

# A Comparison Study of Sib-Trait Linkage Analysis Methods

William F. Bryant<sup>1</sup>, Jessica Faucett<sup>2</sup>, Stephanie Hicks<sup>3</sup>, and Bethany Jablonski<sup>4</sup>

<sup>1</sup>Texas Southern University, <sup>2</sup>Wayland Baptist University, <sup>3</sup>Louisiana State University, <sup>4</sup>East Tennessee State University

## Abstract

Many procedures have been created to test linkage between a quantitative trait and a marker locus in sibling pairs. Past research has proven some methods to be stronger than other methods based on certain parameters. This paper analyzes four procedures and tests their type I error and power. The four methods we analyzed are the original Haseman-Elston methods using the squared differences (1972), Wrights's squared sums method (1997), the revisited Haseman-Elston method using the cross product (2000) and the Unified Haseman-Elston method using weighted slope estimates.