, alcohol consumption, binge drinking, drug abuse, smoking, adolescents' psychological wellbeing e.g., degree of depression, contemporaneous and lagged measures of peer's suicidal behaviors	Peers' ideation and attempts: in their contemporaneous model there was evidence that peer's ideation and attempts were associated with an adolescent's own ideation (β:0.049, SE:0.025), but with estimates that include school-level fixed effect magnitude decreases to (β:0.026, SE: 0.017) and in their preferred lagged models there is no evidence of an association (β:0.015, SE:0.031). Attempts Peers' ideation and attempts: in their contemporaneous model there was evidence that peer's ideation and attempts were associated with an adolescent's own attempts (β:0.027, SE:0.010), but with estimates that include school-level fixed effect the magnitude decreases (β:0.018, SE:0.011) and in their preferred lagged models there is no evidence of an association (β:0.005, SE:0.015)
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Mueller et al. (2015)	13, 482 adolescents	“egos were asked to nominate their five best female and five best male friends (alters)” - Friend disclosed suicide attempt of friend (not network variable but a peer-norm measure, based on ‘have any of your friends tried to kill themselves?’ - Friends’ undisclosed suicide attempt - Friend died by suicide (non-network variable) - Friends’ suicidal ideation (is a network variable) - Friends’ emotional distress “Undisclosed metric was measures using friends' responses to the question ‘during the past 12 months how many times did you actually try to kill yourself?’ Responses from all of individual's friends were aggregated into one measure indicating that an individual had at least one friend who reported attempting suicide at least once. Friends report was then compared to individuals report. If an individual did not report that a friend attempted suicide but friend did report an attempt, individual received a ‘1’ on friend undisclosed suicide attempt. If individual reported either (1) that a friend attempted suicide or (2) died by suicide, individual received a ‘0’ on this measure. Individuals who had no friends attempt suicide (whether disclosed or not) were also coded as ‘0’ on this variable. Also created a	Ideation and Attempts Ideation – based on ego’s answer to “During the past 12 months, did you ever seriously think about committing suicide?”, dichotomous variable Attempts – “During the past 12 months how many times did you actually attempt suicide?” Answers 0 (0 times) to 4 (6 or more times)	Suicide attempts: 3.8%, ideation: 9.4%	Logistic regression (ORs and 95%CI) 5 models Simple models (Model 1): network variables and peers disclosed suicide attempts (non-network variable), peer died by suicide (non-network variable), Model 2: network variable (friends’ emotional distress) Complex models (3-6): peers characteristics e.g., social integration with family and friends, same-sex attraction, family member suicide attempt or dies by suicide, use of illegal drugs in past 30 days, frequent binge drinking, delinquency, grade point average, lives with biological parents, ethnicity, parents’ education, grade level at wave 1, social integration	Ideation Friends’ undisclosed attempts: positive association with an adolescent’s later ideation in a simple model that does not control for the adolescents’ characteristics (model 1 OR: 1.354, 95%CI: 1.030, 1.780) but this effect was reduced and no longer independently associated in more complex models when controls for adolescents’ characteristics were included (model 5 OR: 1.095, 95%CI: 0.813, 1.473). Friends’ ideation: no evidence this was associated with an adolescent’s own ideation any model (e.g., Model 5 OR: 1.047, 95%CI: 0.868, 1.263) Friends’ emotional distress: positively associated with an adolescent’s own ideation in a simple model that does not control for the adolescents’ characteristics (model 2 OR: 1.210, 95%CI: 1.032, 1.420) but this effect was reduced and no longer independently associated in a more complex models when controls for adolescents’ characteristics were added in (e.g., model 4 OR: 1.004, 95%CI: 0.832, 1.212). Attempts Friends’ undisclosed attempts: no evidence this was associated with an adolescent’s own attempts in any model (e.g., Model 5 OR: 1.104, 95%CI: 0.613, 1.988). Friends’ ideation: no evidence this was associated with an adolescent’s own attempts in any model (e.g., Model 5 OR: 1.107, 95%CI: 0.805, 1.523) Friends’ emotional distress: positive association with an adolescent’s later attempts in a simple model that does not control for the adolescents’ characteristics (model 2 OR: 1.372, 95%CI: 1.033, 1.823), but this effect was reduced in more complex models when controls for adolescents’ characteristics were included (model 5 OR: 1.040, 95%CI: 0.731, 1.479). *There was also a measure of ‘peer died by suicide’ and ‘alter undisclosed suicide attempts. Although technically they are not sociometric variables - the results were: Friend died by suicide: Positive association with adolescent’s suicide attempts (OR: 6.433, 95%CI: 4.396, 9.414) in a simple model and
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		dichotomous variable—friend died by suicide—where ‘1’ indicated that individual had a friend die by suicide; all other individuals are coded as ‘0’ on this measure. Thus, we created a mutually exclusive categorical variable where the options were: friend disclosed suicide attempt, friend undisclosed suicide attempt, and friend died by suicide, with a reference group consisting of individuals who had no friends who attempted or died by suicide in the last 12 months				in a more complex model (OR: 2.604, 95%CI: 1.633, 4.151) Positive association with adolescent’s suicidal ideation in a simple model (OR: 3.389, 95%CI: 2.630, 4.365) and in a more complex model (OR: 1.471, 95%CI: 1.095, 1.977) Friend disclosed suicide attempts (i.e., peer norm measure) Positive association with an adolescent’s suicidal ideation (OR: 1.438, 95%CI:1.223, 1.690) Positive associate with an adolescent’s suicide attempts (OR: 1.895, 95%CI: 1.455, 2.469)
Prinstein et al. (2010) USA Longitudinal	377 adolescents, One public middle-school. (T1-T2 1 year apart) Consent forms were returned by 92% of families (n=784); of these, 80% of parents gave consent for their child’s participation (n=627; 74% of the total population).	“Participants were asked to select an unlimited number of their “closest friends” from a roster of all grade-mates alphabetized by first name (or nickname, e.g., Bill/William, as indicated in focus groups), and from this list to select a “very best friend.” - Best friends’ self-harm	Self-harm (NSSI (frequency) Self-harm/NSSI – asked to indicate the frequency within the past year that they had ‘harmed or hurt body on purpose’ on a six-point scale.	T1 self-harm: 7.4%	Hierarchical multiple regression (β coefficient, b unstandardized, SEs) Adjusted for: Depressive symptoms, gender (moderator), grade (moderator), adolescent’s T1 self-harm, best friends self-harm at T1	Self-harm Best friends self-harm: best friends’ self-harm at T1 was associated with an adolescents own self-harm one year later, although gender and grade were significant moderators. For girls, best friends’ self-harm at T1 was associated with an adolescent’s own self-harm at T2 (b:0.03, SE of b:0.01 [β:0.21], $p < .05$) after controlling for adolescent’s time 1 self-harm. No strong evidence of an association for boys (b=0.00, SE of b:0.00, β:0.06). There was evidence that best friends’ Time 1 self-harm was associated with an adolescent’s own Time 2 self-harm among sixth grade students (b:0.18, SE of b:0.06 [β:0.29], $p < .01$), but not seventh (b: -0.04, SE of b: 0.12, [β:-0.04, $p>.05$), or eighth grade students (b:-0.01, SE:0.03 [β-0.03] NS).
Wyman et al. (2019) USA Cross-sectional	10,291 adolescents, Participation rates ranged from 66% to 95.6% (M = 83%) across schools, meeting criteria for modelling school-level network data in 38 schools. Primary focus is on school-level network characteristics (school-level factors encompass individual level characteristics aggregated to the school level e.g., percent isolates and variables	“Students named up to seven of their closest friends at their School” Peer network integration - Isolation from peers (% isolates) (network level) - isolation (no nominations received – individual level) - Mean # friendship ties made (network level) - # nominations made (outdegree e.g., sociality) (individual) - # nominations received (in-degree e.g., popularity)	Ideation and Attempts SITBs assessed using the Youth Risk Behavior survey measure (Eaton et al., 2008). Students asked whether in the preceding 12 months they had: seriously considered suicide; planned suicide; made one or more suicide attempts; or made an attempt that resulted in injury requiring medical treatment.	Suicidal ideation [girls 18.7%, boys 9.7%), planned suicide (girls 14.8%, boys 8.3%), suicide attempt (girls 12.0%, boys 6.1%)	Individual level analysis: mixed-effects logistic regression (ORs, 95%CI) School level analysis: linear regression (β, SE - where β is a standardized coefficient (change in rate for a 1 SD change in predictor per 100 students)	Individual level analysis: Individual positions <i>Popularity:</i> negatively associated with attempts [vs no SITBs] (OR: 0.95, 95% CI:0.92, 0.98), ideation [vs no SITBs] (OR: 0.95, 95% CI:0.92, 0.97), and attempts [vs ideation] (OR: 0.98, CI: 0.94, 1.02) among adolescents in models adjusted for sex, age, and ethnicity. <i>Sociality:</i> negatively associated with attempts [vs no SITBs] (OR: 0.87, 95% CI: 0.85, 0.90), ideation [vs no SITBs] (OR: 0.93, 95% CI: 0.91, 0.96) and for ideation [vs attempts] (OR: 0.92, 95%CI: 0.88, 0.96) among adolescents in models adjusted for sex, age, and ethnicity. From tests of sex by network interaction, they found the effect of sociality was stronger in girls for ideation (OR:0.89, 95%CI: 0.85, 0.92) compared with boys (OR:

	describing the overall patterns of relationships across all network members which cannot be broken down into smaller units	(individual) - Mean coreness (individual) Peer network centralization - Out-degree centralization - In-degree centralization - Coreness centralization (size of friendship group based on one's own and immediate friend's nominations, measured as 'mean coreness') Peer network cohesion - network scaled density - network transitivity Suicidal student influence - Popularity of suicidal students/popularity any STB versus NS (the average in-degree for student's with either SI or attempts divided by the in-degree for students with neither). Suicidal student clustering - Homophily for SITBs			Individual-level metric analyses: all adjusted for sex, age and ethnicity School-wide analyses: Simple models: analyses adjusted for log network size, ethnicity, sex, age was not included due to low variability across schools Complex models: Other network facets, and in supplementary models they adjusted for the confounding effects of depression, adolescent's victimization by bullying and violence and also looked at sex interactions	0.97, 95%CI: 0.93, 1.01). <i>Isolation</i>: no evidence of an association with attempts [vs no SITBs] (OR:1.22, 95%CI:0.74, 1.99), ideation [vs no SITBs] (OR:1.25, 95% CI: 0.79, 1.97) or attempts [vs ideation] (OR:1.64, 95%CI: 0.75, 3.61) among adolescents in models adjusted for sex, age, and ethnicity. Proximal-peer metrics <i>Coreness</i>: negatively associated with attempts [vs no SITBs] (OR: 0.84, 95%CI: 0.80, 0.87), ideation [vs no SITBs] (OR: 0.90, 95%CI: 0.86, 0.93), and attempts [vs ideation] (OR: 0.89, 95% CI: 0.84, 0.95) among adolescents in models adjusted for sex, age, and ethnicity. When looking at results from tests of sex by network interactions, the effect for ideation was stronger among girls (OR:0.83, 95%CI: 0.79, 0.87) compared with boys (0.95, 95%CI: 0.89, 1.00), School-level analysis Network-wide metrics <i>Popularity of peers with SITBs</i>: positively associated with rates of attempts in both a simple model adjusting for network size, ethnicity and sex (β: 1.20, 95%CI: 0.25, 2.14) and remained so in a more complex model adjusting for other network facets (β: 0.93, 95%CI:0.10, 1.77). However, in supplementary analyses when depression or bullying was added as a covariate, popularity of students with SITBs did not increase the likelihood of attempts as in the uncorrected model (e.g., bully adjustment β:0.68, 95%CI: -0.31, 1.68). It was positively associated with rates of attempts [over total ideation] in a simple model (β:5.60, 95%CI: 1.28, 9.92) but was no longer independently associated in a more complex model (β: 2.63, 95%CI: -2.67, 7.94). There was no evidence it was associated with rates of ideation (β:0.88, 95%CI: -0.09, 1.84) <i>Coreness centralization</i>: no evidence this was associated with rates of attempts (β: -0.27, 95%CI: -1.36, 0.82), rates of ideation (β:0.18, 95%CI: -0.81, 1.17) or rates of attempts [over total ideation] (β: -4.10, 95%CI: -4.10, -9.21, 1.00) <i>In-degree centralization</i>: no evidence this was associated with rates of attempts (β:0.69, 95%CI: -1.38, 2.76), rates of ideation (β: -0.16, 95%CI: -2.04, 1.72), or rates of attempts [total ideation] (β:0.11, 95%CI: -9.94, 10.16).
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						<i>Out-degree centralization</i>: positively associated with rates of attempts (β: 2.36, 95%CI: 0.35, 4.36) in a simple model adjusting for network size, ethnicity and sex. The effect was attenuated in a more complex model accounting for other centralization variables (β: -2.38, 95%CI: -5.41, 0.64). There was no evidence of an association rates of ideation (β: 0.82, 95%CI: -1.11, 2.75) or for rates of attempts [total ideation] (β: 8.93, 95%CI: -1.03, 18.89). <i>Mean coreness</i>: was negatively associated with rates of ideation (β: -1.60, 95%CI: -2.59, -0.61) in a simple model adjusting for network size, ethnicity and sex, but this effect was reduced in a more complex model with other network facets included (β: -0.83, 95%CI: -6.03, 4.37). There was no evidence of an association with rates of attempts (β: -1.09, 95%CI: -2.18, 0.01) or rates of attempts [over total ideation] (β: -1.30, 95%CI: -6.59, 4.00). <i>Homophily for SITBs (clustering)</i>: was positively associated with rates of attempts in a simple model adjusting for network size, ethnicity and sex (β: 1.31, 95%CI: 0.49, 2.13) but did not remain so in a more complex model with other network facets included (β: 0.72, 95%CI: -0.15, 1.60). Similarly, it was associated with rates of attempts [over total ideation] in a simple model (β: 4.15, 95%CI: 0.09, 8.21) but did not remain so in a more complex model (β: 2.85, 95%CI: -1.44, 7.15). There was no evidence for rates of ideation (β: 0.72, 95%CI: -0.16, 1.61). <i>Mean number of friendship ties</i>: was negatively associated with rates of ideation (β: -1.23, 95%CI: -2.22, -0.24). Similarly, it was negatively associated with rates of attempts (β: -1.35, 95%CI: -2.34, -0.36) in a simple model adjusting for network size, ethnicity, and sex but this effect was reduced and no longer independently associated in a more complex model with other network facets included (β: -0.21, 95%CI: -1.47, 1.04). There was no strong evidence of an association with rates of attempts [over total ideation] (β: -2.96, 95%CI: -7.90, 1.98). <i>Percent isolates</i>: positively associated with rates of ideation (β: 1.08, 95%CI: 0.03, 2.13). No evidence for rates of attempts (β: 0.76, 95%CI: -0.34, 1.85) or for rates of attempts [total ideation] (β: -0.82, 95%CI: -6.01, 4.37).
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						<i>Density</i>: negatively associated with rates of ideation (β: -1.61, 95%CI: -2.61, -0.61) in a simple model adjusted for network size, sex and ethnicity, but this effect was reduced and no longer independently associated in a more complex model with other network facets included (β: -0.82, 95%CI: -6.06, 4.41). No strong evidence with rates of attempts (β: -1.03, 95%CI: -2.13, 0.08) or for rates of attempts [total ideation] (β: -0.66, 95%CI: -6.01, 4.68). <i>Transitivity</i>: was negatively associated with rates of ideation (β: -1.66, 95%CI: -2.98, -0.35) and rates of attempts (β: -1.85, 95%CI: -3.17, -0.54) in simple models adjusted for network size, sex, and ethnicity however in a more complex model with other network facets included the effect for attempts was reduced and no longer independently associated (β: -1.00, 95%CI: -2.34, 0.350). Similarly, it was negatively associated with rates of attempts [over ideation] in a simple model (β: -6.41, 95%CI: -12.74, -0.07) but this effect was reduced and longer independently associated in a more complex model (β: -1.13, 95%CI: -8.59, 6.33). Exposure to ideation and attempts <i>Proportion of friends with ideation</i>: positively associated with attempts [vs no SITBs] (1.28, 95%CI: 1.13, 1.46), ideation [vs no SITBs] (OR: 1.30, 95% CI: 1.16-1.45) among adolescents in models adjusted for age, sex, and ethnicity. No evidence for attempts [vs ideation] (OR: 1.11, 95%CI: 0.94, 1.32) <i>Proportion of friends with attempts</i>: positively associated with attempts [vs no SITBs] (OR: 1.96, 95%CI: 1.76, 2.19), ideation [vs no SITBs] (OR: 1.49, 95% CI: 1.33, 1.67) and for attempts [vs ideation] (OR: 1.45, 95%CI: 1.24, 1.70). The effect for attempts [vs ideation] was stronger among girls (OR: 1.64, 95%CI: 1.13) compared with boys (OR: 1.13, 95%CI: 0.87, 1.48).
Xiao and Lindsey (2021) USA Longitudinal Add Health	9421 adolescents grades 7-12 from 132 high schools. Wave III and Wave IV are incorrect ages (range 13-32 years). The analytic sample of this study (n = 9421) included respondents who participated in the in-home interviews	“asking the respondent to nominate up to five male and five female friends from the roster of all students enrolled in the respondent’s school and in the sister school” - Peer network size (no. of friend nominations inside and outside the participant’s school,	Ideation and Attempts Ideation – “During the past 12 months, did you ever seriously think about committing suicide?” dichotomized. Attempts – “During the past 12 months, how many times did you actually	Wave 1 Suicidal ideation: 13.64% Suicide attempts: 3.91%	Multivariate logistic regression (ORs, 95%CI) Family level structure, household size, family cohesion, peer support, school connectedness, neighborhood	Peer-network size: no evidence of an association with belonging to trajectory classes of ideation (OR: 1.03, 95%CI: 0.97, 1.09) or attempts (OR: 1.02, 95%CI: 0.96, 1.09). Peer-network density: no evidence of an association between with belonging to trajectory classes of ideation (OR: 1.03, 95%CI: 0.27, 3.96) or attempts (OR: 0.42, 95%CI: 0.08, 2.07).

	across Waves I (1994–1995, response rate: 79.0%, n = 20 745, ages 11–19 years), Wave II (1996, response rate: 88.6%, n = 14 738, ages 12–20 years), Wave III (2001–2002, response rate: 77.4%, n = 15 197, ages 18–26 years), and Wave IV (2007–2008, response rate: 80.3%, n = 15 701, ages 24–32 years), had the longitudinal sampling weight of Wave IV to adjust sampling design, and few missing values in the outcome variables.	range from 0-30) - Peer-network density (was measured using the constructed send- and receive-network density measure of the ego [i.e. adolescent participants connected to everyone in the network) available in the Add Health data]) (non-network variables of peer support, and school connectedness)	attempt suicide?" dichotomized.		support, race/ethnicity, sex, sexual identity, age, SES, depressive symptoms	Moderator effects Race and ethnicity Those in the 'other race' group were more likely to be in the high decreasing trajectory group compared with low stable trajectory (OR: 1409.5, 95%CI: 28.9-68781.10) though authors note OR may not be reliable due to data sparseness. No moderator effects for any other ethnic group. Sexual minority youth Sexual minorities were more likely to be in a 'high-decreasing' ideation trajectory compared with a 'low stable' ideation trajectory when having a densely connected peer network (OR 1.19, 95% CI 1.02–1.40). They found no strong evidence for ethnicity as a moderator of these effects.
You et al. (2016) Hong Kong (China)	1701 adolescents Surveyed twice over a 6-month interval “Since the aim of the present study was to examine the friendship group influence on self-harm, only the T1 participants who were included in a friendship group were included in the present study”	“Participants named a maximum of five of their close friends in the class. They were free to nominate either same-sex or other-sex classmates as their best friends.” Group level - Friendship groups (A friendship group consisted of three to five adolescents who identified each other as friends. That is, a direct link existed from each member to every other member within the friendship group. If participants were eligible for more than one group, their membership was decided by position nomination of other members (i.e., they would be classified into the group in which members nominated them as closer friends) - Reciprocal friendship groups	Self-harm (NSSI) Measured at T1 and T2 (outcome) Assessed by seven items including self-cutting, burning, biting, punching, scratching skin, inserting objects into the nail or skin, and banging the head or other parts of the body against the wall. In the past 6 months, have you engaged in the following behavior to deliberately injure yourself but without suicidal intent? (4-point scale)	Self-harm (12.7%)	Hierarchical linear modelling (β coefficient, SE) Depression, impulsivity (pre-meditation and negative urgency) of adolescent and their friend, gender, grade,	Reciprocal friendship groups self-harm: was positively associated with an adolescents own self-harm 6-months later (β:0.0178, SE:0.0014). Reciprocal friendship groups negative urgency: was positively associated with an adolescents own self-harm 6-months later (β: 0.0007, SE:0.0003). When examining cross-level moderating effects, friendship group negative urgency also strengthened the relationship between adolescents' depression and later self-harm (β: 0.0003, SE:0.0001). Reciprocal friendship groups pre-meditation: no evidence this was associated with an adolescents later self-harm (β: -0.0003, SE:0.0004). When examining cross-level moderating effects friendship groups premeditation weakened the relationship between individual's depression and self-harm (β: - 0003, SE:0.0001).

		impulsivity (negative urgency & premeditation) & self-harm				
You et al. (2013) Hong Kong (China) Longitudinal	5787 adolescents Surveyed twice over a 6-month interval Data analysis – final T1 sample consisted of 5688 adolescents, mean age of 14.76 years (SD=1.32). Combining reduced datasets obtained 3906 participants that completed both waves of assessment. Combining reduced T1 and T2 datasets was 3906 adolescents who completed both waves.	“Participants named a maximum of five of their close friends in the class starting with their most important friend, then the second-best friend, and so on” Group level - Best friend reciprocated dyads self-harm (both persons identified each other as best friend) - Reciprocal friendship groups self-harm (membership where adolescents belong to a group of at least 3 persons. Restricted to members with reciprocal ties)	Self-harm (NSSI (frequency & status)) Assessed by seven NSSI behaviors (self-cutting, burning, biting, punching, scratching skin, inserting objects to the nail or skin, and banging the head or other parts of the body against the wall’. Participants asked “In the past 6 months have you engaged in the following behaviors to deliberately injure yourself but without suicidal intent?”. 7 behavior items rated on a 4-point scale from 0 “never” to 3 “Six or more” (NSSI frequency). Also a Dichotomous variable computed based on seven items as 0 when participants never endorsed, and 1 when reporting engaging in one or more NSSI acts (NSSI status) (To create the variable of No NSSI at T1 but initiating at T2)	Wave 1 Self-harm (12.7%)	Cross-lag multiple logistic regression (ORs, 95%CI) and hierarchical linear regression (b unstandardized, standardized β, SE, t statistic) Maladaptive impulsive behaviors (MIB), depressive symptoms (DEP), self-harm (NSSI) frequency & status (of adolescent and their friend), gender, and age	Best friends: Best friend’s self-harm status at T1 was positively associated with an adolescents own self-harm status at T2 (β:0.44, SE:0.17, [OR:1.56, 95%CI:1.12, 2.17]). No evidence that adolescent’s self-harm status at T1 was associated with best friends’ status at T2 (β:0.36, SE:0.19, [OR: 1.43, 95%CI:0.98, 2.07]). There was no evidence of an association between best friend’s self-harm frequency at T1 and an adolescents own self-harm frequency at T2 (b:0.00, SE: 0.00, [β: -0.01], t -0.35). There was no evidence that an adolescent’s self-harm frequency at T1 was associated with best friend’s self-harm frequency at T2 (b: -0.01, SE:0.00 [β: -0.00], t: -0.04) Reciprocal friendship groups: No evidence that friendship groups status at T1 was associated with an adolescents own self-harm status at T2 (β: 0.55, SE: 0.31 [OR:1.24, 95%CI: 0.92, 2.30]). But they found evidence that adolescent’s self-harm status at T1 was associated with friendship groups self-harm status at T2 (β:1.14, SE: 0.38 [OR:3.12, 95%CI: 1.50, 6.50]). Reciprocal friendship groups self-harm status at T1 was positively associated with adolescent’s self-harm frequency at T2 (β:0.20, SE:0.10, β:0.05, t:1.98, $p < .05$), and an adolescent’s self-harm frequency at t1 was also associated with friendship groups self-harm status at t2 (β:0.04, SE:0.01, β:1.56, t: 5.07, $p < .001$).
Zimmerman et al. (2016) USA Longitudinal Add Health	2180 adolescents They exclude all but two saturated schools because friendship nominations were severely restricted in the remaining 14 schools	“students were asked to nominate up to five best male friends and five best female friends. Nominated friends who attended the respondent’s school and responded to the in-school questionnaire form the basis of respondents’ personal networks”	Suicide Attempts: Assessed by a binary variable of whether respondent’s reported attempting suicide in the year preceding the in-home interview.	Wave 1 Suicide attempt: 4.0%	Penalized logistic regression (ORs, 95%CI) Adjusted for: sex, ethnicity, age	Accurately perceiving friends’ attempts [vs accurately perceiving that no friends attempted suicide]: positively associated with an adolescent’s own attempts (OR: 2.54, 95%CI: 1.06, 6.10) Underestimating friends’ attempts [vs accurately perceiving that no friends attempted suicide]: no evidence this was associated with an adolescent’s attempts (OR: 1.31, 95%CI: 0.61, 2.79) Overestimating friends’ attempt [vs accurately perceiving that no friends attempted suicide]: evidence this was associated with an adolescent’s own attempts

		- Perceived measure of respondent's friends attempted suicide (not a network variable) - True prevalence of friends' attempted suicide in respondents' network - Measure of a) respondent accurately perceived that no friends attempted suicide; b) respondent accurately perceived that at least one friend attempted suicide c) respondent underestimated friend attempted suicide (i.e., respondent reported that no friend attempted suicide when one friend did); d) respondent overestimated friend suicide (i.e., respondent reported that at least one friend attempted suicide, whereas no friend self-reported suicide)				(OR: 5.40, 95%CI: 3.34, 8.77)
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Article title: Peer-Friendship Networks and Self-injurious Thoughts and Behaviors in Adolescence: A Systematic Review of Sociometric School-based Studies that Use Social Network Analysis

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