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*Dissertation Information*

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## The Perception of Statistical Graphics

**Committee** Dr. Heike Hofmann (Chair), Dr. Dianne Cook, Dr. Sarah Nusser, Dr. Max Morris, Dr. Erin McDonald, Dr. Stephen Gilbert

**Abstract** Research on statistical graphics and visualization generally focuses on new types of graphics, new software to create graphics, interactivity, and usability studies. Our ability to interpret and use statistical graphics hinges on the interface between the graph itself and the brain that perceives and interprets it, and there is substantially less research on the interplay between graph, eye, brain, and mind than is sufficient to understand the nature of these relationships. This dissertation further explores the interplay between a static graph, the translation of that graph from paper to mental representation (the journey from eye to brain), and the mental processes that operate on that graph once it is transferred into memory (mind). Understanding the perception of statistical graphics will allow researchers to create more effective graphs which produce fewer distortions and viewer errors while reducing the cognitive load necessary to understand the information presented in the graph.