

2021 Gatlinburg Conference Poster Submission

Title: Network size, network diversity, and mental health among mothers of adolescents and adults with autism

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Introduction: Parenting a child with an autism spectrum disorder (ASD) can be a profoundly stressful experience (Hayes & Watson, 2013). The prolonged exposure to caregiving strain can take a toll on parents' well-being, and has been linked to poor mental health outcomes (Cadman et al., 2012; L. E. Smith et al., 2010). Given the relative prevalence of ASD, identifying resources to bolster parents has been recognized as an important public health priority. The positive health effects of social networks have been widely documented in the broader social science and epidemiology literatures (K. P. Smith & Christakis, 2008), but have received little attention in research about parents of children with ASD. The few studies that have considered parents' interpersonal contexts found that those with larger social networks reported better mental health (Barker et al., 2011; L. E. Smith et al., 2012); the possibility that parents with greater well-being *select into* larger networks remained unexplored. Thus, the **first aim** of the present study was to delineate the direction of effects between networks and mental health in a sample of mothers of adolescents and adults with autism. Like all people, parents of children with ASD experience varied needs and challenges. Having a network comprised of different types of relationships may be beneficial because individuals occupying certain roles are better positioned to provide specific kinds of support. The **second aim** of the study was to examine whether network diversity, apart from network size, was associated with mothers' well-being.

Method: This project is part of a larger study concerning the life course processes of adolescents and adults with autism and their families. Data from 352 mothers were analyzed across five waves, or a 12-year period of time. At each wave, mothers provided information about individuals who were important to them; this roster was used to construct egocentric network measures. The key network resource variables for this study included *network size*, the number of important social ties elicited; and *network diversity*, the number of different role relationships characterizing those ties (e.g., friend, spouse, extended kin). Two mental health constructs were assessed: *depression*, measured using the 20-item Center for Epidemiologic Studies Depression Scale; and *anxiety*, measured with a subscale from the Profile of Mood States instrument. Potential confounders included time-varying and time-invariant characteristics of the mother, the adolescent or adult with autism, and the mother's network. We utilized structural equation models with maximum likelihood to discern the direction of effects between network resources and mental health. This approach allowed us to derive robust causal estimates by accommodating both a lagged endogenous regressor as well as latent random effects.

Results: First, we considered the association between network size and mental health *without* accounting for diversity. Mothers with larger networks reported a reduction in depression (std. $\beta = -0.13$, $p = .001$) and anxiety (std. $\beta = -0.11$, $p = .012$) over time. The relationships also flowed in the reverse direction: mothers with increasing mental health symptoms experienced a longitudinal attenuation in the size of their networks; this was the case both for depression (std. $\beta = -0.04$, $p = .014$) and anxiety (std. $\beta = -0.04$, $p = .008$). Next, we assessed the linkages between network diversity and mental health. Greater network diversity was associated with a significant reduction in depression (std. $\beta = -0.10$, $p = .029$) and anxiety (std. $\beta = -0.11$, $p = .026$). Inclusion of network diversity reduced the effects of network size on both mental health measures such that they were no longer significant. There was also evidence of reciprocal effects: mothers with increasing mental health symptoms experienced less diversity over time; this was observed both for depression (std. $\beta = -0.05$, $p = .008$) as well as anxiety ($\beta = -0.11$, $p = .026$).

Discussion: Little is known about the interpersonal contexts of parents of children with ASD, or how networks are linked to their well-being. In this study, we extend previous evidence that demonstrated benefits of network size in similar samples of mothers. Our findings offer key contributions to social science research focused on causal inference in networks and health, as well as to the literature concerned with coping in the context of parenting a child with ASD. The results suggest that the diversity, rather than the quantity, of relationships is predictive of maternal well-being. Social norms and expectations typically inform the kinds of support functions that individuals are willing to provide. Thus, mothers with greater network diversity may have more of their support needs met. Furthermore, robust estimates indicated that the linkages between networks and mental health are

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bidirectional. In practical terms, the results underscore the risk of a “vicious cycle,” in which those with limited networks may endure adverse psychological outcomes, which in turn can result in the further narrowing of social life. On the other hand, programs targeting *either* mental health *or* networks may lead to a positive, cascading sequence in which well-being and social resources are mutually bolstering. Additional research is needed to understand the most efficacious point of intervention to support mothers of children with autism throughout the life course.

References:

- Barker, E. T., Hartley, S. L., Mailick Seltzer, M., Floyd, F. J., Greenberg, J. S., & Orsmond, G. I. (2011). Trajectories of Emotional Well-Being in Mothers of Adolescents and Adults with Autism. *Developmental Psychology, 47*(2), 551–561.
- Cadman, T., Eklund, H., Howley, D., Hayward, H., Clarke, H., Findon, J., Xenitidis, K., Murphy, D., Asherson, P., & Glaser, K. (2012). Caregiver Burden as People With Autism Spectrum Disorder and Attention-Deficit/Hyperactivity Disorder Transition into Adolescence and Adulthood in the United Kingdom. *Journal of the American Academy of Child & Adolescent Psychiatry, 51*(9), 879–888.
- Hayes, S. A., & Watson, S. L. (2013). The Impact of Parenting Stress: A Meta-analysis of Studies Comparing the Experience of Parenting Stress in Parents of Children With and Without Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders; New York, 43*(3), 629–642.
- Smith, K. P., & Christakis, N. A. (2008). Social Networks and Health. *Annual Review of Sociology, 34*(1), 405–429.
- Smith, L. E., Greenberg, J. S., & Mailick Seltzer, M. (2012). Social Support and Well-being at Mid-Life Among Mothers of Adolescents and Adults with Autism Spectrum Disorders. *Journal of Autism and Developmental Disorders, 42*(9), 1818–1826.
- Smith, L. E., Hong, J., Mailick Seltzer, M., Greenberg, J. S., Almeida, D. M., & Bishop, S. L. (2010). Daily Experiences Among Mothers of Adolescents and Adults with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders, 40*(2), 167–178.

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