The Association Between Growth Trajectories and Mental Health in Early- to Mid-Childhood

Alysha A. Bartsch^{1,2}, Sarah Carsley^{1,2}, Charles Keown-Stoneman^{1,3}, Jonathon L. Maguire^{1,3}, and Catherine S. Birken^{1,4}

¹ Dalla Lana School of Public Health, University of Toronto, Toronto, Canada

² Department of Health Promotion, Chronic Disease and Injury Prevention, Public Health Ontario, Toronto, Canada

³ The Applied Health Research Centre of the Li Ka Shing Knowledge Institute of St. Michael's Hospital, University of Toronto, Toronto, Canada

⁴ Department of Pediatrics, The Hospital for Sick Children, Toronto, Canada

E-mail: alysha.bartsch@mail.utoronto.ca

Received October 15, 2019

Accepted for publication December 1, 2019

Abstract

Introduction: With increasing recognition of mental health's importance for overall health, public health professionals are seeking to better understand early risk factors for mental illness. A majority of mental health problems emerge during childhood; there is evidence of a particular association between increased childhood growth and poorer mental health. The current study sought to determine the association between growth trajectories during infancy and early childhood (birth to age 5) and mental health (behavioural and emotional difficulties) in early- to mid-childhood (age 3 to 8).

Methods: The study was conducted among a subset (n=665) of participants from The Applied Research Group for Kids (TARGet Kids!), an ongoing longitudinal cohort study. Five growth trajectories were determined via repeated measures of age- and sex-standardized body mass index (BMI). Mental health was assessed using the Strengths & Difficulties Questionnaire (SDQ) total difficulties, externalizing problems, and internalizing problems scores. The sociodemographic and health characteristics of the sample were described by mental health status (per the SDQ). The sociodemographic and health characteristics of the sample were described by mental health status (per the SDQ). Regression analyses were run to determine the association between growth trajectories and SDQ scores.

Results: There was no statistically significant association between increased growth ("rapidly accelerating" trajectory) and SDQ total difficulties ($b=1.49[-3.82,6.81], p=0.58$), externalizing problems ($b=0.31[-3.29,3.91], p=0.86$), or internalizing problems ($b=1.18[-1.73,4.09], p=0.43$). There was a significant association between decelerating growth and increased internalizing problems ($b=0.69[0.07,1.31], p=0.03$).

Conclusion: Current results do not support an association between increased growth and poorer mental health overall in early- to mid-childhood; however, a pattern of decelerating growth may be associated with more internalizing problems. Understanding early risk factors for poor mental health may allow public health researchers to develop targeted interventions and ultimately improve mental health outcomes across the lifespan. Implications and future directions will be discussed.