Behavioral Pathways Linking Social Interactions to Mental Health

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Monday, October 7th, 2019, 1:30pm @ NSH 3305

Humans are social creatures in nature. We interact with each other and form relationships. On a societal level, these human relations are the basis for social structure. On an individual-level, building and maintaining such close relationships promote stronger feelings of support and better well-being. However, it remains unclear how social relationships impact social support and well-being. This is because the social behaviors that mediate the effect of social support and well-being are mundane. Capturing these mundane exchanges is a challenge. The most common methodology to study social interactions is self-report. However, self-reports are impractical to use throughout a day to log all interactions. Self-reports that ask people to recall past events can also be unreliable and biased. In addition, people are much less likely to report interactions that they consider insignificant or mundane, which are the key source of social support. These constraints have limited researcher’s understanding of how social interactions affect social support and well-being.

In this proposal, I will address these shortcomings using passively collected sensor data on mobile phones, combined with machine learning, to measure social interactions at a much finer granularity than self-reports. In a completed study, I have demonstrated that phone-mediated interactions, passively collected from smartphones, can predict changes in relationship quality. For my proposed work, I will focus on building machine learning models that use passive mobile data to measure social interactions, both phone-mediated and in-person. The work will shed light on which social interactions predict changes in social support and well-being.

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