Adolescent Siblings of Individuals with Autism: A Diathesis-Stress Model of the Impact of Genetic Vulnerability on Well-being

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Introduction

Prior studies on siblings of individuals with autism have examined sibling well-being from either a family stress perspective (that having a brother or sister with autism is stressful to the family and thus causes negative outcomes) or a family genetics perspective (that traits associated with the "broader autism phenotype" are more prevalent in relatives of individuals with autism due to genetic inheritance).

The proposed study aims to unite these two approaches and examine their combined contribution to sibling well-being, using a stress-diathesis model.

Three research aims were addressed:
1. To examine overall levels and gender differences in depressive symptoms and anxiety reported by siblings.
2. To examine the contribution of genetic vulnerability to sibling well-being.
3. To examine how genetic vulnerabilities associated with autism spectrum disorders interact with environmental stress to impact sibling well-being.

Methods

Participants
- 57 siblings age 12-18 years (M = 16, SD = 1.7)
- 35 girls, 22 boys
- 90% younger than brother/sister with autism
- 74% live with brother/sister with autism

Procedure:
- Siblings closest in age to brother/sister with autism were recruited from families participating in a longitudinal study of adolescents and adults with autism (Seltzer et al., 2003).
- Diagnosis of autism spectrum disorder confirmed with ADI-R (Lord et al., 1994).

Measures:
- Center for Epidemiologic Studies Depression Scale (CESD; Radloff, 1977)
- Revised Children’s Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978)
- Development, Social Interaction, & Mood Questionnaire (DSIM; Magnusson et al., 2005)
- A brief family history interview
- Life events checklist (NIMH Methods for Epidemiology of Child and Adolescent Mental Disorders Study; Lahey et al., 1996)

Results

Aim 1: Levels of Depression and Anxiety Symptoms
- 36% of siblings reported depressive symptoms suggestive of clinical depression (score of 16 or higher on CESD).
- 19.2% of mothers scored 16 or higher on CESD.
- 14% of siblings scored > 1 SD above the mean (score of 24 or higher) on CESD.
- 12.8% of siblings reported clinically relevant anxiety symptoms (Standard Score (SS) > 1SD on RCMAS).
- Depression and anxiety symptoms were significantly correlated (r = .845, p < .05).

Gender Differences in Depression and Anxiety Symptoms

- Sisters reported significantly higher depressive symptoms (r = 2.35, p < .05) and anxiety symptoms (r = 2.12, p < .05) than brothers.

Aim 2: ASD Genetic Vulnerabilities
- 22 mothers (39%) reported a family history of ASD.
- Siblings with a family history of ASD reported significantly higher depressive symptoms (M = 19.05, SD = 13.50) than those without a family history of ASD (M = 11.76, SD = 6.12), t = 2.26, p < .05.
- No differences observed in anxiety symptoms according to family history of ASD.
- BAP characteristics in siblings (as measured by the DSIM) were not significantly associated with depressive symptoms (r = .12) or anxiety symptoms (r = .09).
- BAP characteristics in mothers were not significantly associated with sibling depressive symptoms (r = .08) or anxiety symptoms (r = .21).

Aim 3: Diathesis-Stress Model

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References


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