

## **Young Adult Stressors and Their Parents Health Over Time**

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### **Introduction**

The inverse stress-health relationship is well documented by large body of interdisciplinary literature (Thoits 2010; Schneiderman, Ironson, and Siegel 2005). However, previous research mainly takes individualistic approach to understand stress and health and fails to seriously consider the interdependence of human lives (Settersten 2015) and, hence, the potential for stress contagion. From the perspective of life course and one of its principles of linked lives (Elder 1985, 1998), the objective of this research was to investigate how young adult children's stressors during a sensitive period—the transition to adulthood—impact the mental and physical health of their aging parents.

Given increased economic uncertainty, the rising cost and importance of a college degree, and reduced safety nets, recent cohorts of young adults encounter a more tenuous transition to adulthood than previous cohorts (Furstenberg et al. 2004; Settersten and Ray 2010). Although these factors have been shown to reduce individual health, Barr et al. (2018) suggest that the effects of these stressors can extend beyond one's own health. That is, they can be contagious across family relationships. Specifically, they show that stressors suffered by African Americans during the transition to adulthood negatively affect their mothers' physiological and psychological health.

Barr et al.'s (2018) work, however, was limited by its nonrepresentative sample and its limited number of time points (1 time point for physiological health and 2 time points for self-

reported health and depressive symptoms). In the current research, we focus on understanding stress contagion from young adult children to their aging parents using multiple domains of health across three waves spanning nearly 20 years of the nationally representative Midlife in the United States (MIDUS) study.

## **Data and Methods**

In this study, we analyzed longitudinal data of three waves across 20 years from the Midlife in the United States (MIDUS) study. The first wave of MIDUS was conducted in 1995/96 by the MacArthur Foundation Research Network on Successful Midlife Development to investigate the role of behavioral, psychological, and social factors in accounting for age-related variations in health and well-being in a national sample of Americans. The total number of respondents at baseline was 7,108, including a national probability sample (N = 3,487), oversamples in select metropolitan areas (N = 757), a sample of siblings (N = 950) of the main respondents, and a national sample of twin pairs (N=1,914). The two follow-up surveys were conducted in 2004-2006 and 2013-2014 respectively.

For the current research, we restricted the sample to parents who have all young adult child(ren) – both biological and non-biological – aged 18 to 34 at baseline. This resulted in a maximum potential sample size of 1,457 respondents. After excluding respondents missing information on the dependent variable and other covariates, our final analytic sample consisted of 2,588 person-year observations (1,255 adult parents).

We examine stress contagion effects on six different parental health outcomes, all reported by parents across three waves of data collection. These outcomes include self-rated poor physical health, self-rated poor mental health, chronic symptoms, depressive symptoms,

anxiety, and functional health decline. They all measured in the same direction—higher number indicate worse health. Our primary predictor of interest is parents' report of ten difficulties faced by one or more of their young adult children (e.g. marital or relationship problems, legal problems, difficulty finding or keeping a job, substance abuse problems) at each wave.

To understand the within-person association between young adult child stressors and parental health, we implement mixed effects in our regression models. All models control for parental demographics (e.g. age, gender, race, marital status), socioeconomic status (e.g. educational level and household income), early health outcomes (e.g. early self-rated physical and mental health), and young adult children characteristics (e.g. number of young adult children, gender composite of children, and living with children or not).

## **Results**

As the results from mixed effects models showed in Table 1, we found parents experience a general health decline (expect depression symptoms and anxiety) controlling other variables. We also find young adult children's (YAC) stressors are positively associated with health decline for all health outcomes, adjusting for all covariates. In another word, more stressors YACs experience during transition to adulthood, worse self-rated health (both physical and mental), more chronic symptoms, and more depression and anxiety, and worse functional health their parents suffer.

Table 1 Mixed Effect Models of Young Adult Children's Stress on Multiple Health Outcomes, Three Waves of MIDUS.

|                                      | <b>Model 1</b>                            | <b>Model 2</b>                          | <b>Model 3</b>              | <b>Model 4</b>       | <b>Model 5</b>      | <b>Model 6</b>               |
|--------------------------------------|---|---|-----------------------------|----------------------|---------------------|------------------------------|
|                                      | <b>Self-Rated<br/>physical<br/>health</b> | <b>Self-Rated<br/>Mental<br/>Health</b> | <b>Chronic<br/>Symptoms</b> | <b>Depression</b>    | <b>Anxiety</b>      | <b>Functional<br/>Health</b> |
| <i>Fixed effects</i>                 |   |   |                             |                      |                     |                              |
| Time                                 | 0.074***<br>(0.018)                       | 0.048**<br>(0.018)                      | 0.431***<br>(0.050)         | -0.137***<br>(0.038) | -0.027<br>(0.019)   | 0.291***<br>(0.015)          |
| YAC Stress                           | 0.026**<br>(0.009)                        | 0.032***<br>(0.009)                     | 0.154***<br>(0.026)         | 0.083***<br>(0.017)  | 0.029**<br>(0.009)  | 0.021**<br>(0.008)           |
| Age                                  | 0.004<br>(0.004)                          | 0.004<br>(0.004)                        | 0.042***<br>(0.011)         | -0.027***<br>(0.006) | -0.008*<br>(0.004)  | 0.012***<br>(0.004)          |
| Female                               | -0.166**<br>(0.004)                       | -0.070<br>(0.043)                       | 0.355**<br>(0.136)          | 0.219<br>(0.074)     | 0.036<br>(0.042)    | 0.116**<br>(0.042)           |
| Non-White                            | 0.172<br>(0.093)                          | 0.083<br>(0.083)                        | 0.074<br>(0.258)            | 0.249†<br>(0.145)    | -0.010<br>(0.081)   | -0.034<br>(0.080)            |
| Married                              | -0.041<br>(0.063)                         | -0.110<br>(0.056)                       | -0.317†<br>(0.176)          | -0.199*<br>(0.097)   | -0.081<br>(0.055)   | -0.063<br>(0.054)            |
| Education                            |   |   |                             |                      |                     |                              |
| High School graduate                 | -0.224*<br>(0.092)                        | -0.147<br>(0.082)                       | -0.650*<br>(0.257)          | -0.290*<br>(0.143)   | -0.202*<br>(0.080)  | -0.242**<br>(0.079)          |
| Some College                         | -0.422***<br>(0.093)                      | -0.316***<br>(0.083)                    | -0.770**<br>(0.259)         | -0.296*<br>(0.145)   | -0.171*<br>(0.081)  | -0.344***<br>(0.080)         |
| BA degree and above                  | -0.672***<br>(0.096)                      | -0.555***<br>(0.086)                    | -1.284***<br>(0.268)        | -0.397**<br>(0.149)  | -0.236**<br>(0.081) | -0.471***<br>(0.083)         |
| Household Income                     |   |   |                             |                      |                     |                              |
| Lower middle household Income        | -0.180*<br>(0.070)                        | -0.108†<br>(0.062)                      | -0.171<br>(0.196)           | -0.045<br>(0.107)    | -0.123*<br>(0.061)  | -0.164**<br>(0.061)          |
| Middle household Income              | -0.325***<br>(0.074)                      | -0.206**<br>(0.066)                     | -0.617**<br>(0.207)         | -0.205†<br>(0.113)   | -0.117†<br>(0.064)  | -0.335***<br>(0.064)         |
| High household Income                | -0.303<br>(0.077)                         | -0.164*<br>(0.068)                      | -0.510*<br>(0.215)          | -0.181<br>(0.117)    | -0.175**<br>(0.066) | -0.312***<br>(0.067)         |
| Number of Children                   | 0.052*<br>(0.024)                         | 0.020<br>(0.021)                        | 0.170*<br>(0.066)           | -0.029<br>(0.036)    | -0.034<br>(0.021)   | 0.055**<br>(0.021)           |
| Only female children                 | 0.042<br>(0.069)                          | 0.007<br>(0.061)                        | 0.261<br>(0.193)            | 0.091<br>(0.105)     | -0.021<br>(0.059)   | -0.038<br>(0.060)            |
| Both female and male children        | -0.051<br>(0.064)                         | -0.032<br>(0.057)                       | 0.042<br>(0.178)            | 0.188†<br>(0.097)    | -0.022<br>(0.055)   | -0.059<br>(0.055)            |
| Live with YAC                        | 0.013<br>(0.022)                          | 0.004<br>(0.021)                        | 0.045<br>(0.059)            | 0.021<br>(0.042)     | -0.016<br>(0.021)   | 0.049**<br>(0.017)           |
| Self-rated physical health at age 16 | 0.147***<br>(0.035)                       | 0.100**<br>(0.031)                      | 0.079<br>(0.097)            | -0.044<br>(0.053)    | 0.015<br>(0.030)    | 0.052†<br>(0.030)            |

|                                    |                     |                     |                    |                     |                     |                     |
|------------------------------------|---------------------|---------------------|--------------------|---------------------|---------------------|---------------------|
| Self-rated mental health at age 16 | 0.094**<br>(0.028)  | 0.211***<br>(0.025) | 0.225**<br>(0.079) | 0.140**<br>(0.043)  | -0.001<br>(0.024)   | 0.005<br>(0.024)    |
| Constant                           | 2.353***<br>(0.252) | 1.876***<br>(0.225) | 0.076<br>(0.703)   | 2.224***<br>(0.390) | 0.958***<br>(0.219) | 0.958***<br>(0.217) |
| <i>Random Effects</i>              |                     |                     |                    |                     |                     |                     |
| Residual variance                  | 0.441<br>(.017)     | 0.450<br>(0.017)    | 3.273<br>(0.129)   | 2.078<br>(0.081)    | 0.471<br>(0.018)    | 0.280<br>(0.011)    |
| Number of observations             | 2570                | 2568                | 2572               | 2572                | 2572                | 2572                |
| Number of respondents              | 1240                | 1241                | 1242               | 1242                | 1242                | 1242                |

Notes:

- (1) Standard errors are in parentheses;
- (2) \*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.10

## References

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