



Behaviors associated with negative affect in the friendships of children with ADHD: An exploratory study



Sébastien Normand^{a,b,c,d}, James Ambrosoli^e, Joanna Guet^a, Marie Michèle Soucisse^a, Barry H. Schneider^{e,f,*}, Marie-France Maisonneuve^g, Matthew D. Lee^h, Fulvio Tassiⁱ

^a Département de Psychoéducation et de Psychologie, Université du Québec en Outaouais, Gatineau, Quebec, Canada

^b Institut de recherche de l'Hôpital Montfort, Ottawa, Ontario, Canada

^c Groupe de recherche sur l'inadaptation psychosociale chez l'enfant, Montreal, Quebec, Canada

^d University of Ottawa Brain and Mind Research Institute, Ottawa, Ontario, Canada

^e Psychology Department, Boston College, Massachusetts, USA

^f School of Psychology, University of Ottawa, Ottawa, Ontario, Canada

^g Clinique d'apprentissage spécialisée, Gatineau, Quebec, Canada

^h Department of Educational and Counselling Psychology, and Special Education, University of British Columbia, Vancouver, British Columbia, Canada

ⁱ Dipartimento di Scienze Formazione e Psicologia, Università degli Studi di Firenze, Florence, Tuscany, Italy

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ABSTRACT

Our objective was to identify behaviors and contextual situations associated with negative affect observed in the interactions of children with and without ADHD and their real-life friends. We expected negative affect to be linked to rule violations and disagreements about the choice of games. Loss of game was associated with episodes of negative affect in a structured game. Negative appraisal of friend's ability was most frequently associated with negative affect during unstructured free play. Comparison children expressed greater frustration regarding their own abilities, whereas children with ADHD commented more frequently about the inabilities of their friends.

1. Introduction

Interactions within rewarding, intimate interpersonal relationships are normally characterized by positive affect more than negative affect (e.g., Al-Yagon, 2016). Positive affect includes joy, happiness and being energetic whereas negative affect includes feeling guilty, worried or angry (Moos et al., 1987). Children and adolescents with ADHD, however, often display high levels of negative affect in their interactions with significant others. Al-Yagon (2016) discovered that adolescents with comorbid ADHD and learning disorders self-reported more negative affect in their close relationships with peers, teachers and parents than did participants with learning disorders only and participants without any diagnosed disorder. Normand, Schneider and colleagues (2013) observed negative affect in the play of children with ADHD in tasks that other children almost always find enjoyable. Previous studies contain only composite scores for negative affect. The purpose of the present study was to explore in detail the circumstances in which negative affect (e.g., frustration, nervousness, sadness, anger) occurs among children, using a fine-grained analysis of the videotaped observations.

Our expectations were guided by the findings of Fonzi, Schneider, and colleagues on conflicts between friends (Fonzi et al., 1997), who emphasized that conflict and competition can be facilitative of friendship when conducted in ways that do not disrupt the equity of a relationship or violate established or mutually agreed rules. Accordingly, we expected that negative affect would emerge when children violated the rules of a game or disagreed about the choice of the game.

2. Method

2.1. Participants

Participants were 87 referred children with ADHD (67 boys) and 46 referred comparison children (34 boys), not significantly different from the ADHD group in terms of age, grade, sex, ethnicity, socioeconomic status, and median annual family income. Each referred child invited his or her best friend. A diagnosis of ADHD by a healthcare professional and confirmation with rating scales of ADHD (see below) were required for the ADHD group.

* Corresponding author at: School of Psychology, University of Ottawa, Ottawa, Canada K1N 6N5.
E-mail address: schneibc@bc.edu (B.H. Schneider).

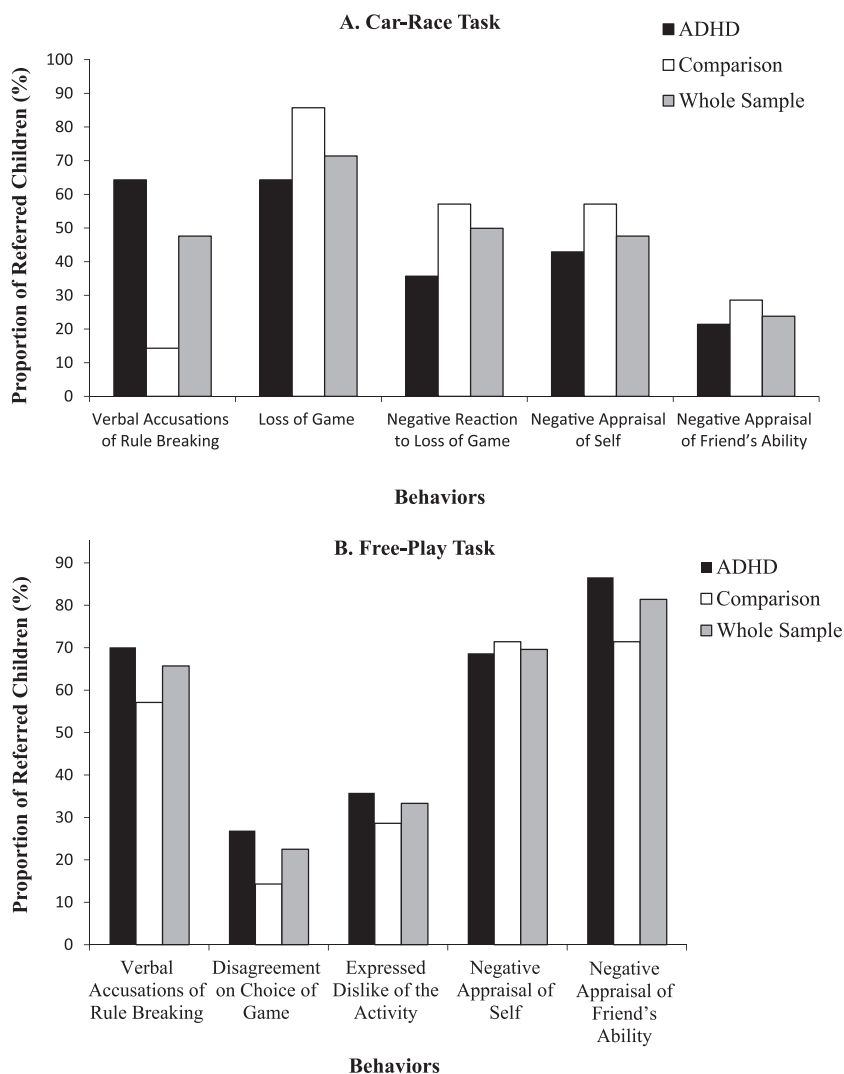


Fig. 1. Proportion of referred children exhibiting behaviors associated with negative affect.

2.2. Measures

Conners Parent and Teacher Rating Scales-Revised – Long Forms (CPRS-R:L and CTRS-R:L) (Conners et al., 1998) were used to assess ADHD to establish eligibility for the study.

Friendship nominations. In order to confirm a reciprocal friendship, participants completed a friendship nomination form (Parker and Asher, 1993).

The car-race task (Fonzi et al., 1997; Normand et al., 2013) is a fast-paced, engrossing game. The goal is to be quicker than the opponent in transporting five small wooden blocks from one end of the game table to the other. Participants transport the blocks one at a time in the trunk of a toy truck. The truck must travel down a runway from a starting mark to a finish line and back. The runway cannot accommodate both trucks side by side and the rules prohibit the players from lifting their wheels from the runway.

In the **free-play situation**, participants played together for 10 min. Different board games (i.e., Operation, Piranha Panic, Sonic Skillball, Trouble) were available in the testing room for participants. Participants could change games as they wished.

2.3. Procedure

Psychology students not involved in the original coding generated a

new list of possible behaviors associated with negative affect using a subjective “bottom-up” procedure. A new team of raters, blind to diagnostic status, re-coded all incidents of negative affect. Observational variables were: Negative Affect (Car race: $k=0.81$, Free play: $k=0.80$); Verbal Accusations of Rule Breaking (Car race: $k=0.88$, Free play: $k=0.90$); Loss of Game (Car race: $k=1.00$); Negative Reaction to Loss of Game (Car race: $k=0.97$); Negative Appraisal of Self (Car race: $k=0.88$, Free play: $k=0.82$); Negative Appraisal of Friend's Ability (Car race: $k=0.75$, Free play: $k=0.86$); Expressed Dislike of the Activity (Car race: $k=1.00$, Free play: $k=0.82$); Disagreement on Choice of Game (Free play: $k=0.94$); coding scheme is available from first author upon request.

3. Results

The relative proportions of referred children exhibiting behaviors and circumstances associated with negative affect are displayed in Fig. 1. As shown, Loss of Game was most frequently associated with episodes of negative affect in the car-race task (Fig. 1a), whereas Negative Appraisal of Friend's Ability was most frequently associated with negative affect in the free-play situation (Fig. 1b).

We used a logistic-regression analysis with backward exclusion to examine the relative power of the behaviors associated with negative affect to predict ADHD status. No significant predictors were found for

ADHD status in the car-race task. After the exclusion of all variables that did not contribute significantly to the distinction between participants with and without ADHD, two significant predictors remained in the free-play situation, both unexpected. Comparison children were more likely to express frustration regarding their own abilities ($B=-0.28$; $SE=0.12$; $Wald=4.91$; $p=0.03$; $\text{Exp}(B)=0.76$), whereas members of the ADHD group were more likely to comment negatively on the abilities of their friends in the free-play situation ($B=0.26$; $SE=0.09$; $Wald=8.08$; $p < 0.01$; $\text{Exp}(B)=0.1.30$). The chi-square statistic ($df=2$) at the final step was 12.91; $p < 0.01$; 66.2% of cases were classified correctly. These results were found to be invariate according to age, gender, medication status (69% medicated), ADHD presentation, comorbid oppositionality (ODD) or anxiety, and native language (English or French).

4. Discussion

Blaming a friend's lack of ability corresponds to the positive illusory bias discussed in the literature. Owens et al. (2007) describe the self-protective hypothesis as the most supported theory for why children with ADHD commonly exhibit the positive illusory bias. This hypothesis states that children with ADHD will inflate reports of self-competence when they feel threatened by a challenging task, such as the unstructured, free-play situation. Children with ADHD may be threatened by the free-play situation because they find it challenging because of its lack of structure. They may want to hide their feeling of incompetence by increasing feelings of competence; however, they need to project their failure onto a third party, their friend. This creates negative affect in the form of blaming the friend. We do not wish to imply, however, that the negative exchanges we observed are explained entirely by cognitive, attributional bias. They might have occurred because children with ADHD express negative feelings about others more than other children who may internally think very similarly.

It is also important to note that verbalizing an attack on a friend's abilities is inappropriate and may contribute in an important way to the well-documented peer rejection of children with ADHD (Mrug et al., 2007). In contrast, the self-effacing verbalizations of comparison children may be seen as modest, not as unfriendly. No blame is placed on the friend's ability and nothing in the interchange would appear

socially inappropriate to other children. In friendship-focused, psychological treatments, children with ADHD may be able to learn to evaluate themselves accurately and refrain from inappropriate expression of their evaluations of others.

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