The ability to reason about what someone else knows, or is likely to know, is central to our lives. It is necessary to make sense of human behavior, to communicate effectively, and to learn about the social and physical worlds. Previous research has identified a fundamental cognitive bias in which our current knowledge interferes with our ability to accurately remember what we once knew, and to judge what others are likely to know. For example, once we know the solution to a problem we overestimate how easy it will be for someone else to solve (e.g. Kelly & Jacoby, 1996). And once we know who won the election, we are likely to believe that we were certain that would happen all along (e.g. Fischhoff, 1975).

This bias also appears to be even more exaggerated early in development (Birch, in press; Birch & Bloom, 2003; 2004). Young children are often poor judges of what information other people are likely to know, and have problems remembering when they themselves acquired new information. For example, once 4- and 5-year-olds are taught a novel fact (i.e. why tigers’ stripes go up and down) they assume that other children will know this fact, and insist that they themselves had always known this fact (Taylor, Esbenson, & Bennett, 1994).

The implications of this ‘curse of knowledge’ bias are widespread and have been identified as important areas of research in cognitive science, behavioral economics, politic science, medicine, law, and education. While there is a wealth of research demonstrating the importance of these perspective-taking abilities for a number of disciplines, relatively little is known about the precise mechanisms underlying this bias and the factors that can mediate its effects.

The proposed research will identify the basic processes underlying this bias (with an emphasis on two of the most viable candidate mechanisms—source monitoring and inhibitory control). ‘Source monitoring’ refers to the processes involved in remembering how and when one acquired information. For successful perspective-taking, someone must first make an assessment of what is privileged and what is private information (i.e. When did I learn that information? Does that other person likely know what I know? Was that information from a public source or a private source?). ‘Inhibitory control’ is a fundamental component of perspective-taking because one must inhibit, or rescind, one’s own cognitive state to represent the world from someone else’s ‘point of view’. The proposed research will explore how these systems interact across development to influence perspective-taking.

Research to date has focused almost exclusively on these cognitive limitations in preschool children and young adults. The proposed research will “fill in the gaps” of previous research by exploring the developmental trajectory of this bias and the underlying mechanisms from age 3 through late adulthood. Finally, this research will further our understanding of the underlying mechanisms by identifying what factors can heighten, or diminish, this bias.

In sum, the proposed research will focus on identifying the basic processes at the core of these limitations in perspective-taking, and the factors that can moderate these limitations, across development. This research will not only bear upon central issues in cognitive science, but will also help forge new connections across different disciplines. The ultimate goal of this research is to increase our understanding of how children and adults represent their own cognitive states and those of others. Due to the fundamental nature of these processes, this research program will yield both theoretical and practical benefits.