Injury Behavior Checklist Validation: Children with ADHD

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Objective

Unintentional injury is the leading cause of pediatric mortality (NCIPC, 2008). From a prevention viewpoint, there is urgent need for instruments that validly identify at-risk children. One widely used tool is the Injury Behavior Checklist (IBC, Speltz et al., 1990), a 24-item parent report originally developed to understand injury risk behaviors in preschoolers. Efforts to validate the IBC are scattered, but generally indicate the IBC may validly identify behavior tendencies throughout early and middle childhood (Potts et al, 1997).

The study was designed to further validate the IBC by examining differences in IBC scores among children believed to be at increased injury risk due to Attention-Deficit/Hyperactivity Disorder (ADHD) diagnoses. We expected children with ADHD to have higher IBC scores than a matched control group with no diagnosis. We also predicted IBC scores would correlate with parent-reported minor and major injury history.

Method

Participants: Seventy-eight children ages 7-10 participated (mean age = 9.17, *SD* = 1.25). Thirty-nine were diagnosed with ADHD by a medical team , including licensed clinical psychologists and physicians, and thirty-nine age- and gender-matched children were recruited from the community. (71% Male; 52% Caucasian; Figures 1 and 2).

Figure 1. Ethnicity

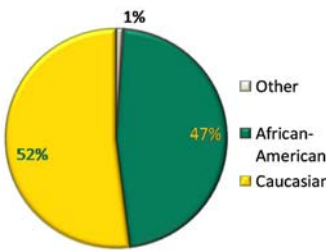
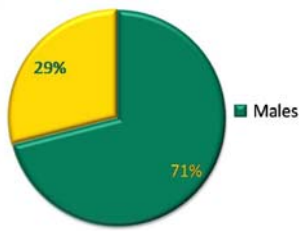


Figure 2. Gender

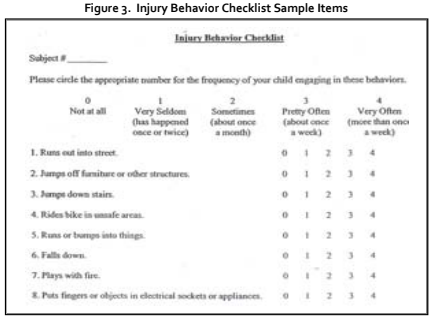


Measures: Three primary measures were employed:

1. Demographic Questionnaire: A demographic survey covering basic information such as age, gender, ethnicity, and household income.

2. Injury Behavior Checklist (IBC): 24-item report (Speltz et al., 1990), where caregivers rate children on a 5-point Likert scale ranging from not at all (0) to very often (4) in regards to how often the child displays various risky behaviors. Example items are included in Figure 3. The scores of the 24 items were summed to yield a total score that was used in analyses.

Figure 3. Injury Behavior Checklist Sample Items



Injury Behavior Checklist

Subject # _____

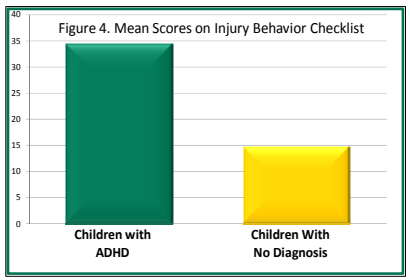
Please circle the appropriate number for the frequency of your child engaging in these behaviors.

	0 Not at all	1 Very Seldom (has happened once or twice)	2 Sometimes (about once a month)	3 Pretty Often (about once a week)	4 Very Often (more than once a week)
1. Runs out into street.	0	1	2	3	4
2. Jumps off furniture or other structures.	0	1	2	3	4
3. Jumps down stairs.	0	1	2	3	4
4. Rides bike in unsafe areas.	0	1	2	3	4
5. Runs or bumps into things.	0	1	2	3	4
6. Falls down.	0	1	2	3	4
7. Plays with fire.	0	1	2	3	4
8. Puts fingers or objects in electrical sockets or appliances.	0	1	2	3	4

3. Injury History Questionnaire: 25-question caregiver-report survey concerning the number of injuries the child had sustained over various time periods. For this study, we considered reports of minor injuries (requiring home care) in the past month and major injuries (requiring professional medical attention) over the child's lifetime.

Results

As hypothesized, children with ADHD had higher IBC scores (*M* = 34.41, *SD* = 20.59) than matched controls (*M* = 14.64, *SD* = 10.17), *t* (76)= 5.38, *p* < .001 (Figure 4). The mean score on the IBC for children with ADHD is more than double the mean score for children with no diagnosis, indicating that this particular clinical subgroup engages in much more risky behaviors than same-age, typically developing peers.



The sample was then split by ADHD status and correlations were computed between the IBC and minor injuries and the IBC and major injuries (Table 1). Among children with ADHD, IBC scores correlated to minor (*r*= .65, *p* < .001) and major (*r* = .54, *p* < .001) injuries. Within the matched control group, similar correlations emerged for minor injuries (*r* = .69, *p* < .001) and for major injuries (*r* = .34, *p* < .05).

Table 1. Correlation of IBC Scores and Injuries among Children with ADHD and Children with No Diagnosis

	Minor Injuries in the Past Month	Major Injuries Since Birth
Children with ADHD	.65**	.54**
Children with No Diagnosis	.69**	.34*

* $p < .05$. ** $p < .01$.

Conclusion

The Injury Behavior Checklist is among the most frequently utilized instruments to assess children's injury risk behaviors. Although the IBC was originally designed to identify at-risk children in the preschool age, it is frequently used with older samples. These data offer increased confidence in the instrument's validity, particularly in children ages 7-10. The IBC could be studied further in school age children by obtaining information from different reporters (e.g., teachers) to further evaluate the validity of the IBC as a measure of risky behavior in children, particularly in contexts outside of the home.

References

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Potts, R., Martinez, I.G., Dedmon, A., Schwarz, L., DiLillo, D., & Swisher, L. (1997). Brief report: cross-validation of the injury behavior checklist in a school-age sample. *Journal of Pediatric Psychiatry, 22*, 533-540.

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