

Neurobiological Change & Sociocultural Experience during Adolescence

Andrew J. Fuligni

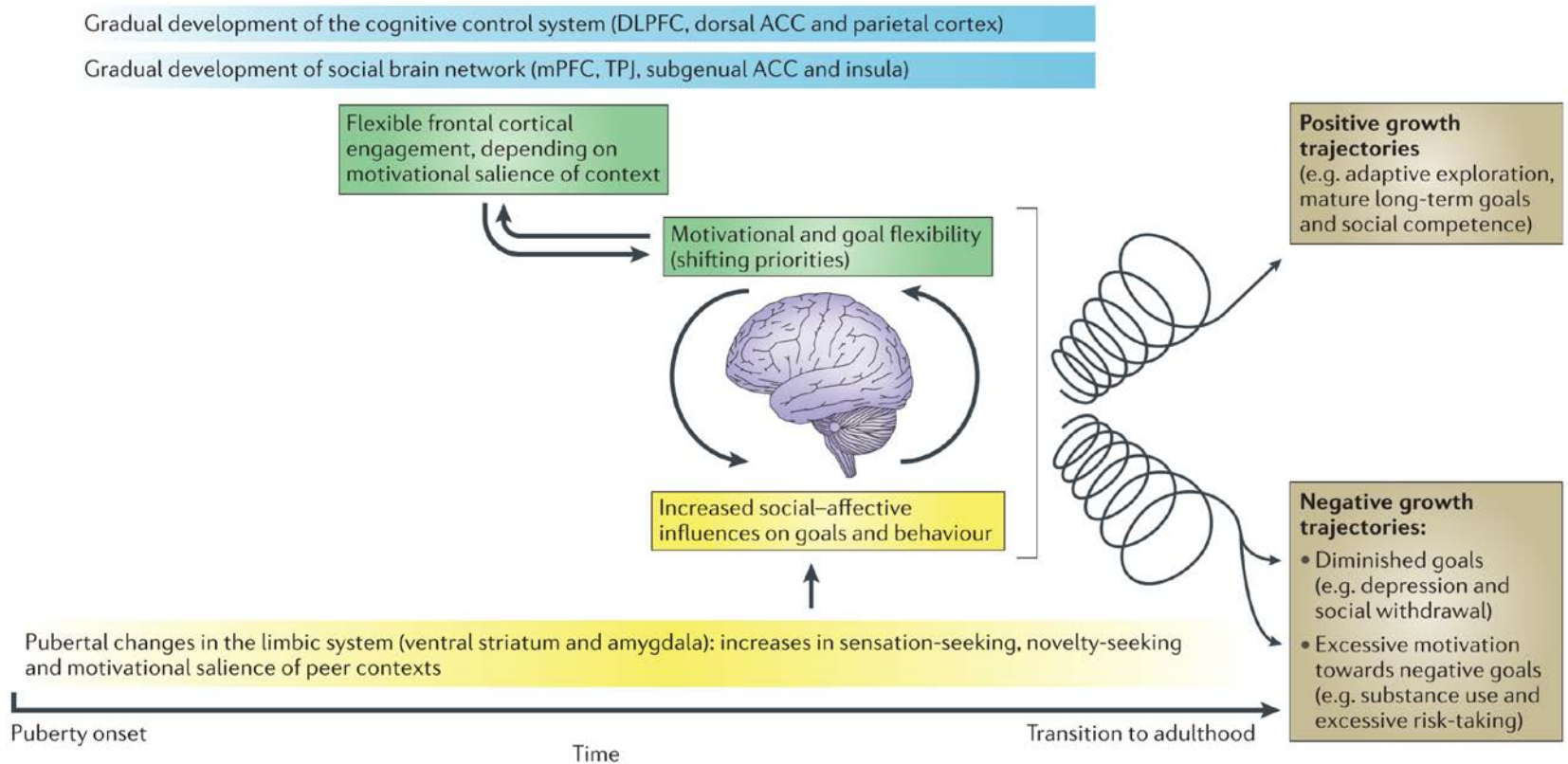
Semel Institute for Neuroscience & Human Behavior
University of California, Los Angeles



NAM Panel on the Neurobiological and Socio-Behavioral Science of Adolescence
Washington, DC
June, 2018

newer

A ^ Model of Neurobiological Change



Seminal Period of Social-Motivational Learning

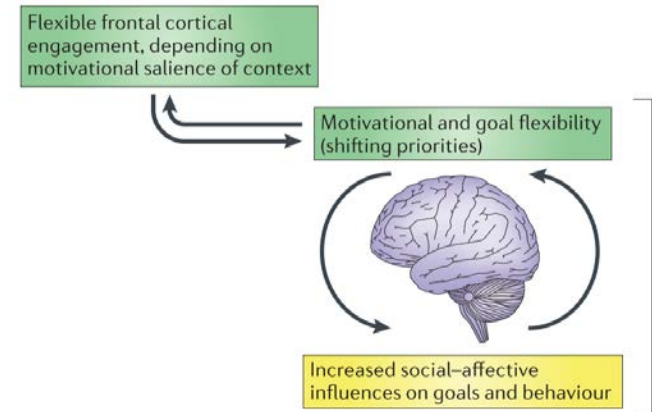
flexible problem-solving & learning ¹

heightened reward sensitivity ²

willingness to take risks ³

salience of social status & respect ⁴

concern with self *and* others ⁵



Seminal Period of Social-Motivational Learning

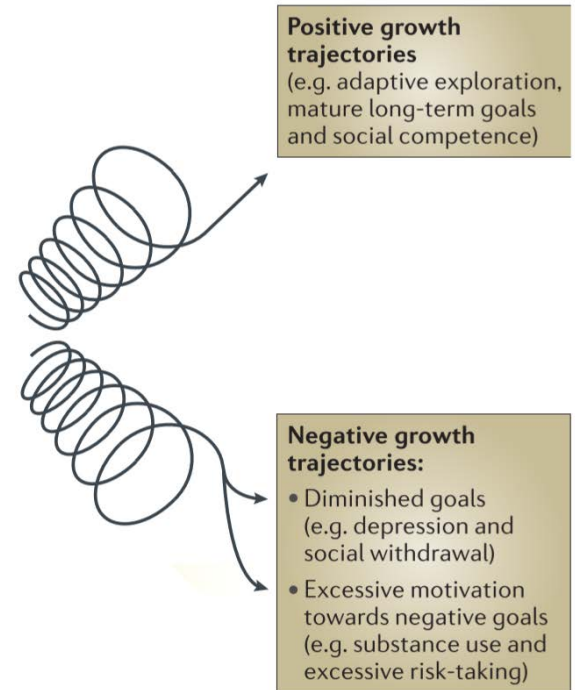
flexible problem-solving & learning

heightened reward sensitivity

willingness to take risks

salience of social status & respect

concern with self *and* others



sociocultural experience



An Integrative Approach

biological development is sensitive to specific social inputs & cues

→ *which inputs & cues are relevant?*

complex sociocultural environments represent these inputs & cues

→ *what inputs & cues are being represented?*

imperatives of development change the biology and environment

→ *what biology, inputs, & cues are most salient?*

Family Assistance and Brain Development

adolescence a time of heightened reward sensitivity ¹

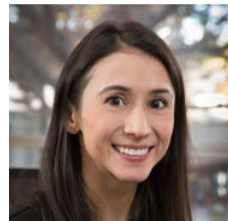
often used to explain rise in hedonic thrill-seeking ²

giving to others engages similar neural networks ³

Latino families emphasize assisting the family ⁴



*Eva
Telzer*



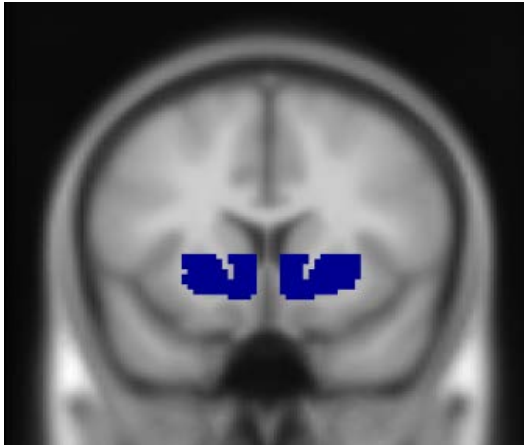
*Adriana
Galván*



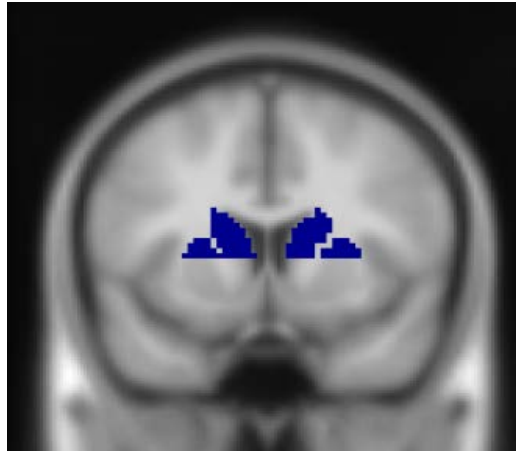
*Matt
Lieberman*

Family Assistance and Brain Development

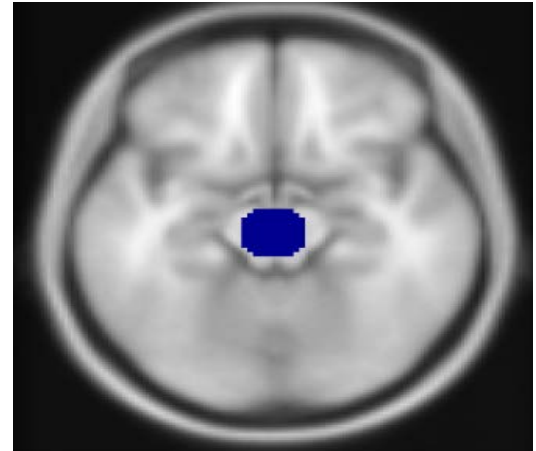
Ventral Striatum



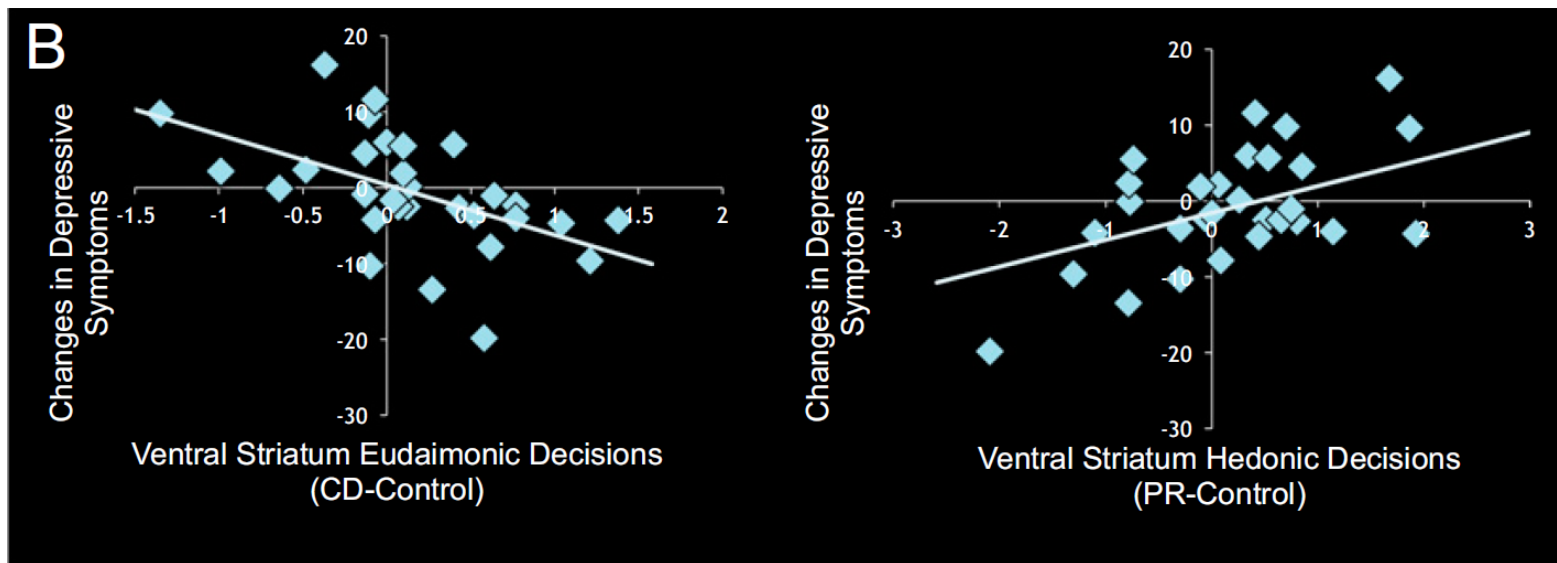
Dorsal Striatum



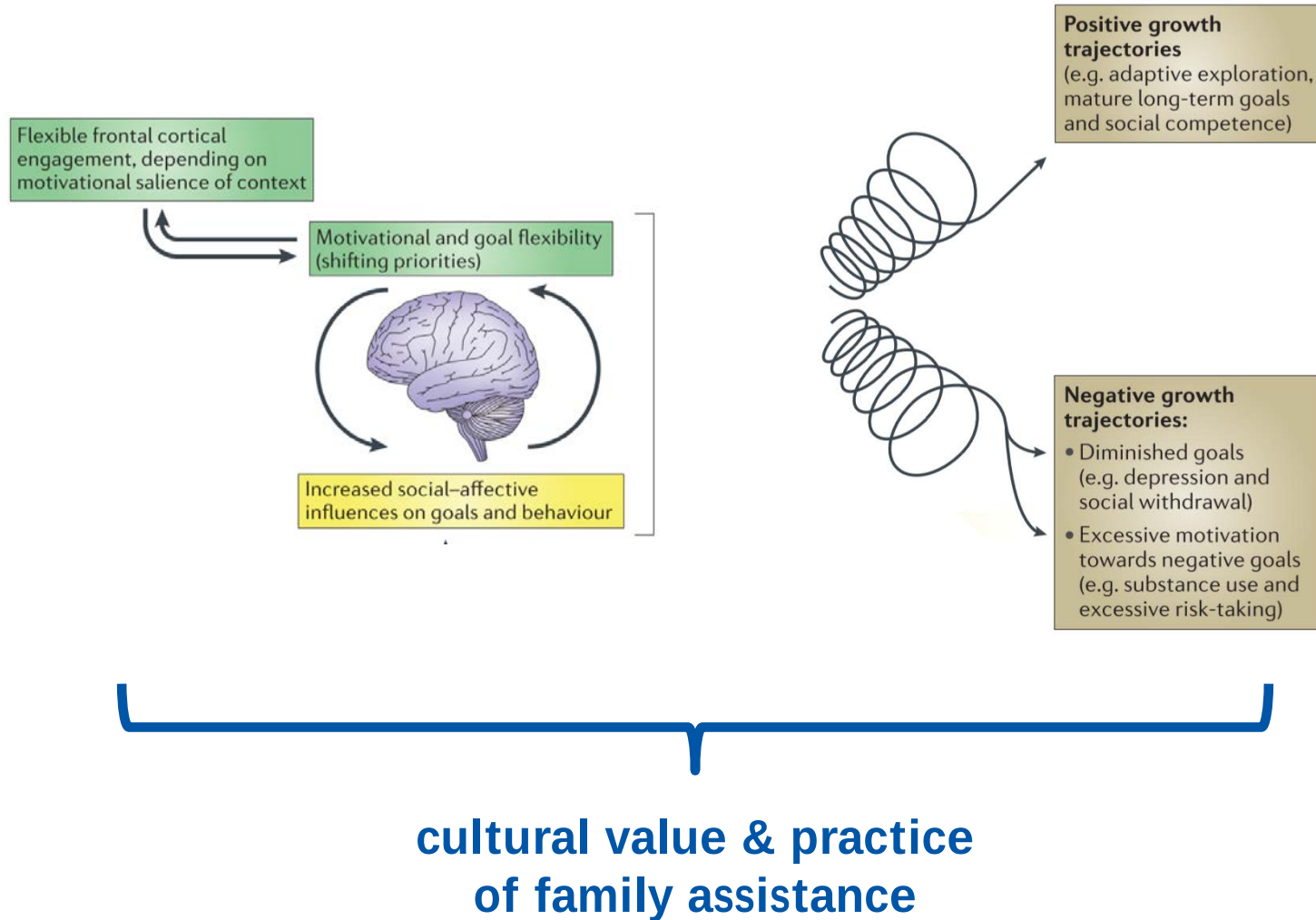
Ventral Tegmental Area



Family Assistance and Brain Development



Family Assistance and Brain Development



Other Examples



Everyday discrimination and diurnal cortisol during adolescence[☆]

Virginia W. Huynh^{a,*}, Shu-Sha Angie Guan^a, David M. Almeida^b, Heather McCreath^c, Andrew J. Fuligni^{d,e,f}



Socioeconomic Status, Daily Affective and Social Experiences, and Inflammation During Adolescence

Jessica J. Chiang, MA, Julianne E. Bower, PhD, David M. Almeida, PhD, Michael R. Irwin, MD, Teresa E. Seeman, PhD, and Andrew J. Fuligni, PhD



The effects of poor quality sleep on brain function and risk taking in adolescence

Eva H. Telzer^{a,*}, Andrew J. Fuligni^{b,c}, Matthew D. Lieberman^{b,c}, Adriana Galván^{b,d}

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^b Department of Psychology, University of California, Los Angeles, USA

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^d Brain Research Institute, University of California, Los Angeles, USA

Sleep variability in adolescence is associated with altered brain development

Eva H. Telzer^{a,b,*}, Diane Goldenberg^c, Andrew J. Fuligni^{c,d}, Matthew D. Lieberman^{c,d}, Adriana Galván^{c,e}

EMPIRICAL RESEARCH

Discrimination and Sleep Difficulties during Adolescence: The Mediating Roles of Loneliness and Perceived Stress

Angelina Majeno¹ · Kim M. Tsai² · Virginia W. Huynh³ · Heather McCreath⁴ · Andrew J. Fuligni^{5,6}



Value of Integrative Approach

expand measurement

identify mechanisms

broaden impact

shape models

Acknowledgements



Ron Dahl, Ahna Suleiman, Adriana Galván,
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Nicholas Allen

