

Screening Social and Behavioral Needs Using Computerized Sociometrics: A Demonstration

“Tell Me Who You Wish Hadn’t Come To
School Today,” and Other Peer
Nominations Which Predict Student
Outcomes

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As a result of attending today, the audience will...

- understand the historical context of sociometrics, including current theoretical and empirical support,
- be able to create their own instrumentation for use within classrooms,
- understand how nomination questions can be tailored to the particular social contexts important to their populations,
- know the advantages, and disadvantages, to both positive and negative nomination approaches, including confidentiality and self-perception issues raised,
- understand how to manually create a sociogram from the nomination data,
- be able to analyze the data using a software program made available to them [via internet download](#), and
- discuss concurrent validity evidence and lack thereof gathered from implementation of sociometrics within an RTI framework within preschool and elementary classrooms...
 - and on a related note, have a chance to get free technical support in implementing this locally

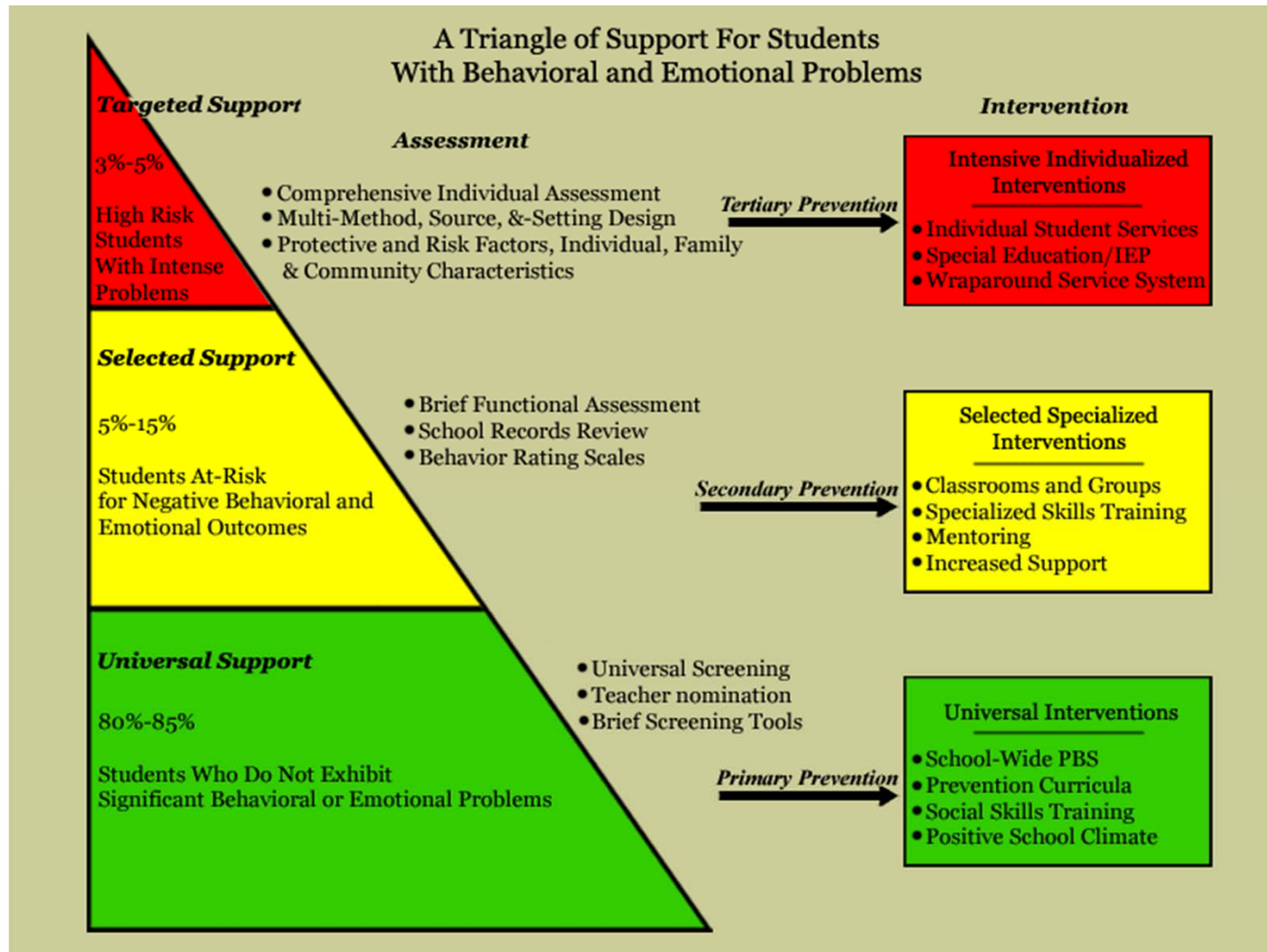


After the conference...

Handouts will be available at:

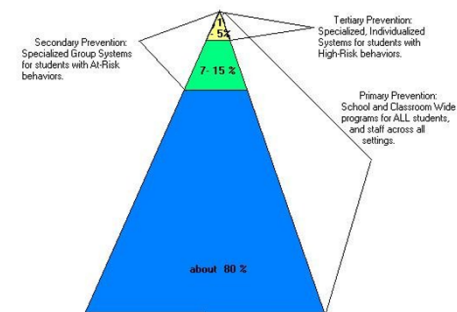
<http://kasp.org/Conference.html>

Hey Jim: a reminder you need to insert the mandatory RTI Triangle Slide here, and spent at least 30 minutes talking about it. Remember to pretend like it's a hot new concept. Remember to delete this note.



It's that “newfangled” pyramid again...

- RTI is supposed to be about prevention programs for children with academic and behavioral problems, but few efforts have examined Tier 1 for children with social and behavioral issues.
- There is ample research on peer relationships and peer nomination, because social status is generally recognized as having both immediate and long-term effects on children's functioning.
- The effects relate to behavioral and social concerns, as well as academic functioning.
 - School Affect = School Effect!





Introduction to Sociometry

- Moreno (1951) defined sociometry as "the inquiry into the evolution and organization of groups and the position of individuals within them."
- "...it attacks the problem not from the outer structure of the group...but from the inner structure."
- "Sociometric explorations reveal the hidden structures that give a group its form: the alliances, the subgroups, the hidden beliefs, the forbidden agenda's, the ideological agreements, the 'stars' of the show".
- By definition, sociometry is the quantitative measurement of the social standing of individuals within a group, mostly involving children in school settings (Ray, Cohen, & Secrist, 1995; Zakriski et al., 1999).



John Coie (Duke University)

- Conducted the earliest studies on peer status - how well liked or disliked children are.
- Identified a subgroup of children who were rejected by their peers (and who usually were aggressive).
 - The question was whether the children become aggressive and disruptive after their peers rejected them, or whether they were aggressive and disruptive first
- Designed a paradigm to examine children's first-time interactions with each other.
 - Brought groups of children together into playgroups. Some groups consisted of children from the same class in school, while others involved children who had never met.
 - Not surprisingly, among children who already knew each other, peer status was clear from the first play session: Children held the same status within the playgroup as they did at school.
 - What startled Coie was that it took only three sessions for children in the unfamiliar groups to fall into the same social status they held at school.



John Coie (Duke University)

- Aggressive and disruptive behaviors distinguished many children who were rejected from those who were not rejected.
- Before that influential study, you could have argued that rejected children were victims of negative perceptions by their peers.
- There's something these kids do to make other kids not like them!
- Coie later showed that peer rejection was fairly stable through childhood.
 - stuck in a downward spiral starting with poor social skills, including aggression and disruptive behavior, leading to rejection by one's peers and often resulting in even more aggression and disruptive behavior.
- In addition, the friends the rejected, aggressive children managed to maintain had similarly poor social skills.



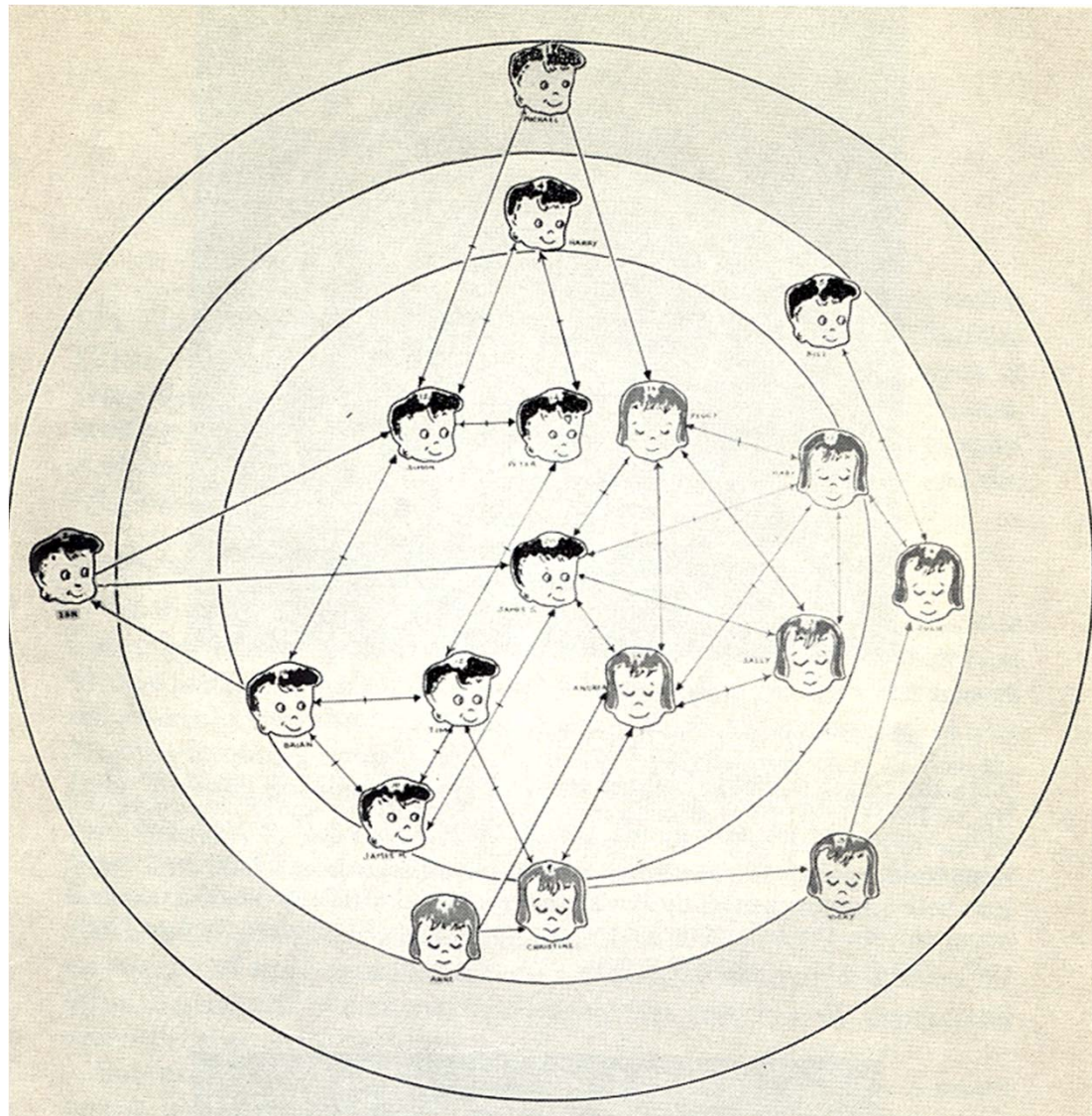
“Guess Who” Peer Nomination Format

- Guess who asks about nine behaviors in three clusters:
 - Prosocial behavior: (popular higher, rejected lower)
 - Guess Who Cooperates?
 - Guess Who Offers Help?
 - Guess Who Has Friends?
 - Antisocial behavior: (popular lower, rejected higher)
 - Guess Who Disrupts?
 - Guess Who Starts Fights?
 - Guess Who Bullies Others?
 - Shyness/Dependency: (average lower, neglected higher)
 - Guess Who is Shy?
 - Guess Who Seeks help?
 - Guess Who is Bullied?

- Add to this social acceptance and rejection:
 - Write down no more than three classmates who you like most.
 - Write down no more than three classmates who you like least.

Coie created the traditional categories of

- Popular
- Rejected
- Average
- Neglected
- Controversial



Grant's Drawing of a Target Sociogram of a First Grade Class (from Northway, 1952).



Ethics of Negative Nominations

- In 1997, perceptions of children and teachers were examined across multiple studies, to address concerns regarding children's welfare following sociometric testing.
- Results indicate that children:
 - Were not hurt or upset by the testing
 - Most enjoyed the procedures
 - Virtually none report that their peers treated them any differently following the assessment.



Ethics of Negative Nominations

- A large-scale study in 2005 interviewed children regarding their reactions to completing group-administered, positive and negative peer nomination techniques
- No obvious harmful effect. But additional information surfaced:
 - Some reported that low-status peers were talked about behind their backs.
 - However, all of the respondents reported that, to the best of their knowledge, none of the low-status peers found out about the negative comments.
 - Also reported that those children were talked about prior to the sociometric procedures occurring

Ethics of Negative Nominations (cont.)

- No child reported having hurt feelings or having knowledge of anyone else having hurt feelings.
- Reported that the condition of minimal risk of harm, not greater than children might encounter in daily life, was not breached.
- Other research has shown that about 1/3rd of children talk about sociometric procedures despite directions to not do so.





Validity of Sociometric Status

- In one 20-classroom study, students completed a "Play With" sociometric rating and a positive nomination instrument, then classified as either *rejected* or *nonrejected*.
 - This almost perfectly predicted peer rejection as taken on the School Social Behavior Scales.
- A meta-analysis (Newcombe et al 1993) showed that *neglected* and *controversial* groupings are quite valid.
- Sociometric status groupings obtained from peers provide more consistent differentiation than that obtained from
 - Adults (both parents and teachers)
 - direct observation, or
 - self-report (Frederickson, 1998, p. 923).



Stability of Sociometric Status

- A meta-analysis Jian, X. Lu & Cillessen, A. (2005) was done of 77 sociometric studies involving 93 samples and 18,339 participants.
- Examined long-term stability of sociometric status.
- A large mean short-term stability was found for each dimension, indicating good test-retest reliability.
- Long-term stability was strong but most influenced by children's age and gender.
- Another meta-analysis well-validated status categories as mutually-exclusive and stable over time Maasen et al (2005), but they do have more validity when using a three dimensional rating-based procedure (i.e., instead of a “yes/no” question, rating each child on a continuum).
 - Their SSRAT software is available free for those who want it.



Stability of Sociometric Status

- Over short periods of time (weeks or a few months):
 - Children who are popular or rejected tend to remain so.
 - Children who are neglected or controversial are more likely to change status.
- Over longer periods of time, sociometric status is more likely to change.
 - Stability is higher for rejected children than any other category.



Almost time to start the demo...

- In the meantime, let's shred some paper...



Characteristics: Popular Children

- Are liked by many peers and disliked by few peers.
- Are skilled at initiating social interaction with peers and maintaining positive relationships with others.
- Tend to be cooperative, friendly, sociable, and sensitive to others, and are perceived this way by teachers and parents as well as by other children.
- Tend to be more assertive than aggressive, getting what they want without fighting with or hurting others.

Characteristics: Rejected Children


- There are two categories of rejected children:
 - Aggressive-Rejected, and
 - Withdrawn-Rejected (often called “submissive”)
- Children with either classification exhibit social skills deficits
 - They provide fewer verbal assertion strategies and lower levels of school related self-esteem.
 - Responding to failure and provocation are among the situations found to be difficult for peer-rejected and particularly aggressive children
 - Rejected children are more likely to be motivated by “getting even” with others or showing them up.
 - They are more likely to attribute malicious intent to others.
 - They have more difficulty finding constructive solutions, such as taking turns.
 - Rejected adolescents more likely than average adolescents to begin smoking (Young, 2005).





Characteristics: Rejected Children

- In provocative situations such as games, rejected children (particularly aggressive) express more anger.
 - Withdrawn do so as well, but more internalizing (sullen)
- Rejected children also express more happiness than average children in provocative situations, but limited turns in which a positive outcome occurred for them
 - More "gloating" and "boasting" behavior than other children.
 - Suggest that rejected children may not have been sensitive to the impact of their emotion expressions on their peer partners, making their interactions more aversive.
- Aggressive - Rejected children engage in more cheating than their peers, make false accusations of cheating at twice the rate, and more likely to adopt hostile goals and strategies.
 - Less likely to adopt social goals and strategies in conflict situations than their peers.



Characteristics: examples of actual statements from rejected 2nd graders during a game

- Negative verbalizations
 - "Aw, rats."
 - "You're just killing me, man."
 - "Man, I'm never gonna win."
- Verbal aggression
 - "You're stupid."
 - "I hate you."
 - "You're so dumb, you messed up."
- False accusations
 - "You're cheating, you're cheating."
 - "You ain't supposed to be on that space"
 - "You ain't supposed to get 3, just 2."
 - "Naw, you're cheating on me. You're cheating."
- Disagreeing
 - "Nu-uh. I can count it."
 - "I don't have to. I say I don't have to do nothing."
 - "I'm staying right here."
- Bragging
 - "I'm probably gonna catch up with you now."
 - "I'm gonna beat you in this game."
 - "I'm winning. I'm winning. I'm winning."

Characteristics: Aggressive-Rejected



- Seem to make up about 80% of the rejected category
- Frequently nominated as a best friend
 - Those who nominate them as friends are usually aggressive-rejected themselves
- Are otherwise disliked by their peers, usually a majority in the class actively rejecting them.
- Aggressive-rejected children lack social skills and overestimate their social competence.
- Prone to hostile and threatening behavior, physical aggression, disruptive behavior, and delinquency.
- Also engage in “relational aggression:”
 - e.g., spreading rumors about others, withholding friendship, actively ignoring and excluding other children.
- Studies of aggressive-rejected adolescents show most students have high levels of social anxiety.

Characteristics: Withdrawn - Rejected

- Seem to make up about 20% of those in the rejected category.
- Are socially withdrawn, wary and timid: often described as “shy.”
 - Not all withdrawn children are rejected!
- Withdrawn-rejected children have less confidence in their social skills and are more anxious in peer contexts.
 - Studies of students in grades 6-9 report that withdrawn/submissive rejected students have the highest levels of social anxiety, significantly higher than even aggressive rejected students.
 - More prone to be diagnosed with anxiety disorders in childhood.





Characteristics: Rejected and Gender Effects

- Behaviors that differentiate popular versus rejected girls are similar to those for popular versus rejected boys.
- For girls, peer reports of cooperation showed the strongest effects in differentiating rejected and popular girls
 - Rejected girls tend to fall into subtypes that differ on internalizing behaviors: withdrawal, anxiety, and hostile isolation (French, 1990)
- For boys, peer-reported fighting and excessive help-seeking behavior showed the strongest effects.
 - Specifically, rejected boys can be classified into distinct subgroups on the basis of aggression (French, 1988).



Characteristics: Neglected

- Sometimes called “ghosts.”
 - Not nominated as friends, nor given negative nominations. No arrows point to these children: they are unnoticed.
- Tend to be less sociable, less aggressive, and less disruptive than average children.
 - They tend to back away from peer interactions that involve aggression.
- Have lower academic status than average children
- Are somewhat more likely to break school rules.



Characteristics: Neglected

- Their peers often describe them as poor leaders, less cooperative
- They exhibit lower levels of perceived social competence
- Have higher levels of social anxiety than average children
 - Neglected children, especially girls, are twice as likely to report depressive symptoms as rejected children
 - Over five times as likely to report depressive symptoms as popular, average, or controversial children.
- Probably a fine-line between these children and those who are actively rejected as withdrawn/submissive
 - Perhaps because behaviors are internalizing, but marginal in the extent to which they attract attention and cause themselves to be liked or disliked.
 - Sometimes called “withdrawn neglected” in the literature for this reason.



Characteristics: Controversial

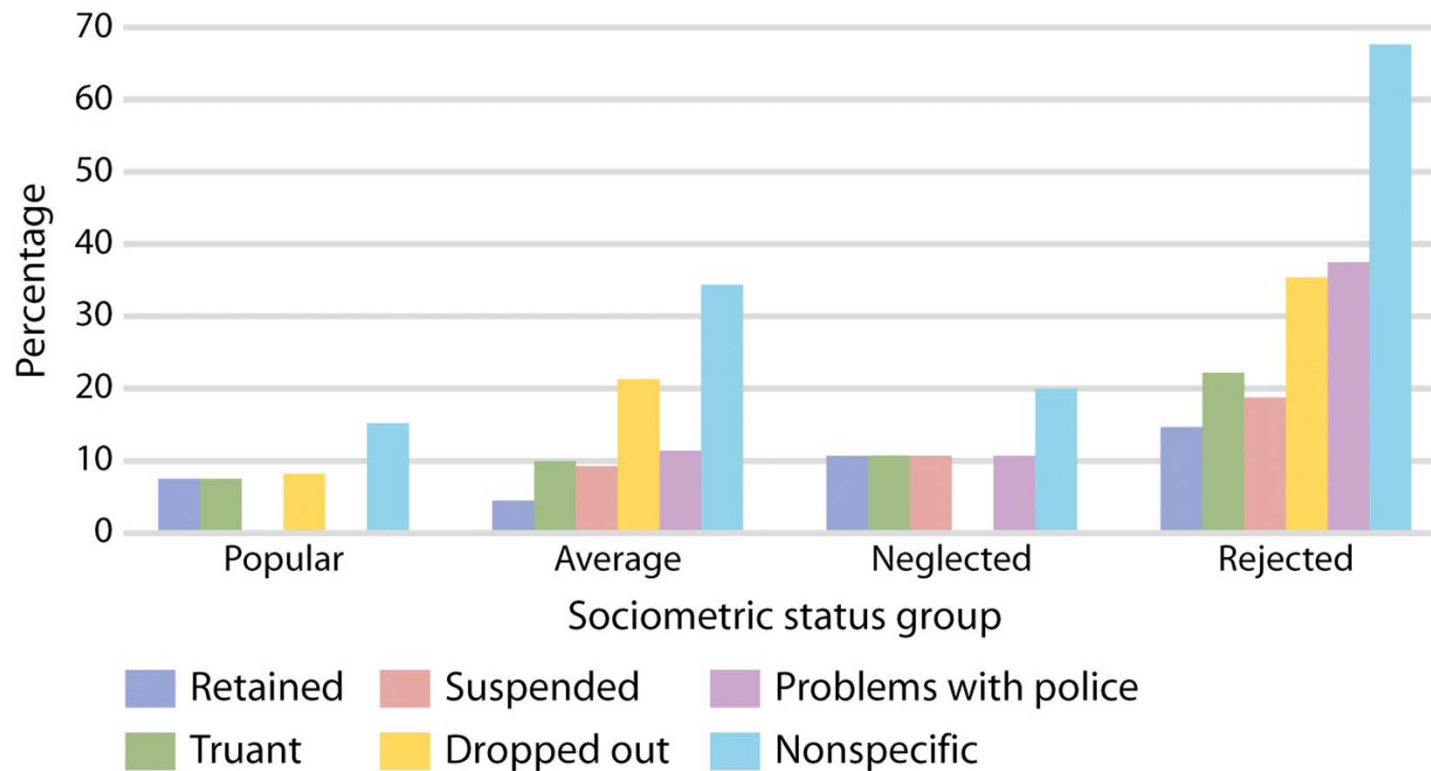
- The majority of their peers nominate these students, but evenly split among positive and negative nominations
- Paradoxically, have characteristics of both popular and rejected children.
 - They tend to be aggressive, somewhat disruptive, and prone to anger,
 - But also cooperative, social, and usually good at sports.
 - They may be socially active and good group leaders.
 - Viewed by many peers as arrogant and snobbish.
 - Controversial adolescents more likely than average adolescents to begin smoking (Young, 2005) and more at risk for early pregnancy (Underwood, Kupersmidt, & Coie, 1996).

Characteristics: Controversial



- Most likely, of all status groups, to be identified as bullies.
 - Most likely to bully via relational aggression.
- Two-thirds of those identified as controversial are boys between ages of 10-14.
- But...a greater number of girls are identified as controversial when data from home and community settings is analyzed.
- Overidentification: Controversial children are usually salient/prominent behaviorally, so the more limitations placed on nominations, the more are categorized as controversial.
 - When unlimited nominations are allowed, differences between controversial children and average are minimized: about 3-5% show as controversial.

Corrollaries: Sociometric Status and Behavioral Problems

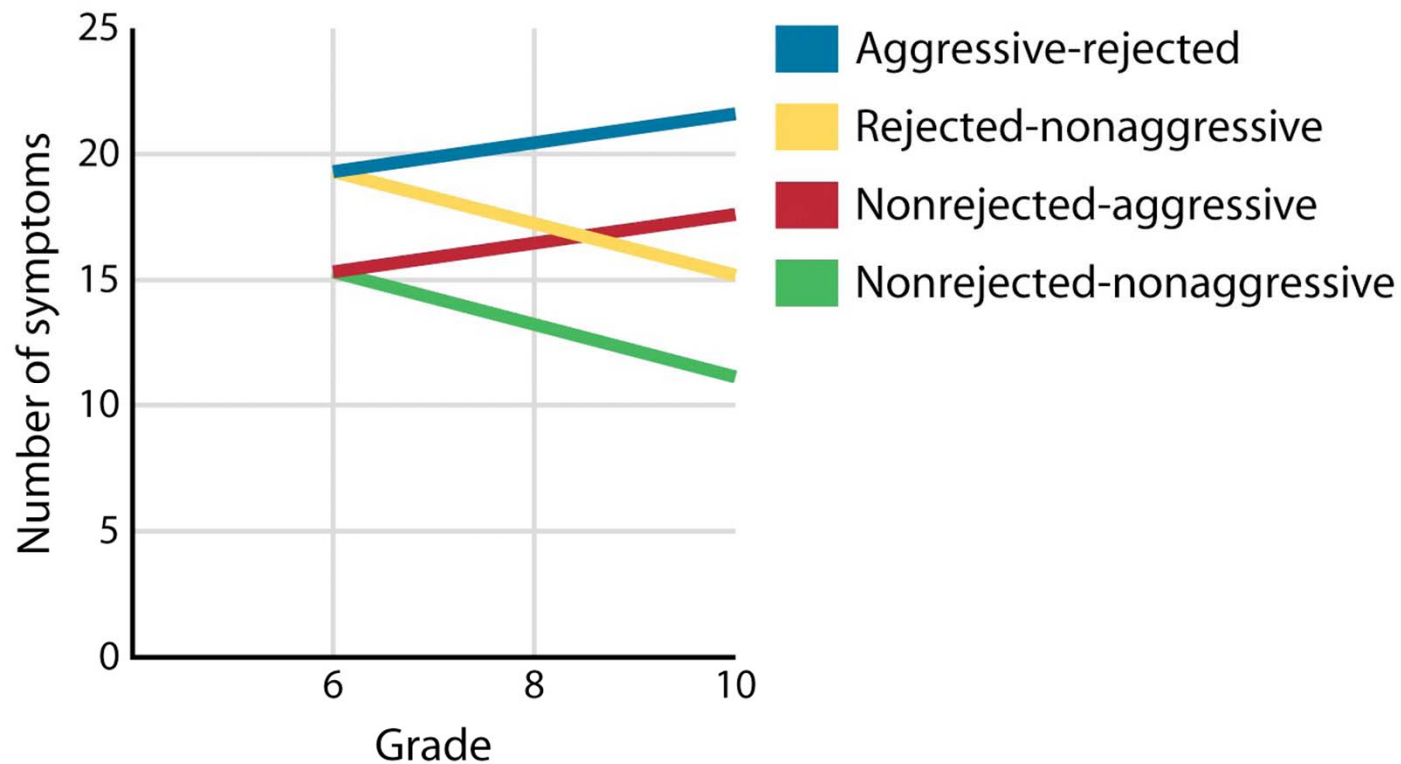




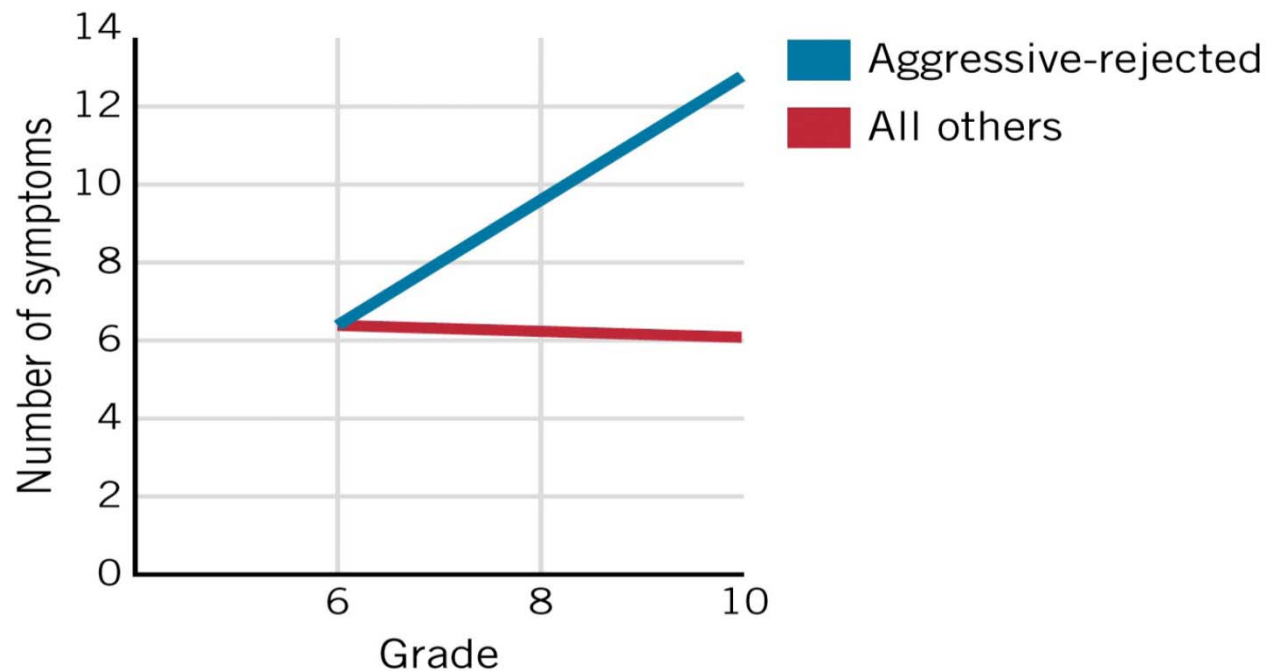
Corrollaries: Rejected Status as a Predictor of Future Performance

- Rejected children (especially if aggressive) are more likely than others to
 - have lower grade-point averages
 - be viewed as poor students.
 - do more poorly in school over time.
 - be suspended, repeat a grade, or drop out of school.
 - get in trouble with the law.

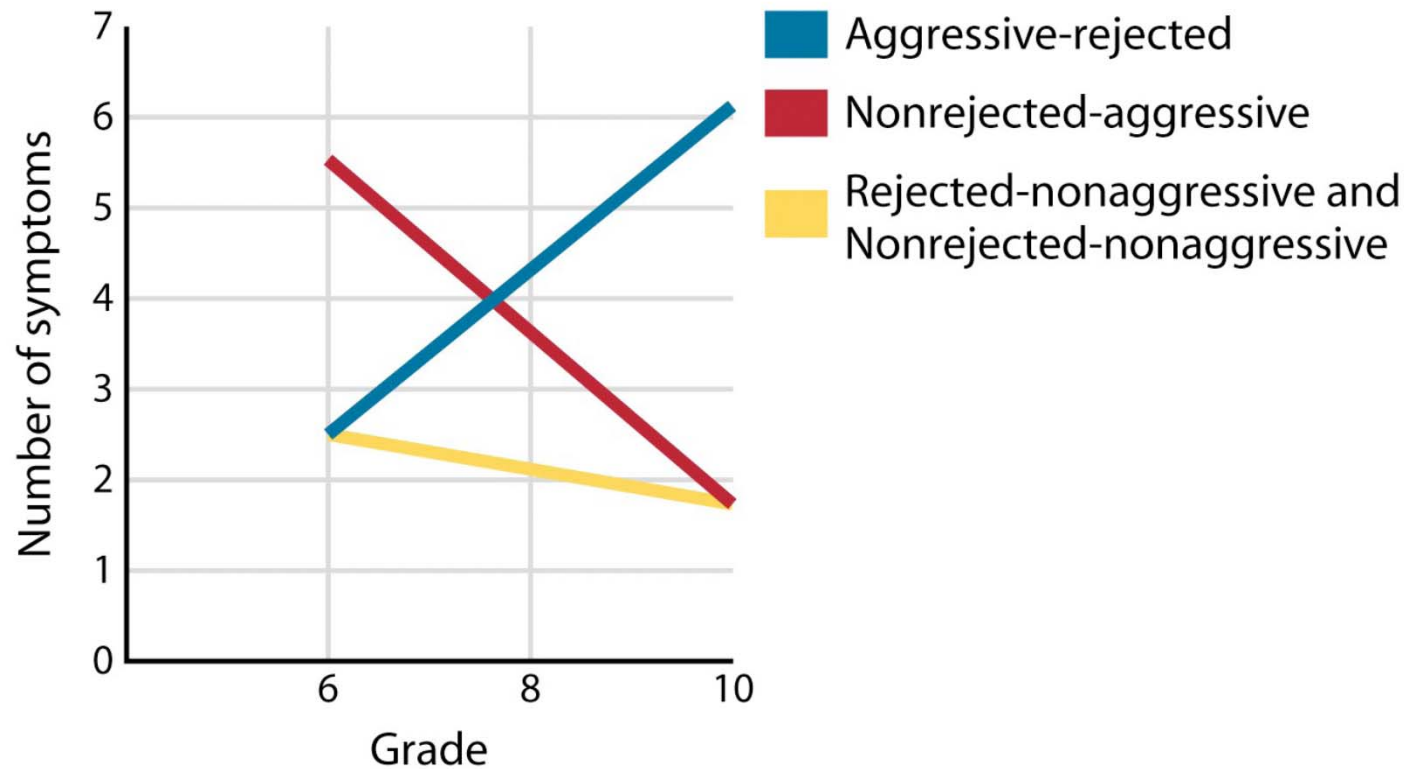
Corollary: Externalizing Symptoms Reported by Parents




Corollary: Externalizing Symptoms Self-Reported



Corollary: Internalizing Symptoms Self-Reported



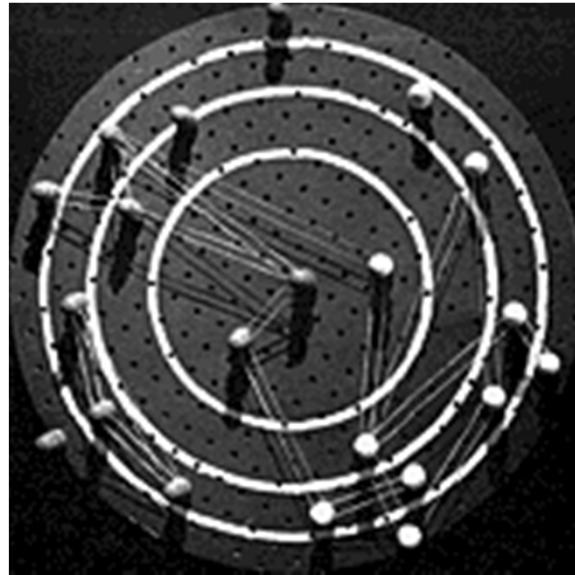


Corrollary: Peer Status as a Predictor of Adjustment Problems

- Rejected-aggressive children at risk for externalizing problems:
 - Delinquency and/or conduct disorder
 - ADHD
 - Substance abuse
- Non-aggressive- (withdrawn) rejected children are at greater risk for internalizing problems.
 - Loneliness, Depression
 - Anxiety Disorders
 - Obsessive-compulsive behavior
 - Adolescent self-injury
- Highly rejected children (and particularly submissive) are at extreme risk for victimization. DeRosier, M. & Thomas, J. (2003).
- Aggressive - Rejected children continue aggressive behavior (though rates usually reduce).
 - often have more serious adjustment problems (internalizing) later in life.

Let's do a Demo

McKenzie's Target
Sociogram Board
(from Northway,
1952).





Intervention: Social Skills Training

- Critical for a child's adjustment (Christopher et al, 1993).
- In particular, shown to be effective at:
 - enhancing status within the peer group
 - establishing support systems for emotional and social needs
 - developing moral judgement and social values
 - improving or maintaining self-esteem
 - promoting inter-personal competence and adult-like behavior
 - developing independence assertion to aid in separation from the family
 - Can particularly impact dating/courtship behavior, sexual behaviors
- One of the most effective short-term therapies available (measurable change within two weeks):




Intervention: Social Skills Training

- Program should be implemented early in the development of peer interactions, before their reputations (and behavior patterns) are deeply established
- Group training is frequently used.
- Procedures include skill instruction and rationale, modeling, rehearsal, and feedback.
- The major advantage of group training is time and cost efficiency, because it is more practical and feasible than individual interventions alone.
- Neglected children in particular, who have had social skills training, show very positive outcomes
 - Typically become “average,”
 - Without training, more likely to become rejected.



Intervention: Peer Mediated Interventions

- A beneficial addition to a social skills training program.
- Targets children of lower sociometric status and links them with peers of higher sociometric status.
- These peers help to facilitate generalization and maintenance in the natural environment.
- The peers selected as "helpers" meet additional criteria set by teachers, such as regular school attendance and compliance with adult instructions.
- Increases positive interactions with other children, increasing sociometric status.
 - For example, Morris et al. (1995) selected peer-neglected and popular children to randomly assigned pairs and had them participate in play sessions over a four-week period. Result in significant improvements in sociometric status and positive interactions. Results maintained in follow-up!



Intervention: Social Problem-Solving Training

- Training in:
 - goal definition
 - generation of alternatives
 - evaluation of alternatives
 - generation of a plan for implementation.
- Within four weeks of training beginning, children are more likely to make better judgments when meeting others, initiating interactions, and resolving interpersonal conflicts.
- For example, Lochman et al., (1993) trained rejected children in a positive social skill training, and cognitive-behavioral strategies to promote deliberate, non-impulsive problem solving.
 - At both post-treatment and one-year follow-up assessments, the intervention was found to be effective as measured by its mediating effect on behavior.



Intervention: Self-Management Training

- The older the child, the most feasible this becomes
- Addresses a major problem with external management programs, which is the control of behavior when the "manager" is not present.
- For example, adolescents can be trained to evaluate their own behavior, compare self-ratings to teacher ratings, and select appropriate reinforcement for accurate self-ratings (Smith et al., 1988).
- Diary and other self-monitoring procedures are readily taught to all children and such monitoring is known, in and of itself, to cause decreases in undesirable behavior (Shapiro & Cole, 1994).



Intervention: Group Seating for Cooperative Classrooms

- Placing children with mutual nominations into a work group facilitates their willingness to work together.
 - Can also make rejected and neglected children feel more welcome.
- Decide how many groups you will have in your classroom.
- On a sheet of paper, draw as many large squares as you have groups.
- Take all of your rejected and neglected children and try to spread them out by writing in as few as possible in each square.
- Take all of your popular children, and write in as few as possible in each square. Do this while trying to respect the choices of the rejected and neglected children.
- If you used a negative question, try to respect these nominations as well.
- Next, place the rest of the children in each group, trying to optimize the number of mutual choices per group.



Intervention: Superordinate Goal Structures

- Used when a classroom has a highly cohesive "in-group"
 - A social identity categorization process usually begins to operate, in which the very high cohesiveness of the "in-group" encourages exclusion of "out-group" members.
- This usually results in reciprocal feelings of hostility.
 - Much energy is wasted by both groups in defending/attacking
- The establishment of what Sherif (1958, 1966) has called "superordinate goal structures" has been long-demonstrated as effective in restoring cohesion.
- It involves establishment of mutual goals which can only be achieved by collaboration.
 - Conditions must cause the goals to be compelled
 - Cannot be achieved via efforts of one group alone
 - Cooperation inherently has cumulative effect in the direction of reducing existing conflict between groups



Intervention: Gatekeeping, Coaching, and Modeling by Parents

- Gatekeeping: Parents provide increased opportunities for their children to interact with peers in structured/monitored contexts.
- Coaching: Children (especially younger) increase in popularity if parents coach them in how to deal with peers (especially unfamiliar ones or in provocative situations).
- Modeling: Parents can model socially competent and incompetent behaviors, indicating how (and how not) to deal with conflicts.



Assessment Options: Limited vs. Unlimited nominations

- Historically, children are limited to three nominations.
- It takes much longer to gather and to analyze, but you can allow children to nominate an unlimited number of classmates.
- Superior to the limited procedure because a greater range of values is obtained, more even distribution of nominations, and measurement error is reduced: ultimately, more reliable.
 - Most noticeable decreases in controversial status assignments
- Increased reliability is such that sociometric and aggression data can be collected using the unlimited approach when as few as 40% of the children in a classroom participate.
 - This figure stands in contrast to the 70% participation rate needed when using limited nominations (Crick & Ladd, 1989).



Assessment Options: Include only same-sex nominations

- Groups in sociometric research are predominantly ages 8-12.
- Sex-segregation is virtually complete in this age range (Schum et al, 1988).
- Therefore, some suggest that only same-sex sociometrics should be used.



Assessment Options: Coefficient of Cohesion

- First analyze the evidence for any serious social cleavages, in-/out-group rivalries.
- If these cliques are not present, then the "coefficient of cohesion" ("C") may be computed. This computation is an indicator of how strong the mutual ties are among the classroom members
- A class has a cohesion problem if its coefficient of cohesion is below six or seven. Vacha et al (1979)



Assessment Options: Coefficient of Cohesion

- Calculated directly from positive nomination data. All of the data necessary are contained in the sociogram.
- To calculate, simply count
 - the number of mutual positive choices made by all of the students
 - the total number of positive choices made by all of the students,
 - and the number of students who completed the survey.
- The coefficient of cohesion can then be calculated using these totals according to the following formula **$C = Mq/Up$**
 - Example: $C = (15 \cdot .87) / (57 \cdot .13) = 13.05 / 7.41 = 1.76$



Assessment Options: Coefficient of Cohesion

■ Where:

- C = the coefficient of cohesion.
- M = the total number of mutual positive choices made by the students (15 in the example).
- U = the number of unreciprocated positive choices (the total number of positive choices minus the number of mutual choices (M). In this example, 24 students each giving three nominations (24 x 3) $U = 72 - 15 = 57$).
- $p = d/(N-1)$ where d is the number of positive choices allowed (in this example, 3) and N is the number of students completing the survey.
 - Thus, for a class of 24 completing a three-choice positive nomination sociometric survey, such as in our example: $p = 3/(24-1) = .13$
- $q = 1 - p = 1 - .13 = .87$



<http://www.classroomsociometrics.com/>

Do you have an RTI approach in place for the social/emotional dimension, and want to pilot sociometrics as part of it in some of your buildings?

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