How Do Children with ADHD (Mis)manage their Real-Life Friendships?

A Multi-Method Investigation
Barry H. Schneider, Ph.D., C. Psych.
Sébastien Normand
University of Ottawa
• Funded by the Canadian Institute of Health Research
• Sébastien Normand, Ph. D. candidate, project manager
• Matthew D. Lee,
• Sally Kuehn
• Philippe Robaey
• in press, *Journal of Abnormal Child Psychology*
Disturbed peer relations have come to be seen as a central and persistent functional problem associated with Attention-Deficit/Hyperactivity Disorder (ADHD). Research has clearly established that children with ADHD are very frequently rejected by their peers, possibly because they break rules, complain, whine, tease, and fail to pay attention during activities (Mrug, Hoza, Pelham, Gnagy, & Greiner, 2007).
Some general information about ADHD

.....and some myths
Once thought to part of a syndrome that included dyslexia
The syndrome was called “minimal brain dysfunction” because the dysfunction in the brain could not usually be identified
Now considered a separate condition, although many children with ADHD also have learning problems
Still assumed to be caused by brain dysfunction, not usually identifiable
The two major core symptoms are inattention (distractibility) and hyperactivity (excessive movement).

Some children have only one of these symptoms; most have both.

Disobedience, aggression and anxiety often but not always occur together with ADHD.
• It was once believed that ADHD would disappear with development, probably at the beginning of adolescence.
• This does happen in some cases but not in others
• Symptoms may change with age
• Much recent research on ADHD in adolescence and adulthood
• Four times as many boys as girls are diagnosed as having ADHD.
• The prevalence of ADHD has been studied in many countries. The prevalence rates vary, but ADHD occurs in all countries studied.
• Differences between countries often occur because of different criteria. In the U.K., many professionals only diagnose ADHD if it is evident in all settings. Not so in Canada, USA or Australia.
Treatment options

- Stimulant medication is the most prevalent treatment.
- The best evidence comes from the MTA study, with 579 children assigned randomly to: 1) medication + 2) medication + family treatment (behavioral); 3) family treatment (behavioral) only; or 4) usual treatment by their family doctors
The children received treatment for 2 years and were followed for 3 more years.

After 6 months and 1 year, the medication-only treatment was clearly superior.

However, after 2 and 3 years, there was no longer any advantage for the medication group; 60% had stopped taking medication.

Longer-term results showed that the children in the combined condition used lower doses of medication.
- There is no research showing any effects of diet on ADHD.
- Some children may be allergic to some food substances
• Special summer camps are very successful.
• Provide behavioral treatment, counselling about making friends and academic tutoring
What medication can and cannot do

- Can help improve attention and hyperactivity in the short run
- Cannot change disobedient behaviour
- Can reduce impulsivity, tantruming
- Cannot make children more friendly, kinder, more empathic or more helpful.
• Can improve disobedience, defiance of rules
• Cannot improve impulsivity or hyperactivity
• Can reduce family stress
Peer relations of children with ADHD
• Current state-of-the-art multimodal treatments of ADHD fail to normalize their peer relationships (Hoza, Gerdes, et al., 2005). As the goal of reversing well-ingrained negative reputations in peer groups may be unrealistic, enhancing close friendship may be a viable intervention goal (e.g., Hoza, Mrug, Pelham, Greiner, & Gnagy, 2003). However, very little is known about the exact ways in which children with ADHD may mismanage interactions with the friends they have.
Most published studies to date deal with the existence of friendships among children with ADHD, but do not address friendship quality, real-life friendship interactions, or the characteristics of the friend. The results invariably indicate that children with ADHD have fewer mutual friendships than non-diagnosed children (e.g., Blachman & Hinshaw, 2002; Hoza, Mrug et al., 2005).
Friendship is a co-constructed dyadic phenomenon. It is differentiated from other interpersonal relationships by: 1) its voluntary nature; 2) the core feature of intimacy.
H.S. Sullivan theorized that intimate friendship during the adolescent years provides preparation for romantic relationships during the adult years. Some longitudinal data support that contention. Much more data indicate that stable friendships of good quality facilitate adjustment over and above the benefits of being accepted in a peer group.
Useful information about friendship can be obtained by peer nomination, questionnaires or interviews and direct observation.

These sources provide complementary information about the friendship bond.

The term *friendship* has been co-opted: Most Facebook friends are not friends according to the understanding of the construct by philosophers and psychologists.

**Friendship: an elusive phenomenon**
• In some cultures, many of the supportive functions provided by friends in Anglo-European culture may be offered by family members.
• Friendship remains beneficial, however, because it provides a refuge of privacy and intimacy.

Measuring friendships of children in collectivistic and familistic cultures
Children with externalizing disorders are known to overestimate their peers’ impressions of them.

They may not wish to falsify data but may simply be unaware of their maladaptive behaviours and their effects on others.

The dyadic perspective, implicit in the basic definition of friendship, is imperative in assessing the friendships of children with externalizing behaviour disorders.

Measuring friendships of children with externalizing disorders
The main objective of the present study is to explore the friendships of children with ADHD, using multiple methods and emphasizing the perspectives of both members of the friendship dyad.
The participants were 133 children (87 with ADHD, 46 comparison) aged between 7-13 year-olds from the Ottawa-Gatineau region, Canada, plus their friends. Children with ADHD (77.0% boys) were recruited from various pediatric ADHD clinics and community schools. The comparison group (73.9% boys) was recruited from local schools and community organizations. There were no significant differences between the referred ADHD and comparison groups in terms of age, sex, SES, and total median family income.
The well-validated parent and teacher Conners rating scales revised (Conners et al., 1998a; 1998b) were used to assess symptoms of ADHD and oppositional behaviors. For the ADHD group, this complemented the diagnosis of a qualified professional in the community.
The parents of the child originally referred contacted the parents of their child’s best friend to obtain consent.

In order to confirm the presence of a reciprocal friendship, both referred children and theirs friends independently completed a *friendship nomination* form (Parker & Asher, 1993).
The *Friendship Qualities Measure (FQM; Grotpeter & Crick, 1996)* was used to assess the quality of children’s best friendship (2 global factors: Positive friendship features, 18 items, $\alpha = .83$ and Negative friendship features, 25 items, $\alpha = .80$).
The *Car-Race Task* simulates interaction between children in a fast-paced, engrossing game. The goal of the game is to be quicker than the opponent in transporting five wooden blocks in trunk of a toy truck from one end of the game table to the other. Coding categories included Legal Maneuvers, Illegal Maneuvers, and Affect (kappas ranged from .80 to .88).
We presented each dyad with a selection of 15 trading cards and asked the participants to select and share 5 cards from the initial 15 that they both agreed that they liked. Coding categories included Self/Other/Interest-Based Proposals, Proposals’ Sensitivity, Preferences Expression/Inquiry, Acceptance, Refusal, Balance of Power, and Affect (kappas ranged from .77 to .96).
Figure 1. Dyads Participating in Observational Measures

Car Race

Card Sharing
Do the friends of children with ADHD also display high levels of impulsivity and hyperactivity?
Figure 2. Descriptive Statistics for Conners Ratings (T-score Means)

Parents’ Ratings

Teachers’ Ratings

- DSM-IV Inattention
- DSM-IV Hyperactivity
- Opposition

Friends of ADHD
Friends of comparison

- p<.01
- p<.05
- p<.001
- p<.01
Friendship quality and friendship satisfaction
Figure 3. Descriptive Statistics for Friendship Questionnaire Data (Means)

Referred Children’s Ratings

<table>
<thead>
<tr>
<th>Positive Friendship Features</th>
<th>Negative Friendship Features</th>
<th>Friendship Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referred ADHD</td>
<td></td>
<td>Referred comparison</td>
</tr>
<tr>
<td>3.88</td>
<td>1.75</td>
<td>4.7</td>
</tr>
<tr>
<td>4.19</td>
<td>1.54</td>
<td>4.93</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Positive Friendship Features</th>
<th>Negative Friendship Features</th>
<th>Friendship Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referred ADHD</td>
<td></td>
<td>Referred comparison</td>
</tr>
<tr>
<td>4.03</td>
<td>1.74</td>
<td>4.73</td>
</tr>
<tr>
<td>4.41</td>
<td>1.62</td>
<td>4.96</td>
</tr>
</tbody>
</table>

*p < .05*, *p < .01*, *p < .001*, *ns*
Observational data: categories most relevant to friendship
Figure 4. Descriptive Statistics for Friendship Observation Data (Means)

- Illegal Maneuvers: Referred ADHD 10.41, Referred comparison 5.41, p < .01
- Altruistic Proposals: Referred ADHD 1.55, Referred comparison 2.33, ns
- Self-Centered Proposals: Referred ADHD 4.38, Referred comparison 1.96, p < .001
- Sensitive Proposals: Referred ADHD 0.62, Referred comparison 0.98, p < .05
- Insensitive Proposals: Referred ADHD 2.21, Referred comparison 0.5, p < .01
- Preference Inquiries: Referred ADHD 0.64, Referred comparison 1.65, p < .01
Affect during the observed interactions

- Interactions between friends are overwhelmingly positive.
- Positive affect was coded for most of the intervals for all groups.
- However, in about 5% of the data, Negative Affect was displayed for children with ADHD. This has never occurred in any previous study using the same measures with other populations.
- Equity is a fundamental building block of friendship
- The observational data were coded for balance of power
- 53% of the dyad containing one more child with ADHD were characterized by unequal balance of power, compared with 30% of the comparison group
- In “mixed” dyads, the child with ADHD was almost always the most dominant
• 71% of the members of the ADHD group were on medication at the time of their participation.
• The demand characteristics of this study precluded suspending medication.
• There were no significant differences between medication and non-med groups in terms of any of the ADHD measures, *any friendship measure*, age, IQ or sex.

Participants on and off stimulant medication
There were no significant differences among the subtypes (Primarily Inattentive, Primarily Hyperactive or Combined) in any of the friendship data.
Many of the friends of the children with ADHD displayed higher levels of impulsivity and hyperactivity than the friends of the referred comparison children.

This may mean that the benefits of having friends are attenuated by negative influences of the friend.

In addition, some children with ADHD could not participate because they had no close friends.

Conclusion: Are their friends “good” friends?
The findings that children with ADHD tend to violate the rules of the competitive game are particularly worrisome given that not following activity rules is an important predictor of peer rejection in children with ADHD (Mrug et al., 2007).

**Conclusion: Not following the rules**
The self-centered and insensitive approach used by children with ADHD in their negotiations with friends is troublesome and may be related to their deficits in social perspective taking skills (Marton et al., 2009).
Most of the participants with ADHD were on medication. About a third were from families who had participated in behaviour therapy, typically parent training.

It is unlikely that these interventions normalize the friendships of children with ADHD.

This contention would be best corroborated in a more systematic way, e.g., double-blind procedure.
The participants (95%) returned to the lab one year after the original data collection.
The vast majority of the original friendships remained intact.
These data are now coded and are being analyzed to determine whether the friendships improve in quality, whether the children learn to observe the rules of the game and whether they learn to consider their friends’ perspective.

Follow-up
Despite some recent promising pilot interventions targeting the friendships of children with ADHD (e.g., Hoza et al., 2003; Mikami et al., 2010), there are currently no evidence-based friendship interventions for children ADHD.

- Selman’s *pair therapy* may be adaptable
- Complementary work with parents may be indicated