

# The Spatial and Temporal Underpinnings of Social Distance

Justin L. Matthews and Teenie Matlock

Cognitive and Information Sciences  
University of California  
5200 North Lake Road  
Merced, California, USA  
{jmatthews,tmatlock}@ucmerced.edu  
<http://cogsci.ucmerced.edu>

**Abstract.** To what extent do people anchor thoughts about social relationships in terms of space and time? Three studies used drawing and estimation tasks to further explore the conceptual structure of “social” distance. In the three studies, participants read short narratives, drew what they imagined happening during the narrative, then estimated both time and distance. In general, results suggest that the conceptual structure of social relationships is linked to thought about space in terms of path drawing and temporal estimation, but not absolute distance estimation. Results are discussed in terms of mental simulation and inter-character interaction.

**Keywords:** spatial reasoning, distance estimation, temporal judgments, drawing, mental simulation.

## 1 Introduction

Everyday language is replete with expressions that describe relationships in terms of physical space. This is evident in the domain of friendship. In talking about friends, people readily use statements such as *We have grown close*, *They stuck together*, *Bob stood by his side*, or *He leaned on his buddy after he heard the bad news*, to imply familiarity, fondness, confidence, trust, and so on. They also use statements such as *We have drifted apart*, *They seem distant lately*, *He turned his back on his friend*, or *Something came between them*, to imply problems in a friendship.

The goal of this research is to explore the connection between physical space and friendship. To what extent do people think about space when they conceptualize friendship? We are especially interested in whether thought about physical space is part of everyday thought about friendship.

It is well known that people describe abstract concepts in terms of their experience with physical space. This reflects an inclination to draw on relatively more basic domains that are grounded in everyday physical or perceptual experience (see [1]; [2]). For example, people think about time in terms of space, which