

# The relationship between internalizing symptoms, intellectual functioning, and academic achievement in school-referred children

Jennifer Long, Vilija M. Petrauskas, Thomas Duda, Selena Hodsman, & Joseph E. Casey  
Department of Psychology, University of Windsor

## Introduction

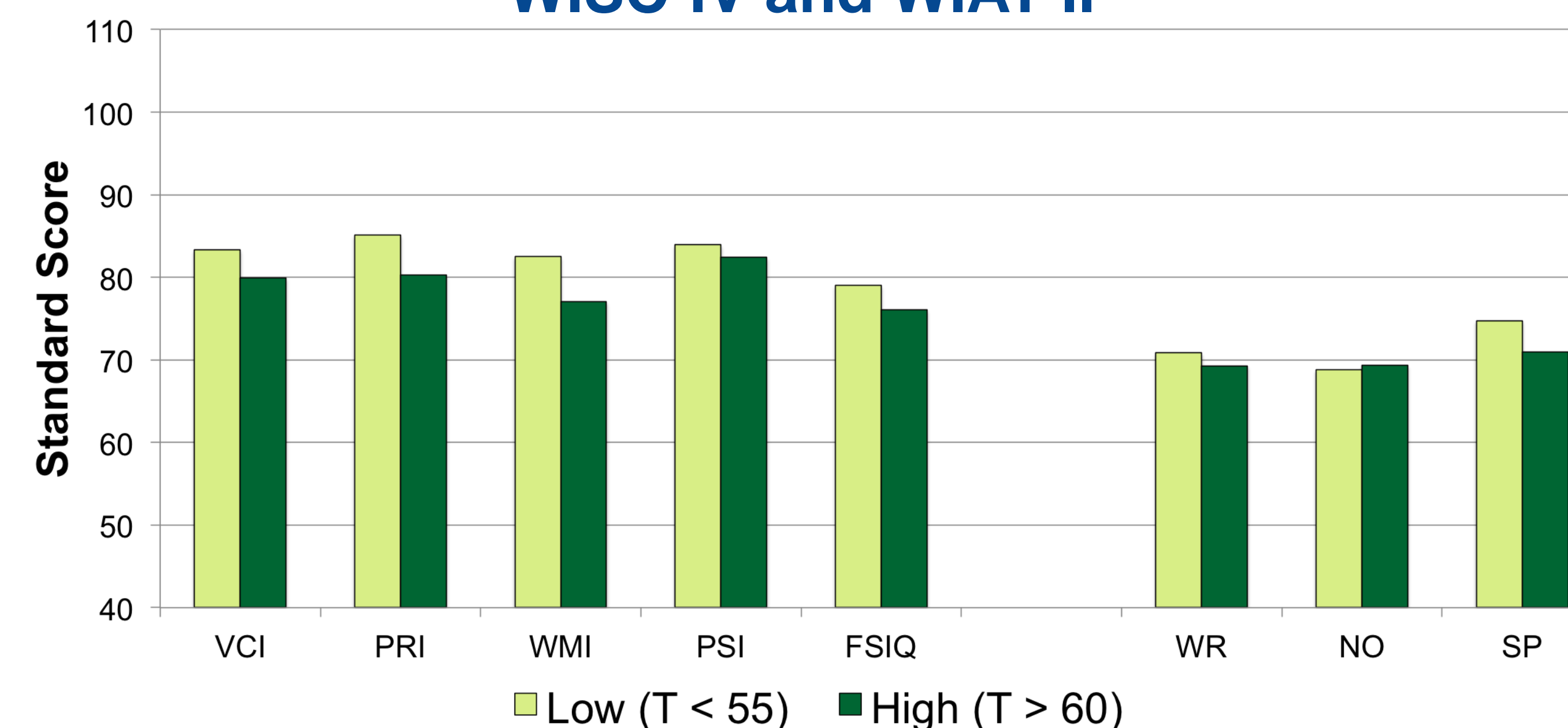
- Previous research has found that internalizing disorders negatively influence cognitive functioning and academic performance (Lundy et al., 2010).
- Most studies have examined the relationship between internalizing symptoms and academic performance in psychiatric samples, but none have examined this relationship in a school-referred sample.
- The purpose of this study was to determine the relationship between internalizing symptoms and performance on intelligence and academic achievement measures in children referred for psycho-educational assessment due to behavioural problems, persistent academic difficulties, or both.
- Impairment in these abilities may help explain why children with internalizing problems have academic difficulties.

## Methods

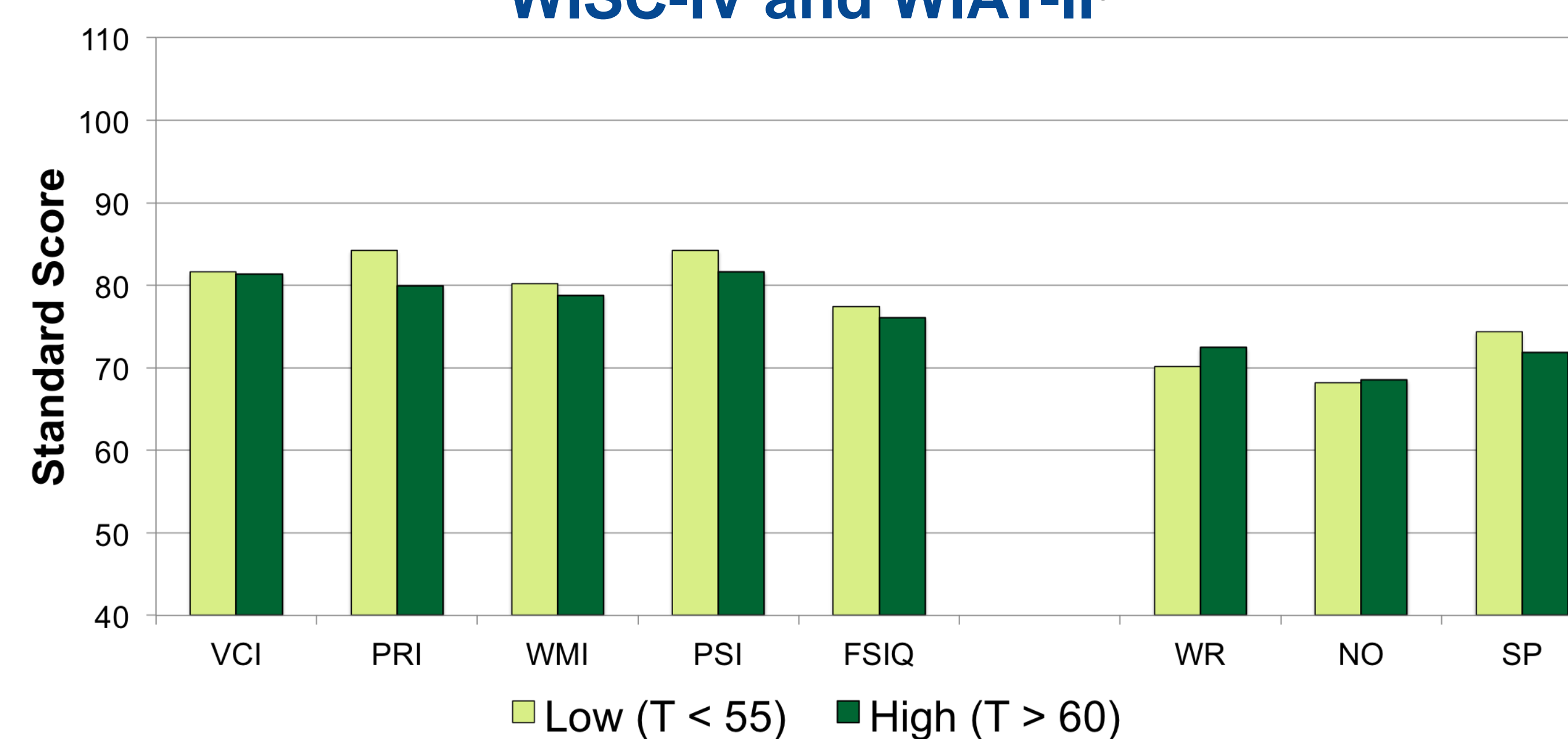
- 130 children referred for psychological assessment through their school were included in the analyses.
- Children were classified into high ( $T \geq 60$ ) and low ( $T \leq 55$ ) symptom groups based on their BASC-2 Parent and Teacher ratings.
- Separate analyses were performed for Parent and Teacher ratings.
- High and low Depression, Anxiety, Somatization, and overall Internalizing Problems groups were compared on their WISC-IV and WIAT-II performance using MANOVA.
- Correlations between BASC-2 Internalizing scores and WISC-IV and WIAT-II scores were also examined.

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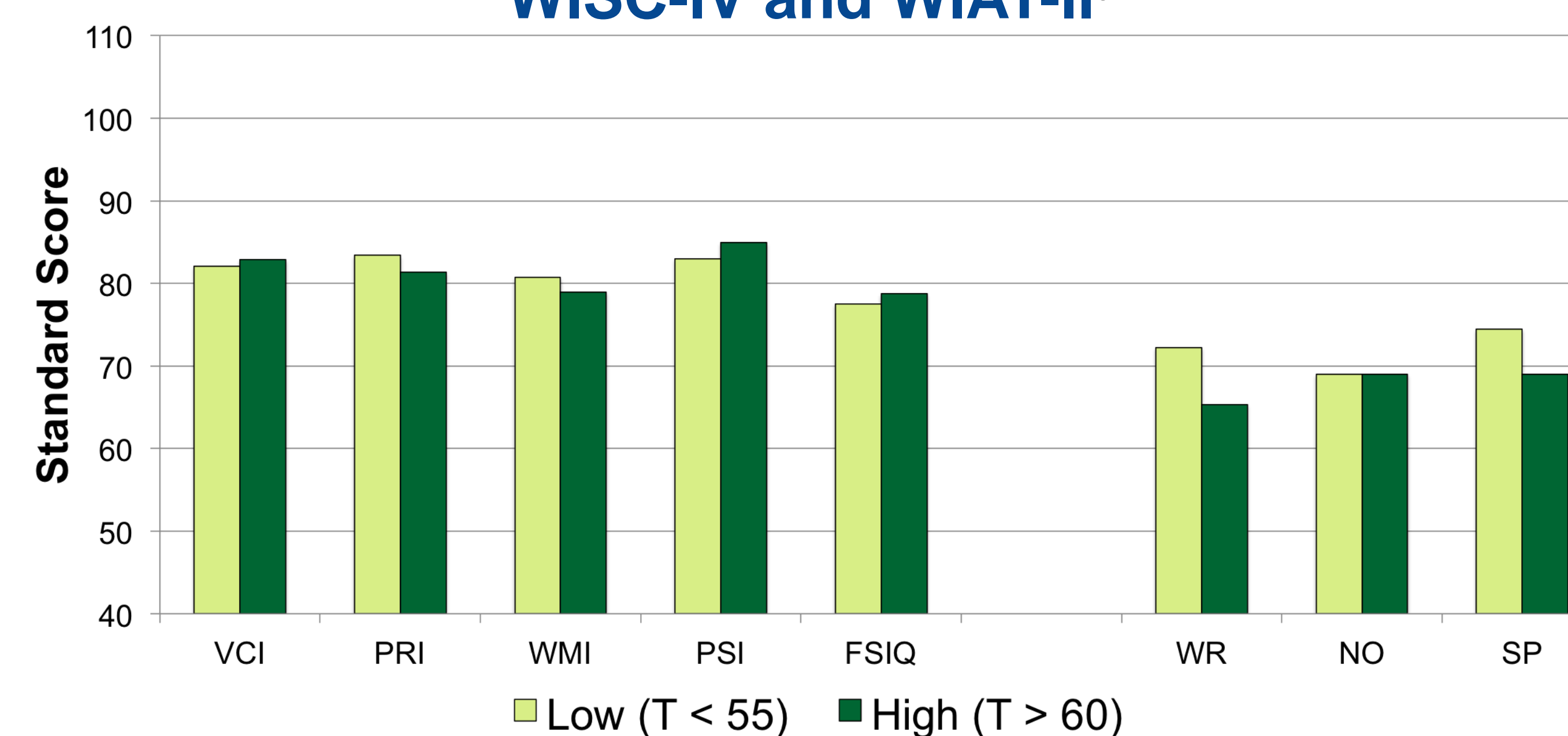
## Performance of Depression Groups on WISC-IV and WIAT-II<sup>a</sup>



## Performance of Anxiety Groups on WISC-IV and WIAT-II<sup>a</sup>



## Performance of Somatization Groups on WISC-IV and WIAT-II<sup>a</sup>



<sup>a</sup> Graph only shows BASC-2 Parent reported symptoms

## Results

- Participants included 93 boys, 37 girls, with a mean age of 10.86 years ( $SD = 2.03$ ; range = 6.04-16.10 years).
- No significant differences were found between any of the BASC-2 Parent reported or BASC-2 Teacher reported internalizing symptom groups on any of the WISC-IV Index or WIAT-II subtest scores.
- No significant correlations were found between any of the BASC-2 Parent reported or Teacher reported internalizing symptom scales and WISC-IV Index or WIAT-II subtest scores.

## Discussion & Conclusions

- These findings suggest that internalizing symptoms in children with academic difficulties are not significantly associated with impaired intellectual functioning or performance on tests of academic achievement.
- School difficulties may be due to contextual factors such as decreased interest, low motivation, or social conflicts.
- A possible limitation of this study is that the level of internalizing symptoms in our population may not have been severe enough to be significantly associated with academic or intellectual performance.
- Perhaps the BASC-2 is not a sensitive enough measure of internalizing symptoms and perhaps measures designed specifically to assess internalizing symptoms (e.g., Children's Depression Inventory, Multidimensional Anxiety Scale for Children 2) should be used in future studies.
- Understanding the factors that contribute to poor academic performance or conversely, how poor academic performance may adversely impact on emotional functioning is important for planning appropriate interventions.