Financial Debt and Mental Health of Young Adults

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Abstract

The purpose of this study is to examine the debt burdens, perceived capabilities, and mental health of young adults. Panel data constructed from the 2009 to 2013 waves of the Panel Study of Income Dynamics (PSID) and its Transition to Adulthood (TA) supplement are used in this study. The multinomial logistic regression analysis findings showed that the amount of revolving debt was negatively associated with young adults' mental health. On the other hand, perceived abilities in acting responsibly, in solving problems, and in managing money were positively associated with the mental health of young adults. The fixed effects regression analysis results indicate that the amounts of credit card and student loan debt from the previous period were negatively associated with an increase in the mental health continuum scores of young adults over time. A discussion of the implications of this study's key findings for scholars, policymakers, and practitioners is included.

Keywords: debt, financial well-being, flourishing, mental health, young adults

Student loan and credit card debt burdens among young adults in the United States have increased in the past two decades. With the rise in education costs and stagnant government grants, the student loan burden has increased substantially (Cilluffo, 2017; Davidson, 2017). More than 35 million Americans are currently paying student loan debt (Williams, 2014). The rapid growth of debt among young people has drawn the attention of researchers, educators, and policymakers. Student loan debt has a negative effect on household savings and increases households' probability of delinquency of debts and bankruptcy, thus affecting their financial well-being over time (Elliot & Nam, 2013; Rothstein & Rouse, 2011). Student loan debt has also been associated with a delay in decisions to marry or have a child (Gicheva, 2016; Velez et al., 2019). Furthermore, higher debt for young people has been associated with worse health outcomes (Dugan & Kafka, 2014; Kim & Chatterjee, 2019).

In addition to student loan debt, high unsecured debt, such as credit card debt, is also found to affect the well-being of households negatively. People use unsecured debt to purchase goods and services and take on unsecured debt at higher interest to supplement the unexpected shortfall in their regular income (Dwyer, 2018; Houle & Berger, 2017). Hodson et al. (2014) found that transitioning young adults perceive unsecured debt as an investment, and they perceive their ability to accrue debt as empowering, and although unsecured debt has a positive association with the perception of well-being for young adults in the short run if an unpaid, unsecured debt can have an adverse effect on peoples' mental health over the long term. Consistent with this, Sun and Houle's (2018) study found that higher levels of unsecured debt were associated with negative mental health outcomes over time.

The higher debt was associated with worse mental and physical health (Sweet et al., 2013). Some argue that the more student loans people have, the worse their mental health outcomes will be (Williams, 2014). Unsecured debt can adversely affect self-esteem and general self-efficacy (Dwyer et al., 2011), lower young adults' perceived well-being (Zhang & Kemp, 2009), and lead to less frequent volunteerism (Stevenson, 2008) and academic behavior (Hogan et al., 2013). Financial strain from debts is associated with anxiety, depression, and lower physical health in

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http://dx.doi.org/10.1891/JFCP-18-00048

undergraduate students (Archuleta et al., 2013; Cooke et al., 2004; Shim et al., 2009).

The association between financial capability and positive mental health of young people has rarely been studied. Past studies have generally focused on negative outcomes such as anxiety and depression rather than positive emotional states or well-being (Keyes, 2002). Seligman (2002) suggested that examining behavior that positively affects young adults' well-being is necessary for developing policies to improve the mental health of college students. The purpose of the current study is to examine whether debt- and financial-capability-related characteristics are associated with the flourishing or languishing of young adults, based on Keyes's mental health continuum, and to explore the relationship between student loan and credit card debt and the mental health of young adults.

Review of Literature

Debt Burden and Mental Health

Financial strain resulting from financial problems such as reduced income and increased debt has been previously associated with perceived psychological stress and poorer mental health (Kahn & Pearlin, 2006). Debt has been specifically linked to subjects' psychological functioning (Brown et al., 2005), depressive symptoms (Hojman et al., 2016), and mental disorders (Jenkins et al., 2008). Credit card debt has been linked to financial stress and negative health outcomes (Adams & Moore, 2007; Nelson et al., 2008).

Debt Burden and Mental Health of Young Adults. There has been a steady increase in the number of college students reporting psychological problems (Cooke et al., 2004; Eisenberg et al., 2009; Fink, 2014; Roberts et al., 1999). During periods of economic uncertainty, the potential health risks of carrying a financial burden from the cost of a college education may be larger if there is unstable employment to maintain stable income than otherwise anticipated (Law, 2014).

Detrimental Effects of Credit Card and Financial Debt on Mental Health. Financial difficulty resulting from college students' financial debt (Cooke et al., 2004; Richardson et al., 2017) was associated with mental health problems of undergraduate students. Concerns related to finances increased for undergraduate students as they progressed through college (Cooke et al., 2004). Furthermore, Robb (2017) found that financially stressed students were also more likely to report lower subjective financial well-being. High levels of financial debts were associated with poor social functioning (Hoeve et al., 2014).

Detrimental Effects of Student Loan Debt on Mental Health. Very few studies have examined the association between subjective well-being and student loan debt of young adults (Tay et al., 2017). However, understanding the relationship between student loan debt and well-being, including its impact on positive emotions, and whether student loan debt also affects young adults' ability to thrive across multiple domains of life can help broaden the debate on student loan debt (Nissen et al., 2019). Tay et al. (2017) found that the association between student loan debt and financial satisfaction was mediated by financial worry. Heckman et al. (2014) identified debt and financial insufficiency to be two significant financial stressors for college students. Other studies have found that student loan debt was negatively associated with life satisfaction, psychological well-being, and financial wellness of individuals (Aboagye & Jung, 2018; Kim & Chatterjee, 2019). Letkiewicz et al. (2014) found that students who had higher amounts of student loan debt (more than $50,000) were more likely to take longer than 4 years to graduate from college. Additionally, Johnson et al. (2016) found that students had very little knowledge regarding student loans. Lee et al. (2019) found that student loan debt increased the risk of debt delinquency among households.

Mental Health as a Continuum

Unlike other areas of psychology, which study psychological deficiencies in individuals, the field of positive psychology emphasizes factors that improve the well-being of individuals. Keyes (2002) suggested a continuum of mental health, including flourishing, moderate mental health, and languishing. Keyes and Waterman (2003) suggested that an individual's perceived or subjective well-being is a self-assessment of their mental health and their psychological and social functioning. This categorization presents a broader paradigm of mental health beyond the more conventionally accepted states of mental disorder or absence of mental disorder (Keyes, 2002, 2006).

Studies show that those flourishing are more adaptive to challenges than non-flourishers (Bergsma et al., 2011; Diener & Seligman, 2004; Huppert, 2009; Kobau et al.,

2011). Using the Panel Study of Income Dynamics (PSID) Child Development Supplement (CDS), Keyes (2002) found that 40% of young respondents were flourishing, 6% were languishing, and the rest were moderately mentally healthy. Flourishing describes the level at which life experiences have gone well for individuals (Diener et al., 2010; Henderson et al., 2014; Keyes, 2002; Seligman, 2011). Flourishing encompasses the emotional, psychological, and social well-being of individuals (Keyes, 2002). Flourishing individuals engage in adaptive coping strategies and exhibit innovative and flexible behavior, while depressed or languishing individuals engage in more maladaptive coping strategies (Faulk et al., 2013; Fredrickson & Losada, 2005).

Based on the broaden-and-build theory of positive emotions, Faulk et al. (2013) suggested that positive emotions could expand the coping strategies and decision-making abilities of young adults. Fredrickson and Losada (2005) suggested that individuals, who experienced at least 2.9 positive emotions for every negative emotion (3:1 for practical purposes), were more likely to flourish (Faulk et al., 2013). However, limited information is available about the impact of debt burden on positive psychology or positive mental well-being of young adults.

Factors of Languishing and Flourishing

Based on Keyes' (2002, 2003) mental health continuum, an individual's mental health may be associated with other social, psychological, or cognitive-functioning-related factors (Garmezy, 1993; Luthar, 1991; Werner, 2000). Financial situation variables such as debt burden, income, and wealth have been associated with the mental health of young adults (Cooke et al., 2004; Sweet et al., 2013; Tay et al., 2017; Walsemann et al., 2015). Studies by Cooke et al. (2004) and Sweet et al. (2013) found debt burden to be negatively associated with mental health outcomes, studies by Tay et al. (2017) and Walsemann et al. (2015) found that family resources, problem-solving abilities, and income moderated the association between debt and subjective well-being of individuals.

Sociodemographic variables such as education, age, gender, and race have been associated with children's mental health and resiliency (Keyes, 2002; Schotanus-Dijkstra et al., 2016). Educational attainment was positively associated with flourishing mentally and had higher perceived well-being (Keyes, 2002; Schotanus-Dijkstra et al., 2016). Also, young adults were more likely to flourish mentally when compared with older adults (Keyes, 2002). Women were found to have more extreme emotional responses to both positive and negative situations (Schotanus-Dijkstra et al., 2016). Whites were positively associated with flourishing mentally, and conversely, were negatively associated with languishing (Keyes, 2002).

It has also been found that attributes such as having a stable family background and receiving affection and warmth from parents and caregivers are positively associated with a flourishing mental state (Garmezy, 1993). Closeness to parents is another factor that reduces the risk of children's negative behavior (Werner, 2000). Additionally, parents' educational attainment (Luthar, 1991) and family financial situation have also been associated with the financial well-being of young adults (Kim & Chatterjee, 2013).

Young adults' level of social engagement could also influence their mental health. Low (2011) found that civic and community engagement was positively correlated with flourishing among first-year college students. Positively perceived experiences from community engagement or service-learning have been linked to reduced mental health issues such as depression, substance abuse, or anxiety (Ottenritter, 2004). These positive experiences are included in the psychological and social dimensions of the Keyes continuum (Keyes, 2007; Low, 2011).

This article adds to the literature by examining whether debt burdens and perceived financial capabilities of young adults are associated with young adults' flourishing and languishing mental health outcomes after controlling for health, other sociodemographic factors, parental influence, and social engagement levels.

Methods

Data

This study uses data from the PSID and its Transition to Adulthood (TA) supplement to examine the associations among debt burdens, perceived financial capability, and the physical and psychological well-being of young adults. The PSID is a longitudinal study of a nationally representative sample of U.S. men, women, and children, as well as their families. For approximately the past four decades, the study has collected annual data from these families and individuals with regard to their demographic, economic,

and employment behavior. The TA supplement includes data on young adults aged 17–29. For the empirical analysis 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. Respondents under 18 years of age were excluded from the analysis. This study uses a panel constructed from the 2009 to 2013 waves of the PSID and its TA supplement.

Variables

Dependent Variables. The dependent variables for this study were constructed based on a composite mental health continuum scale that measured the emotional, social, and psychological well-being of the respondents, which is included in the PSID-TA dataset. The scale was originally included in the Midlife in the United States study (MIDUS) and has since been available in the PSID-TA supplement for the 2009–2013 waves. The scale itself comprises three different sub-scales: the MIDUS scale of emotional well-being (Cronbach's alpha = 0.87) (Kessler et al., 1998); Ryff's scale of psychological well-being (Cronbach's alpha = 0.79) (Ryff & Keyes, 1995); and Keyes's scale of social well-being (Cronbach's alpha = .80) (Keyes, 1998). The emotional well-being sub-component developed originally by Kessler et al. (1998) comprised of three items related to emotional well-being—happiness, interest in life, and feeling satisfied. All three items were coded as 1 = *lowest* and 6 = *highest*. The psychological well-being sub-component was originally developed by Ryff and Keyes (1995) and included the following six items—feeling good about managing daily responsibility, perception of having trusting relationships, feeling challenged to grow, feeling confident of own ideas, liking one's own personality, and feeling of having direction in life. All six items were coded as 1 = *lowest* and 6 = *highest*. The social well-being sub-component was developed by Keyes (1998) and comprised of the following five items: feeling of having something to contribute to in society, feeling of belonging to the community, feeling of society getting better, feeling that people are generally good, feeling the way that society works makes sense. All six items were coded as 1 = *lowest* and 6 = *highest*. The scores from these sub-components were then scaled to the participants' scores on the composite flourishing-languishing continuum scale and ranged from 1 = *least flourishing* to 18 = *most flourishing*. This composite scale is computed and made available in the PSID-TA dataset. Respondents with higher scores on the composite scale (range: 1–18) are considered to be *flourishing* mentally, while respondents with lower scores are considered to be *languishing* mentally. The Cronbach's alpha for the scale in our study was .77.

Keyes (2002) sorted the respondents into three groups based on their scores on the Keyes mental health continuum scale. From this scale, Keyes constructed separate binary variables for flourishing and languishing based on the respondents' scores on the scale. The respondents in the top tertile of scores in the scale were coded as flourishing, those in the bottom tertile of the scale were coded as languishing, and those who were in the middle tertile were coded as moderate. Similarly, we follow this methodology in our study to construct a categorical variable where 3 = flourishing (score in the top tertile of the Keyes scale); 2 = moderate or stable (score in the middle tertile of the Keyes scale); 1 = languishing (score in the bottom tertile of the Keyes scale). We also use the composite scale in the secondary analysis of this study to examine changes in the scale over time.

Independent Variables. The independent variables for this study are grouped into three major categories—financial situation and perceived abilities, health, educational attainment, sociodemographic, and social engagement-related factors. These variables are described below:

Financial Situation and Perceived Ability. The financial situation variables included continuous variables for income, family wealth, student loan debt, and credit card debt. Log values of these variables were included in the empirical models estimated in this study. The perceived abilities variables were perceived responsibility (7-point Likert-type scale: 1 = *not at all well*; 7 = *extremely well*), problem-solving ability (1 = *not at all well*; 7 = *extremely well*); ability to pay off credit card debt (1 = *not at all well*; 7 = *extremely well*); and the ability to manage money (1 = *not at all well*; 7 = *extremely well*).

Health. For perceived health status, those respondents who reported being in excellent health were coded as 1 and 0 if otherwise.

Sociodemographic Factors. The sociodemographic variables include demographic factors related to education, age, gender, race, and ethnicity. Educational attainment variables

comprise four binary variables: graduated from college (1 = yes; 0 = otherwise); currently in college (1 = yes; 0 = otherwise); dropped out of college (1 = yes; 0 = otherwise); and never attended college (1 = yes; 0 = otherwise). In the empirical models used in this study, the currently in college variable has been used as the reference group, and the other educational attainment variables have been compared against this variable. Age is included as a continuous variable, and gender is coded as female (1 = yes; 0 = male). Four binary variables for race/ethnicity included in this study are non-Hispanic White, Black, Hispanic, and other races. In the empirical analyses, the non-Hispanic White category was used as the reference group.

Among the parental influence-related variables, mother and father's number of years of education were included in the model. The PSID-TA dataset also includes information on the emotional closeness of respondents to their parents. Closeness to father (1 = *least close*; 7 = *very close*) and closeness to mother (1 = *least close*; 7 = *very close*) were also included as control variables in this category.

Social Engagement. The social interaction variables included five binary variables based on whether the respondents participated in social activities while in school or college. These binary variables included participation in volunteering activities, social activism; school clubs; art, music, or theater performances; and sports. These variables were coded as binary (1 = yes; 0 = otherwise).

Analyses

The descriptive statistics of the dataset, along with a table of correlation of mental flourishing with financial situation and perceived abilities-related factors, are presented in Tables 1 and 2. In this study, the first dependent variable Y_{it} is categorical (1 = languishing; 2 = moderate (base); 3 = flourishing), and the second dependent variable is continuous. The data comprised a panel constructed from three consecutive waves (2009, 2011, and 2013) of the PSID and its TA supplements. In this study, therefore,

$$Y_{it} = \boldsymbol{Fin}'_{it}\boldsymbol{K} + \boldsymbol{Abil}'_{it}\Gamma + \boldsymbol{SoDe}'_{it}\gamma + \boldsymbol{Soc}'_{it}\omega + \varepsilon_i \quad (1)$$

Where Fin is a vector of financial situation-related factors including income, family wealth, student loan debt, and credit card debt. Abil is a vector of the perceived abilities variables, SoDe is a vector of the sociodemographic variables, Soc is a vector of the social engagement variables, and ε is the error term with $\varepsilon \sim N(0, 1)$. In the first analysis of this study, a multinomial logit is estimated on a pooled panel using a pooled panel model (see Table 3) with moderate (category = 2) as the control group is compared against flourishing (category = 3) and languishing (category = 1).

In the second analysis, the determinants of mental health score (Y_{it}) as a function of the control factors can be written as

$$Y_{it} = f(\boldsymbol{Fin}'_{it}\boldsymbol{K} + \boldsymbol{Abil}'_{it}\Gamma + \boldsymbol{SoDe}'_{it}\gamma + \boldsymbol{Soc}'_{it}\omega)$$

The parameters are estimated using the ordinary least squares (OLS) regression model. The model is estimated for change in mental health continuum score (ranges 1−18) as the dependent variables, with only time-varying factors as control variables in a fixed effects model. Panel data estimation method has been applied in this study because this approach helps to remove the unobserved error terms that might otherwise be correlated with the control variables in the estimation model (Wooldridge, 2010).

Results

The results of the descriptive statistics are shown in Table 1. The descriptive statistics indicate that 32% of the respondents reported having student loans, and 20% reported having credit card debt. The average amount of student outstanding loans for the respondents was $19,889, and the average amount of credit card debt among the respondents was $2,021. Regarding educational attainment, 11% of the respondents had graduated from college, 43% were in college, 17% had dropped out of college, and 29% never attended college. Demographically, 44% of the respondents were White and 52% were female. Approximately 25% of the respondents reported participating in some volunteering activities and 19% participated in sports.

Correlations between the mental health continuum score, financial situation, and abilities-related variables were calculated. Among the financial situation variables, family wealth had a significant and positive correlation with flourishing mentally (ρ = 5.8%), and conversely, credit card debt had a significant negative correlation with mental health score (ρ = −10.5%). All of the perceived abilities-related variables had a significant and positive correlation with mental health scores. The correlation table and a correlation matrix of all the variables included in the analyses of this study are available upon request.

TABLE 1. Descriptive Statistics (*N* = 3,852)

	Variables	Mean (*SD*)	%
Financial situation	Income	$10,574 ($14,237)	
	Family wealth	$180,335 ($356,713)	
	Have student loans		32
	Student loan debt	$19,889 ($16,786)	
	Have credit card debt		20
	Credit card debt	$2,021 ($7,693)	
Health status	Excellent health		23
Educational attainment	Graduated		11
	In college		43
	Dropped out of college		17
	No college		29
Perceived ability	Fin. responsible (1 = least; 7 = most)	4.9 (1.24)	
	Problem-solving ability (1 = least; 7 = most)	6 (1.37)	
	Credit card payoff ability (1 = least; 7 = most)	3.9 (2.94)	
	Money management ability (1 = least; 7 = most)	5.5 (1.63)	
Race/ethnicity	White		46
	Black		42
	Hispanic		8
	Other		4
Gender	Female		52
	Male		48
Parental influence	Mother's years of education	18 (5.98)	18
	Father's years of education	14 (6.21)	14
	Close to father (1 = least; 7 = most)	4.6 (1.91)	4.9
	Close to mother (1 = least; 7 = most)	4.9 (1.43)	4.7
Social engagement	Volunteering		25
	Social action groups		3
	School clubs		15
	Art, music, or theater		15
	Sports		19
Mental health	Keyes (1 = min; 18 = max)	14 (2.48)	
	Flourishing		41.31
	Moderate		30.48
	Languishing		28.21

Determinants of Mentally Flourishing and Languishing Young Adults

The results for the multinomial logit for the determinants of mental flourishing and languishing relative to the reference group of young adults who were neither languishing nor flourishing (moderate mental health) are shown in Table 2. Among the financial situation-related variables, family wealth ($b = 0.088$; $p < .05$) was positively associated, and the amount of outstanding credit card debt ($b = -0.03$; $p < .05$) was negatively associated with flourishing mentally. Among the perceived ability and health-related factors, perceived sense of responsibility ($b = 0.401$; $p < .001$), problem-solving skills ($b = 0.178$; $p < .001$), ability to manage money ($b = 0.408$; $p < .001$), and being in excellent

TABLE 2. Multinomial Logistic Regression Results on Determinants of Flourishing and Languishing Mentally

		Flourishing			Languishing		
		1	2	3	4	5	6
		Coef.	St. Error	Sig	Coef.	St. Error	Sig
	Intercept	−5.775	2.050	***	3.092	2.952	
Financial situation	Log income	0.009	0.014		−0.022	0.012	*
	Log family wealth	0.088	0.039	*	−0.103	0.203	
	Log Student loan	−0.008	0.011		−0.034	0.161	
	Log total CC debt	−0.030	0.017	*	0.032	0.015	*
Perceived ability	Fin. responsible	0.401	0.068	***	−0.084	0.063	
	Problem-solving ability	0.178	0.042	***	−0.125	0.050	**
	CC payoff ability	0.021	0.017		0.007	0.023	
	Money management ability	0.408	0.062	***	−0.282	0.072	***
Health	Excellent health	0.333	0.094	***	−0.04	0.05434	
Educational attainment	Ref: currently in college						
	Graduated college	0.406	0.338		−0.488	0.238	**
	Dropped out of college	−0.560	0.149	***	−0.061	0.198	
	No college	−0.246	0.157		−0.154	0.183	
Demographic	Age	0.036	0.011	**	0.001	0.028	
	Female	0.120	0.099		−0.220	0.134	
	Race (ref: White)						
	Black	0.171	0.117		−0.005	0.160	
	Hispanic	−0.039	0.166		0.340	0.204	
	Other	−0.149	0.204		0.224	0.183	
Parental influence	Mother educ.	0.015	0.032		−0.002	0.003	
	Father educ.	0.002	0.002		−0.004	0.002	**
	Close to mother	0.098	0.033	***	−0.168	0.044	***
	Close to father	0.001	0.001		−0.084	0.040	**
Social engagement	Volunteered	−0.098	0.088		−0.099	0.060	
	Social activities	0.087	0.065		−0.094	0.005	***
	School club	−0.029	0.084		−0.055	0.047	
	Art, music, theater	−0.008	0.030		0.048	0.045	
	Sports	−0.061	0.130		−0.119	0.148	

*$p < .05$. **$p < .01$. ***$p < .001$.

TABLE 3. Fixed Effects Analysis of Change in the Keyes Mental Health Continuum Scale (Ranges 1–18) Using Time-Varying Factors

	Variable Name	Coef	Robust St. Error	Sig
	Intercept	2.043	0.257	***
	L1.Flourishing	0.776	0.035	***
Financial situation	Log income	0.002	0.001	*
	Log family wealth	0.126	0.062	**
	Log student loans	0.001	0.001	
	Log CC debt	0.004	0.003	
	L1 student loans	−0.003	0.001	***
	L1 CC debt	−0.007	0.004	*
Perceived ability	Fin responsible	0.128	0.012	***
	Problem-solving ability	0.013	0.006	*
	Credit card payoff ability	0.001	0.001	
	Money management ability	0.014	0.005	**
Health	Excellent Health	0.129	0.026	***

F statistic: 182.47; $p < .001$. *$p < .05$. **$p < .01$. ***$p < .001$.

health ($b = 0.333$; $p < .001$) were positively associated with flourishing mentally. Among the sociodemographic factors, the likelihood of flourishing mentally decreased with dropping out of college ($b = -0.561$; $p < .001$). Age ($b = 0.036$; $p < .01$) was positively associated with flourishing mentally. Among the factors related to parental influence, closeness to the mother ($b = 0.098$; $p < .001$) was significant and positively associated with flourishing mentally.

Compared to the baseline of respondents with moderate mental health scores, the determinants of respondents who languished are shown in Columns 4–6 of Table 2. The results indicate that income ($b = -0.022$; $p < .05$) was negatively associated, and the amount of credit card debt ($b = 0.032$; $p < .05$) was positively associated with the likelihood of languishing mentally. Perceived problem-solving ($b = -0.125$; $p < .01$) and money management ($b = -0.282$; $p < .001$) abilities reduced the likelihood of languishing among respondents. Graduating from college ($b = -0.488$; $p < .01$) was also negatively associated with the likelihood of languishing mentally. Among parental influence-related factors, closeness to the mother ($b = -0.168$; $p < .001$), closeness to the father ($b = -0.084$; $p < .01$), and the father's education ($b = -0.004$; $p < .01$) were negatively associated with languishing for the respondents. Participation in social activities ($b = -0.094$; $p < .001$) was negatively associated with languishing mentally.

Factors Associated With the Dynamics of Positive Change in Psychological Well-Being

The results shown in Table 3 indicate the association between time-varying factors and change in mental health continuum score across the period of this study (2009–2013). The results show that flourishing mentally ($b = 0.776$; $p < .001$) in the previous period was positively associated with change in mental health score. Among the financial situation-related factors, income ($b = 0.002$; $p < .05$) and family wealth ($b = 0.126$; $p < .01$) in the current period were positively associated with an increase in mental health (better mental health) score. Conversely, the amount of student loans ($b = -0.003$; $p < .001$) and credit card debt ($b = -0.007$; $p < .01$) in the previous period were negatively associated with an increase in mental health score. Among the perceived abilities and health-related factors, the perceptions of being responsible ($b = 0.128$; $p < .001$), being a problem-solver ($b = 0.013$; $p < .05$), being good at managing money ($b = 0.014$; $p < .01$), and being in excellent health ($b = 0.129$; $p < .001$) were positively associated with an increase in mental health score over time.

Discussion

This study examined the factors associated with the mental health state of young adults, with a specific focus on financial well-being and their perceived financial capabilities. The results from the fixed effects analysis with time-varying

factors indicate that the amounts of student loans and credit card debt in the previous period were associated with negative changes in mental health continuum scores across time. Additionally, the amount of credit card debt was negatively associated with flourishing and positively associated with languishing in the cross-sectional analyses. These findings are consistent with those of Heckman et al. (2014) study, which found debt to be positively associated with financial stress among college students. In another study, Lim et al. (2014) found that, among other factors, student loan debt was a predictor of stress among students.

Interestingly, income was negatively associated with being languishing, not flourishing, while family wealth was positively associated only with flourishing. Both family wealth and income might affect young adults' mental health significantly but in different ways. Being financially responsible and having excellent health are positively associated with being flourishing but not languishing. These findings suggest that focusing only on negative mental health outcomes may underestimate the effect of family wealth, being financially responsible, and health on the positive end of the mental health continuum, or flourishing.

Similarly, previous studies have found using cross-sectional data that financial debt was associated with poorer health (Fitch et al., 2011; Hoeve et al., 2014). However, debt has not been studied previously in relation to the flourishing-languishing mental health continuum across time. In our study, credit card debt was associated with a decreased likelihood of flourishing and increased likelihood of languishing. These findings suggest that credit card debt burden could decrease positive mental health, while young adults may not exhibit the languishing or mental health disorder from credit card debt. Additionally, student loan debt in the previous period was also associated with a decrease in flourishing over the current period. This negative association between student loan debt and flourishing is consistent with findings from previous studies that found student loan debt was negatively associated with life satisfaction across time (Kim & Chatterjee, 2019) and was detrimental to young adults' mental health (Walsemann et al., 2015). Similarly, in another study, Archuleta et al. (2013) found that student loan debt was associated with financial anxiety and distress. However, the overall negative effects of a financial burden on young adults' well-being might not have been fully explored. The negative effects on flourishing may decrease optimal human functioning (Seligman et al., 2005), which is a key asset for well-being and long-term social and economic prosperity (Barry, 2009). These findings add to the literature by showing that both student loan debt and credit card debt negatively affect the mental health of young adults across time.

This study found that those using adaptive coping strategies were more likely to be flourishing. On the other hand, individuals who are languishing may benefit from participation in social activities (Low, 2011) and improving perceived financial management capabilities. Perceived abilities such as being financially responsible, solving problems, and managing money increased the likelihood of flourishing mentally significantly, while perceived ability in problem-solving and money management were negatively associated with languishing. These results are consistent with previous studies that found problem-solving abilities and financial self-efficacy to be positively associated with the psychological well-being of young adults (Garmezy et al., 1984; Heckman et al., 2014; Lim et al., 2014; Robb, 2017). The present study also extends these findings to show that, in addition to problem-solving abilities, task-specific perceptions of individuals' abilities such as the ability to manage money and the perception of being financially responsible were associated with the psychological well-being of young adults.

Similarly, Britt et al. (2016) found that financial knowledge was significantly associated with greater awareness of options, resulting in reduced anxiety while borrowing. Poor financial capability and debt have been linked to mental health problems such as depression and anxiety among young adults (Adams & Moore, 2007). Furthermore, this finding related to the positive association between perceived abilities and flourishing/languishing in our study suggests that interventions to improve people's perceived abilities in managing money might contribute positively to their emotional, psychological, and social functioning.

The negative association between closeness to parents and languishing and the positive association between closeness to parents and flourishing were consistent with the findings from previous studies that found a positive association between receiving better family and social support and the physical and mental health of young adults (Schotanus-Dijkstra et al., 2016). Consistent with previous research

(Low, 2011), engagement in social activities was associated with both flourishing and languishing states of young adults. These findings were consistent with those from previous studies, which found that participation and engagement in social and community events had a positive association with mental health and a negative association with depression or mental languishing (Keyes, 2007; Low, 2011; Ottenritter, 2004). Providing opportunities to participate in various social activities might be important to the mental health of young adults.

Limitations and Future Directions

Given the limitations of the dataset and the young age of the respondents, detailed information on the effect of financial asset holdings on the mental health continuum was not included in the analyses. However, future studies are needed to examine the role of financial asset holdings of the respondents in the model. Although this study used panel data and examined respondents across time, more studies are needed to establish causality between flourishing and the covariates that were found to be significantly associated with flourishing in this study. The mental health and functioning of young adults is an issue of universal interest. Future studies examining the predictors of flourishing among young adults in other countries should be encouraged. It will be important to examine the enduring factors that remain associated with flourishing as these young adults grow older and reach the asset accumulation phase of their life cycle.

Implications

The findings from the current study show that perceived financial capability is positively associated with mentally flourishing and negatively associated with mentally languishing. Additional research is needed to see the long-term effects of financial capability on mental health. This relationship could also be bi-directional; that is, mental health states could influence perceived confidence in peoples' financial capability and financial well-being, as languishing has been found to be negatively associated with productivity and psychosocial functioning in a previous study (Keyes, 2007).

In light of the growing concerns about the financial debts of young people, the findings suggest that the ability to manage consumer debt such as credit cards and student loans is important and that a better ability to manage debt may be beneficial for the mental health and well-being of young adults. Financial and mental health counselors need to be aware of this relationship and make appropriate referrals for young adults as needed. Financial educators and counselors, when counseling young adults with debt burdens, may need to help their clients realize the negative financial consequences of debts such as delinquency, bankruptcies, and decreased net worth for their mental health and well-being. Furthermore, they can coach young people in improving their financial management skills and abilities to understand the lifelong impacts of borrowing and make informed decisions in borrowing. More targeted education and counseling may be needed for those young people who exhibit signs of overborrowing or potential debt problems. Financial education programs have been found to improve financial management skills and confidence (Fernandes et al., 2014). Such financial education and counseling can be used as an intervention, especially for moderately mentally healthy people. Understanding and promoting the well-being and mental flourishing of young adults may be as important as addressing mental illness.

The finding that participation in social activities was negatively associated with languishing underscores the importance of promoting greater opportunities for group-oriented activities across neighborhoods, as this can improve both social capital and sense of well-being among young adults. Schools should also emphasize similar activities that encourage student participation. A related recent study found experiential learning to be an effective method of financial socialization of children (LeBaron et al., 2019). Financial education programs based on experiential learning, such as peer financial education or providing education and mentoring opportunities in the community, could benefit young adults. By engaging in their own behaviors and others', young adults may increase their participation in social activities as well as improve their own financial capability, both of which will lead to improved mental health. It is suggested that policies should address the financial and mental health of young adults, such as the inclusion of health and financial clinics on college campuses. Young adults who are not currently in college need opportunities to improve social engagement and financial capabilities at a low or minimal cost.

The findings from this study indicate that while endowment factors such as family wealth, closeness to mother, and health are positively associated with a flourishing

state of mind in young adults, perception of one's ability or self-efficacy-related factors, such as the perception of being financially responsible, confidence in one's problem-solving, and money management abilities are also positively associated with flourishing. And additionally, dropping out of college and higher levels of credit card debt are negatively associated with flourishing. These associations between flourishing and perceived ability, debt burden, and educational attainment also have policy implications. Keyes (2002) suggests that flourishing is positively associated with better psychosocial functioning, overall health, and well-being of individuals. Asebedo et al. (2020) found that implementing positive psychology-based interventions can be effective in improving peoples' financial self-efficacy, their overall financial well-being. LeBaron et al. (2019) found that experiential learning was an important tool for financial socialization. Financial socialization-related practices by parents, such as opening a bank account for their children and regularly monitoring their children's spending, were positively associated with better financial practices among young adults as they grew older (Kim & Chatterjee, 2013). Perhaps, creating greater access to financial education opportunities that integrate experiential learning into the curriculum could be beneficial in building confidence in young adults' perception of their abilities to manage money and debt. Creating campus-based programs that encourage college and high school students to complete their studies, provide financial education opportunities, and educate them to practice positive financial management can be useful strategies that may be useful in improving the flourishing state of mind among young adults.

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Disclosure. The authors have no relevant financial interest or affiliations with any commercial interests related to the subjects discussed within this article.

Funding. The author(s) received no specific grant or financial support for the research, authorship, and/or publication of this article.