

## Debt Burden, Health, and Risky Behavior among Young Adults: Does Strain Lead to Pain?

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### Objective

The purpose of the current study is to examine the debt burdens, perceived financial capability, and risky health behaviors and mental health of young adults. We use pooled Panel data constructed from the two most recent waves (2013 and 2015) of the Panel Study of Income Dynamics (PSID) and its Transition to Adulthood (TA) supplement. Preliminary findings suggest that debt burden is associated with mental health (languishing) of young adults. Perceived financial capability is a significant factor of mental health outcome. A discussion of the implications from the key findings of this study for scholars, practitioners, and counselors are included.

### Significance

Debt problems of young adults in the United States have increased in the past decade. With tuition costs rising, poor economic conditions, lack of financial aid, and reduced job opportunities, college debt from student loans and credit cards have become a great concern. More than thirty-five million Americans are currently paying for student loan debt (Williams, 2014). The rise of unstable employment after graduation increases the risks of borrowing for higher education. The rapid growth of consumer credit card debt among young people has garnered the attention of researchers, educators, and policymakers. While the Credit Card Accountability and Responsibility and Disclosure (CARD) Act of 2009 has been introduced to curb the rampant increase, consumer debt issues of young people have remained. In general, it has been documented that debts can impact young adults' long-term financial well-being by decreasing household net worth (Elliot & Nam, 2013) and retirement saving and increasing delinquency of debts and bankruptcy filing, and delaying household formation. Furthermore, higher debt burdens of young people are associated with less wealth and worse future health outcomes (Dugan & Kafka, 2014).

Some researchers have found that financial problems are directly related to a student's academic performance, while others have identified an indirect relationship between financial problems and academic performance (Crocker & Luhtanen, 2003; Hodgson & Simoni, 1995). Researchers have identified an indirect relationship between the perception of financial problems and mental health (Cooke et al., 2004). A recent study found financial strain impact students' psychological symptoms and academic and social integration, mediated by perceived stress (Adams, Meyers, & Beidas, 2016).

Debt can adversely affect self-esteem, and sense of personal mastery or general self-efficacy (Dwyer, McCloud, & Hodson, 2011), lower young adults' sense of perceived well-being and happiness (Zhang & Kemp, 2009), have a negative effect on academic achievement (Shim, Xiao, Barber, & Lyons, 2009), and cognition and academic behavior (Hogan, Bryant, Overmayer-Day, 2013). Financial debts also have been linked to anxiety (Archuleta, Dale, & Spann, 2013). Students with higher credit card debt were more likely to have a higher level of depression, worse physical health (Shim et al., 2009), and engage in less frequent volunteerism (Stevenson, 2008).

Potential mental health risks of having larger financial burden may be larger than many students, parents, and guidance counselors had previously anticipated (Law, 2014). Some argue that the more debt people have, the worse will be their mental health outcome (Williams, 2014). These findings are of particular

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concern because the long-term effects they may have over the life. According to the findings from a number of recent studies, there has been an increase in the number of college students reporting psychological problems such as depressive symptoms (Eisenberg, Downs, Golberstein, & Zivin, 2009; Fink, 2014; Furstenberg, Rumbaut, & Settersten, 2005; Kadison & DiGeronimo, 2004; Turner, Thompson, Brunner Huber, & Arif, 2012). This growing trend of psychological issues among young people is of concerns to the society because previous studies have found that majority of psychological disorders have their onset before an individual turns 24 (Kessler et al. 2005). Prevalence of consumer and student debts of young people have been found to be linked to mental health. University students, who have difficulty providing for their basic needs and suffer from on-going anxiety about their financial situation, experience psychological distress related to acute financial stress and chronic financial strain (Lange & Byrd, 1998). Shapiro and Burchell (2012) suggests that financial anxiety/stress is distinctly different from an individual's feelings of general anxiety or depression.

Mental health of young adults has negative consequences. Surtees, Wainwright, and Pharoah's (2002) survey showed that anxiety or depressive conditions in the first year of college reduced the likelihood of achieving a degree. Among college students, depression has been associated with decreased GPA scores (Hysenbegasi, Hass, & Rowland, 2005), increased alcohol consumption (Miller, Miller, Verhegge, Linville, & Pumariega, 2002; Weitzman, 2004), increased levels of anxiety (Rawson, Bloomer, & Kendall, 1994), increased self-injurious behaviors (Serras, Saules, Cranford, & Eisenberg, 2010), decreased academic productivity (Heiligenstein, Guenther, Hsu, & Herman, 1996), withdrawals from college (Meilman, Manley, Gaylor, & Turco, 1992), and suicide (Suicide Prevention Resource Center [SPRC], 2014).

Having student loan or credit cards may not necessarily negative for young people. Having student loan can be a positive aspect as about half of young adults pursue college education in the U.S. The value of college education has been well established while many Americans borrow student loan to pay for non-degree education or may have student loans without getting a degree. Having credit card debt also means access to mainstream financial services and building credit history although some young people may carry too much burden. Credit card ownership may be associated with higher levels of financial knowledge and self-esteem (Dwyer, McCloud, & Hodson, 2011). However, these positive effects may wane as the debt burden increases. When students accumulate too much debt, they generally respond by increasing income (by getting jobs, working more hours, or borrowing); and/or engaging in various forms of dysfunctional behaviors such as drinking (Hogan, Bryant, & Overmyer-Day, 2013).

Risky borrowing behaviors were associated with high-risk health behaviors (Adams & Moore, 2007) and crimes (Hoeve et al., 2014). A research using the data from 45,213 US college students found that students with high risk credit behavior were more likely to have driven after drinking, used amphetamines in the previous 30 days, felt functionally impaired by depression in the previous 12 months, had a higher body mass index (BMI), or had a lower grade-point average (GPA) (Adams & Moore, 2007). They were less likely to have participated in vigorous physical activity, used condoms for oral or vaginal sex in the prior 30 days, or used marijuana. Smoking, drinking, high-risk drinking, less exercise, and poorer mental health were related to having debt, after controlling for age, gender, and type of school attended (Berg, Sanem, Lust, Ahluwalia, Kirch, & An, 2010).

Seligman (2002) posits that examining the characteristics of those young adults who demonstrate behavior that positively affects their well-being is necessary for developing policies that can help in reducing the emerging epidemic of mental health issues among college students. Psychologists have previously examined the determinants of healthy and adaptive behavior when investigating the factors that positively influence the well-being of individuals (Diener & Seligman, 2004; Keyes, 2002; Keyes & Haidt, 2003; Keyes & Lopez, 2002).

The purpose of the current study is to examine whether debt negatively affects mental health (anxiety, depression, and languishing) and risky health behaviors (drinking, high risk drinking and smoking) of young adults. This study also examines whether perceived capabilities play a moderating role in the association between financial strain and mental health and risky health behaviors of young adults.

## Methods

### Data

This study uses data from the Panel Study of Income Dynamics (PSID) and its Transition to Adulthood (TA) supplement to examine the association between debt burdens, perceived financial capability, and the physical as well as psychological well-being of young adults. The PSID is a longitudinal study of a nationally representative sample of U.S. men, women, children, and the families in which they reside. For approximately the past four decades, the study has collected annual data from these families and individuals about their demographic, economic, and employment behavior. The TA supplement includes data on young adults aged 17 to 29. For the empirical analyses of this study, data on parental influence, student loan debt, social participation, psychological and cognitive well-being, development, and perceived ability were drawn from the TA supplement. In this study, the respondents who were less than 18 years of age and those who did not attend college were excluded from the analyses. This study uses pooled Panel data constructed from the two most recent waves (2013 and 2015) of the Panel Study of Income Dynamics (PSID) and its Transition to Adulthood (TA) supplement

### Variables

#### *Dependent Variables*

Anxiety, Depression, Languishing.

Languishing: Based on the Keyes (2002) framework, languishing variable (1=languishing; 0=otherwise) will be created.

Risky Health Behaviors: Whether they smoke (binary), Whether the participant engages in drinking (binary), Whether the participant engages in high risk drinking (binary).

#### *Independent Variables*

The independent variables for this study are divided into three major categories—Environmental, social, psychological/cognitive factors including perceived abilities.

### Analysis

The descriptive statistics of the dataset, along with the t-tests to examine the differences in the means of the control variables will be presented. Both dependent variables in this study are categorical. Therefore,

$$Y_{it} = X'_{it} \mathbf{B} + Abil'_{it} \mathbf{\Gamma} + Env'_{it} \mathbf{\gamma} + Soc'_{it} \mathbf{\omega} + \pi_t + \varepsilon_i$$

Where, *Abil* is a vector of the perceived abilities variables, *Env* is a vector of the environmental variables, *Soc* is a vector of the socialization variables, *X* is a vector of demographic variables that also included the respondents' student loan and credit card debt obligations as control variables, and  $\pi$  is a vector of year-specific intercepts,  $\varepsilon$  is the error term with  $\varepsilon \sim N(0,1)$ . A household is considered worried if *Y* exceeds a certain threshold  $Y^*$ .

In the second part of the study, an ordered probit will be run on the dependent variable— life satisfaction, which is reported as a Likert type scale (categorical or limited dependent variable).

## Preliminary Results

We expect the results to indicate that debt is associated with mental health and risky health behaviors such as drinking and smoking. We expect the perceived ability and higher cognitive functioning related factors to play a moderating role in this association.

## Conclusion and Relevance

With the growing concerns about financial debts of young people, the findings suggest that credit card debts may be important and associated with psychological and social well-being of young adults. Preliminary findings suggest that debt burden may be associated with the mental health and risky health

behaviors of young adults. Preliminary findings suggest that that financial functioning (perceived ability) was more important than the objective financial situation in explaining the psychological well-being (languishing) of young adults. As the debt burdens of young adults increase, financial counselors and educators as well as mental health and health care providers should be aware of the negative outcomes of debt burdens. Negative financial outcomes of student loan and debts such as bankruptcies, delinquencies, and decreased savings have been well discussed. However, there may be longer term effects of debts on health. Improved perceived financial ability may help young adults feel more control over their finances and dealing with debts better. Interventions for financial education and counseling may be helpful to promote healthy life style as well as psychological well-being of young adults.

#### References

- Adams, D. R., Meyers, S. A., Beidas, R. S. (2016). The relationship between financial strain, perceived stress, psychological symptoms, and academic and social integration in undergraduate students. *Journal of American College Health, 64*(5), 362-370.
- Adams, T., & Moore, M. (2007). High-risk health and credit behavior among 18-to 25-year-old college students. *Journal of American College Health, 56*(2), 101-108.
- Archuleta, K.L., Dale, A. & Spann, S.M. (2013). College students and financial distress: Exploring debt, financial satisfaction, and financial anxiety. *Journal of Financial Counseling and Planning, 24* (2), 50-62.
- Ber, C., Sanem, J., Lust, K., Ahluwalia, J., Kirch, M., & An, L. (2010). Health-related characteristics and incurring credit card debt as problem behaviors among college students. *The Internet Journal of Mental Health, 6*(2), 1.
- Cooke, R., Barkham, M., Audin, K., Bradley, M., & Davy, J. (2004). Student debt and its relation to student mental health. *Journal of Further and Higher Education, 28*(1), 53-66.
- Crocker, J., & Luhtanen, R. K. (2003). Level of self-esteem and contingencies of self-worth: Unique effects on academic, social, and financial problems in college students. *Personality and Social Psychology Bulletin, 29*(6), 701-712.
- Diener, E., & Seligman, M. E. (2004). Beyond money: Toward an economy of well-being. *Psychological Science in the Public Interest, 5*(1), 1-31.
- Dugan, A., & Kafka, S. (2014). Student debt linked to worse health and less wealth. *Gallop Poll Briefing*.
- Dwyer, R. E., McCloud, L., & Hodson, R. (2011). Youth debt, mastery, and self-esteem: Class-stratified effects of indebtedness on self-concept. *Social Science Research, 40*(3), 727-741. doi:10.1016/j.ssresearch.2011.02.001
- Eisenberg, D., Downs, M. F., Golberstein, E., & K. Zivin. (2009). Stigma and help seeking for mental health among college students. *Medical Care Research and Review, 66*(5), 522-541.
- Elliot, W., & Nam, I. (2013). Is student debt jeopardizing the short-term financial health of U.S. households? *Federal Reserve Bank of St. Louis Review, 95*(5), 405-424.
- Fink, J. E. (2014). Flourishing: Exploring predictors of mental health within the college environment. *Journal of American College Health, 62*(6), 380-388.
- Furstenberg, F. F., Rumbaut, R. G., & Settersten, R. A. (2004). On the frontier of adulthood: Emerging themes and new directions. *Network on Transitions to Adulthood Policy Brief*. Retrieved from files.umwblogs.org/blogs.dir/1160/files/2008/05/adulthdnewthemestrand.pdf
- Heiligenstein, E., Guenther, G., Hsu, K., & Herman, K. (1996). Depression and academic impairment in college students. *Journal of American College Health, 45*(2), 59-64.
- Hodgson, C. S., & Simoni, J. M. (1995). Graduate student academic and psychological function. *Journal of College Student Development, 36*(3), 244-253.
- Hoeve, M., Stams, G. J., Zouwen, M., Vergeer, M., Jurrius, K., & Asscher, J. J. (2014). A systematic review of financial debt in adolescents and young adults: Prevalence, correlates and associations with crime. *PLoS ONE, 9*(8), 1-16.
- Hogan, E. A., Bryant, S. K., & Overmyer-Day, L. E. (2013). Relationships between college students' credit card debt, undesirable academic behaviors and cognitions, and academic performance. *College Student Journal, 47*(1), 102-112.
- Hysenbegasi, A., Hass, S. L., & Rowland, C. R. (2005). The impact of depression on the academic productivity of university students. *Journal of Mental Health Policy and Economics, 8*, 145-151.
- Kadison, R., & DiGeronimo, T. F. (2004). College of the overwhelmed: The campus mental health crisis

- and what to do about it. San Francisco, CA: Jossey-Bass.
- Kessler, R. C., Andrews, G., Mroczek, D., Ustun, B., & Wittchen, H. U. (1998). The world health organization composite international diagnostic interview short-form (cidi-sf). *International journal of methods in psychiatric research*, 7(4), 171-185.
- Keyes, C. L. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of health and social behavior*, 207-222.
- Keyes, C. L., & Haidt, J. E. (2003). *Flourishing: Positive psychology and the life well-lived*. American Psychological Association.
- Keyes, C. L., Lopez, S. J., & Snyder, C. R. (2002). Handbook of Positive Psychology.
- Lange, C., & Byrd, M. (2012). The relationship between perceptions of financial distress and feelings of psychological well-being in New Zealand University students. *International Journal of Adolescence and Youth*, 7(3) 193-209.
- Law, S. (2014). Education and its risks. *Antistasis*, 4(1), 16-20.
- Meilman, P. W., Manley, C., Gaylor, M. S., & Turco, J. H. (1992). Medical withdrawals from college for mental health reasons and their relation to academic performance. *Journal of American College Health*, 40(5), 217-223.
- Miller, B. E., Miller, M. N., Verhegge, R., Linville, H. H., & Pumariega, A. J. (2002). Alcohol misuse among college athletes: Self-medication for psychiatric symptoms? *Journal of Drug Education*, 32(1), 41-53.
- Rawson, H. E., Bloomer, K., & Kendall, A. (1994). Stress, anxiety, depression, and physical illness in college students. *Journal of Genetic Psychology*, 155(3), 321-330.
- Seligman, M. E. (2002). Positive psychology, positive prevention, and positive therapy. *Handbook of Positive Psychology*, 2(2002), 3-12.
- Serras, A., Saules, K. K., Cranford, J. A., & Eisenberg, D. (2010). Self-injury, substance use, and associated risk factors in a multi-campus probability sample of college students. *Psychology of Addictive Behaviors*, 24(1), 119-128.
- Shapiro, G. K., & Burchell, B. J. (2012). Measuring financial anxiety. *Journal of Neuroscience, Psychology, and Economics*, 5(2), 92-103.
- Shim, S., Xiao, J. J., Barber, B., & Lyons, A. C. (2009). Pathways to life success: A model of financial well-being for young adults. *Journal of Applied Developmental Psychology*, 30, 708-723.
- Stevenson, J. S. (2008). The relationship between student credit card debt, volunteerism, academic achievement, and health. *ProQuest*, 1-29.
- Surtees, P. G., Wainwright, N. W. J., & Pharoah, P. D. P. (2002). Psychological factors and sex differences in high academic attainment at Cambridge university. *Oxford Review of Education*, 28(1), 21-38.
- Turner, D. P., Thompson, M. E., Brunner Huber, L. R., & Arif, A. A. (2012). Depressive symptoms and academic performance of North Carolina college students. *North Carolina Medical Journal*, 73(3), 169-175.
- Weitzman, E. R. (2004). Poor mental health, depression, and associations with alcohol consumption, harm and abuse in a national sample of young adults in college. *Journal of Nervous and Mental Disease*, 192(4), 269-277.
- Williams, J. J. (2014). The remediation of higher education and the harm of student debt. *Comparative Literature*, 66(1), 43-51. doi:10.1215/00104124-2414923
- Zhang, J., & Kemp, S. (2009). The relationships between student debt and motivation, happiness, and academic achievement. *New Zealand Journal of Psychology*, 38, 24-29.

Table 1

Type		Variables	Mean	%	
Environment	Demographic	Race			
		White		46	
		Black		42	
		Hispanic		8	
		Other		4	
		Gender			
			Female		52
			Male		48
		Parental Influence	Mother's years of education		18
			Father's years of education		14
			Close to father (1=Least; 9=Most)		4.9
		Financial Situation	Close to mother (1=least; 9=Most)		4.7
			Responsibilities (1=Least; 5=Most)		4.1
			Have Student Loan		32
			Amount of Student Loan (If student loan==1)	\$9,331	
	Have Credit Card Debt			20%	
		Amount of Credit Card Debt (If cc debt==1)	\$417		
Social	Social Participation	Volunteering		25	
		Social Action groups		3	
		School clubs		15	
		Art, music, or theater		15	
		Sports		19	
		spiritualityimp		36	
		religionimp		42	
		socialwellbeing		27	
		self-concept		29	
Psychological and Cognitive	Educational Attainment	Graduated		10	
		In college		36	
		No college		54	
		Perceived Ability	Responsible Person (1=Least; 7=Most)		6.31
			Problem solving ability (1=Least; 7=Most)		6
			Money Management ability (1=Least; 7=Most)		5.5
		Health Status	Excellent health (1=Yes; 0=N0)		23

Outcome	Mental Health	Languishing	27
	Risky Health Behaviors	Smoking Drinking High Risk Drinking	11

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Table 2

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Variables	Flourishing	Languishing	T-test
Student Loans	\$8,470	\$6,788	
Credit Card Loans	\$270	\$466	***
Credit Card Loans for College Graduates	\$354	\$937	***
Student Loans for College Graduates	\$22,967	\$24,850	

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Table 3: Languishing

Variable Type	Variables	Coef.	Std. Err.	Sig.
Loans	Log CC Debt	-0.004	0.031	
	Log Stu Loan	-0.033	0.021	
Health Status	Excellent Health	-0.133	0.034	***
Demographics	Age	-0.086	0.038	**
	Female	-0.194	0.184	
	White	-0.169	0.272	
	Black	0.375	0.283	
Educational Attainment	In College	-0.501	0.170	***
	Associates	-1.491	0.780	*
	Bachelor	-1.192	0.359	***
	GPA	0.004	0.004	
Perceived Ability	Problem solver	-0.707	0.080	***
	confident	-0.938	0.087	***
	Responsible	-1.190	0.100	***
Social Activities	Volunteer	0.052	0.053	
	Activist	-0.055	0.119	
	School club	0.086	0.067	
	Art/Music	0.093	0.060	
	Sports	-0.261	0.065	***
Relation to parents	Close to Dad	-0.206	0.059	***
	Close to Mom	-0.042	0.056	
	Mother educ	0.005	0.004	
	Father educ	-0.004	0.003	
	Year			
	2011	0.055	0.161	
	2013	-0.333	0.333	
	<u>Intercept</u>	<u>11.877</u>	<u>1.331</u>	