Using Self-Determination Theory to Investigate Financial Well-Being

Kate Mielitz, Oklahoma State University[1]
Morey MacDonald, Kansas State University[2]
Brandon Ratzlaff, Kansas State University[3]
Mindy Joseph, Kansas State University[4]
Shelitha Smodic, Kansas State University[5]

University life is full of opportunities for students to manage financial resources. Tuition and fees and related loan decisions may require predominant focus, but there are many other financial facets to university student life. Greek life or other social endeavors, dining plans or even dining out, transportation costs, on-campus versus off campus housing—the opportunities to thrive or struggle financially are abundant. The financial well-being of university students is an area of interest to universities because financial problems are prevalent in student retention studies (Britt et al., 2017), parents' financial support and financial socialization are influential (Rea et al., 2019), and concerns about college costs and potential over-borrowing pervade government policy and recent political campaign discussions. Hence gaining clarity on the financial knowledge, stress, socialization, and well-being of university students is needed more than ever before.

The Consumer Financial Protection Bureau (CFPB) created a measure of financial well-being "…that draws on insights from both consumers and financial practitioners" (CFPB, 2017, p. 4) to provide a standard for evaluation that is practically based. "Financial well-being is a state of being wherein a person can fully meet current and on-going financial obligations, can feel secure in their financial future, and is able to make choices that allow them to enjoy life" (CFPB, 2017, p. 6). As students approach financial independence a number of factors may influence their ability to navigate the financial challenges of early adulthood. Much has been written about college students and financial literacy (e.g. Durband & Britt, 2012; Markle, 2019; Xiao et al., 2014). However, little research has explored the factors associated with student's financial well-being. Using self-determination theory (Deci & Ryan, 1985; Ryan, 2009) we are investigating how financial competence, financial relatedness, and financial autonomy influence financial well-being in college students. Multivariate regression analysis of data collected online from students at a land-grant, Midwestern university indicates that competence is a most important well-being predictor as measured by objective and subjective financial knowledge while accounting for indicators of autonomy (e.g., who pays for college) and relatedness (such as comparative influences of family, friends, media, and schools). Implications for financial education and socialization are being developed for presentation at the ACCI 2021 conference.

Self-determination theory (SDT) suggests that there are three primary psychological needs for well-being: autonomy, relatedness, and competence (Ryan, 2009). SDT is frequently used to investigate motivation (e.g., Carr et al., 2015; Chaffin, 2018). This study assumes that students are motivated to seek positive financial well-being, as measured by the CFPB Financial Well-Being Scale and that financial autonomy, financial relatedness, and financial competence influence financial well-being (see Figure 1). Although there are studies that investigate aspirations of financial success in comparison with other facets of life (Kasser & Ryan, 1993), the role of financial knowledge, resource autonomy and socialization aspects of relatedness has been neglected. There is some literature that treats health as a primary resource during later life for retirement well-being (Carr et al., 2015) but that is of less concern for young adults. Thus, the literature pursued to guide this study concentrates on potential financial predictors of well-being in selected studies of population groups broader than students or young adults.

Cross-sectional data collected by the CFPB has revealed that financial well-being increases with age (Collins & Urban, 2019) and that financial literacy was a positive influence, along with savings and investments. An article asserting in its title that financial knowledge is not enough used a measure of propensity to plan that played an important moderating role (Leeet al., 2019) in explaining the CFPB well-

[1] Kate Mielitz (kate.mielitz@okstate.edu), Assistant Professor, Human Development and Family Science
[2] Morey MacDonald (morey@ksu.edu), Professor, Personal Financial Planning
[3] Brandon Ratzlaff (bratzlaff@ksu.edu), PhD Student, Personal Financial Planning
[4] Mindy Joseph (mindyj@ksu.edu), PhD Student, Personal Financial Planning
[5] Shelitha Smodic (ssmodic@ksu.edu), PhD Student, Personal Financial Planning

being scale. The National Financial Capability Study has been investigated to understand how subjective and objective financial knowledge are associated with cash and credit behavior (Woodyard et al., 2017), finding that both are significant indicators of positive financial behavior; but, importantly and perhaps relevant for a student population, they found that high subjective knowledge and low objective knowledge (which they labeled over-confidence) were associated with questionable cash and credit behavior. Most recently an article by Xiao et al. (2020) suggests that while enrolled college students have lower financial capability scores than college graduates, the enrolled students have greater financial capability than college dropouts, which suggests that financial competence is benefited by time in school. Although studies of the kind discussed for competence here control for resource levels, they have not explicitly considered those as regarding autonomy and often omit consideration of relatedness.

An exemplary study of autonomy for college students' mental health found that helicopter parenting was associated with lower mental well-being for females and that Hispanics reported lower autonomy (Kouros, et al., 2016) but to our knowledge the involvement of parents during college has not been studied with respect to financial matters. Hence to refine understanding of prior findings will require further work to focus on influences regarding family and student resource levels.

Of course, we are aware that substantial research involves family financial socialization (Gudmunson & Danes, 2011) and to some extent the influence of peers (Sabri & MacDonald, 2010). The paper for the conference will digest this knowledge base to focus on young adults and students as it pertains to motivating and comparing our measures for relatedness and its results.

In summary, it is surprising that the SDT framework has hardly been applied at all for university student studies. Research on financial competence exists but has not been focused on student well-being, extant financial literature neglects the role of subjective autonomy components, and the specific links between relatedness aspects like financial socialization to student well-being are not yet understood. These are serious omissions because college is certainly a critical stage for self-development by gaining psychological and economic resources for sustained financial well-being.

Based on the relative importance of predictors via SDT theory and the extent of solid findings to date from prior research, our main hypothesis is that financial competence, as measured by objective and subjective financial knowledge, will have a stronger positive association with financial well-being than measures of autonomy and relatedness. A sub-hypothesis based on the relative inexperience of students compared to those at older ages and supported by the work of Woodyard et al. (2017) is that perceived financial competence (as measured by subjective financial knowledge variables) will be a better predictor of well-being than the objective competence (measured by objective financial knowledge) component of financial competence.

The data for this study was obtained through an online survey of a representative sample of a large Midwestern university student body. The sample of students to whom the survey was sent (N = 5,000) was representative by class rank, college where major was housed, race, and sex. Students were incentivized to complete the study. For the first 350 who responded, a $5 Amazon e-gift card was awarded. A total of 628 students began the survey. Of those who began the survey, 494 completed it. After accounting for missing data (determined to be missing at random), quantifying that only those who identify as male and female were included (loss = 8 (non-binary =3; prefer not to answer =5) and narrowing the age range to include only those of "typical undergraduate age" (18-25 years old) (loss of 20), the final sample (n = 466) is used in the analyses reported in this paper. A very abbreviated overview of survey content and its use to operationalize the SDT constructs can be seen below in italics. Some of the survey item responses were reverse-coded for use in estimation and the list of questions is also selective relative to the actual variable definitions. The intent is to suggest the quality of the questions and link them to the constructs for reviewers to judge better the preliminary findings reported below.

Competence: I feel financially educated (SD =1; SA = 7); I feel well-informed about financial matters (SD =1; SA = 7); How sure do you feel about your ability to manage your own finances (1 not sure at all; 4 very sure); and a question regarding current overall understanding of personal-finance and money management concepts and practices (1-7, 1 is extremely low; 7 is extremely high); objective financial knowledge (continuous scale range 0-21).

Relatedness: How do they plan to learn about financial topics going forward—parents, friends, media, school, books, job, life experience, financial planner/counselor, other. Parents, friends, financial pro were counted as "people". People values were given a value of one and then were added together to get a "learn from others" score; financial socialization (what they learned about at home—topics including but not limited to budgeting, interest rates, recordkeeping, charity, various insurance products),

continuous scale; likeliness to save as compared to parents (1 much more likely to save; 5 much more likely to spend), financial knowledge compared to friends (1 low, 7 high) and as compared to other students (1 low, 7 high).

Autonomy: Who is paying for college? SelfPay= 1 for student 100% or student more than half; non-student pay is parents paying, parents paying 50% or more, or other = 0). Work experience (no work experience =0, Less than one year = .5, one to two years' experience = 1, more than two but less than four year's work experience = 1.5, more than four years =2) Number of financial accounts: no accounts = 0, up to 8 to include savings, checking, money market, CD, stock, Bond, mutual fund, IRA—continuous scale.

Dependent Variable, CFPB Well-Being Scale: Based on ten questions concerning budgeting, financial strain, and securing a financial future (respective examples are "handling a major unexpected expense", "finances control my life", and "concerned that money or savings won't last").

These results are specific to the primary hypothesis and sub-hypothesis as outlined above. Additional sub-hypotheses are being investigated as well and will be reported at the ACCI conference. Due to space issues, Table 1 provides an abbreviated version of the descriptive statistics. Table 2 presents findings for the primary hypothesis from multivariate analysis conducted with OLS regression.

Variables for control purposes included gender, year in college, parent's income, whether or not consumer debt was owed, and if student loans were going to be owed. Of the control variables only being a senior (as compared to a freshman), parent income of $60,000 or less (as compared to parent income between $60,000 and $120,000), and student loan debt were significant predictors of financial well-being. As one might expect, lower parent income and student loan debt were negatively associated with student financial well-being.

As hypothesized, Financial Competence was the strongest predictor of financial well-being (β = .287, $p < .001$). Financial relatedness was also a significant predictor, (β = .235; $p < .001$), however our financial autonomy variable did not reflect any significance in the final model. Our sub-hypothesis was also supported. In results not shown in Table 1, perceived financial competence (β = .297; $p < .001$) was a stronger predictor of financial well-being than objective financial competence (β = .038; p = .337). Practical implications will be addressed at the conference. To illustrate, lower well-being for underclassmen compared to Seniors could be addressed by targeting special efforts to enroll first-year and sophomore students in personal finance classes. Also, the negative impact of owing student loans could be countered by counseling students about how to pay them back efficiently and reassure them with specific information about the earnings they can expect.

While in college, many students still rely on their parents for support and guidance. Soon though, these young adults will be faced with the challenge of how to independently navigate personal finance. It is important to understand what leads to financial well-being at this critical stage in self-development. Self-determination theory provides an expanded opportunity to consider not only financial competence, but also financial relatedness and financial autonomy, as core predictors of college student financial well-being. This research will fill gaps in numerous facets of the literature, particularly in personal finance of emerging adults, university recruitment, and university retention.

Abbreviated Descriptive Statistics *(n* = 466*)* (Table 1)

	Proportion (%)	Mean
Variable		
Male	33.91%	
Race		
Black	5.15%	
White	68.24%	
Hispanic	9.01%	
Native American/Pacific Islander	7.51%	
Number of Financial Accounts (range 0-9)		2.11 accounts
Debt		
Non-Student Loan Debt Owed	52.36%	
Student Loan Debt Owed After Graduation	60.52%	
Parent Income		
Less than $60,000	36.27%	
Between $60,000 to $120,000	30.90%	
Greater than $120,000	19.96%	
Don't Know Parents' Income	12.88%	
Financial Knowledge (range 0-21)		10.39
(DV) Financial Well-Being (range 10-49)		32.24

Predicting Financial Well-Being (*n* = 466) (Table 2)

Variable	B	se β	β
Intercept	19.383***	1.640	------
Male	1.142†	0.654	0.068
Freshman (comparison)			
Sophomore	1.266	0.879	0.068
Junior	0.535	0.876	0.030
Senior	2.484**	0.913	0.137
Don't Know Parent Income	-0.845	0.997	-0.036
Parent Income up to $60k	-3.201***	0.746	-0.193
Parent Income between $60-$120k (comparison)			
Parent Income over $120k	0.826	0.875	0.042
Debt Owed	-0.309	0.202	-0.067
Student Loan Owed	-0.964***	0.206	-0.205
Financial Autonomy	-0.270	0.258	-0.045
Financial Relatedness	0.281***	0.055	0.235
Financial Competence	0.355***	0.059	0.287
Adjusted R^2=	*.3544*		

†p<.10, *p<.05, **p<.01, ***p<.001

References

Britt, S. L., Ammerman, D. A., Barrett, S. F., & Jones, S. (2017). Student loans, financial stress, and college student retention. *The Journal of Student Financial Aid*, *47*(1).

Carr, N. A., Sages, R. A., Fernatt, F. R., Nabeshima, G. G., & Grable, J. E. (2015). Health Information Search and Retirement Planning. *Journal of Financial Counseling and Planning*, *26*(1), 3-16.

CFPB. (2017). CFPB Financial Well-Being Scale Development Technical Report.

Chaffin, C. R. (2018). Self-Determination Theory and Self-Efficacy in Financial Planning. *Client Psychology*, 181-187.

Collins, J. M., & Urban, C. (2019). Measuring financial well-being over the lifecourse. *European Journal of Finance, 26*(4-5), 341-359.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.

Durband, D. B., & Britt, S. L. (Eds.). (2012). *Student financial literacy: Campus-based program development*. Springer Science & Business Media.

Gudmunson, C. G., & Danes, S. M. (2011). Family financial socialization: Theory and critical review. *Journal of Family and Economic Issues*, *32*(4), 644-667.

Kasser, T., & Ryan, R. M. (1993). A dark side of the American dream: Correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology, 65*(2), 410-422.

Lee, J. M., Lee, J., & Kim, K. T. (2019). Consumer financial well-being: Knowledge is not enough. *Journal of Family and Economic Issues, 41*(2), 218–228.

Markle, G. (2019). Crushing Debt or Savvy Strategy? Financial Literacy and Student Perceptions of their Student Loan Debt. *Journal of Student Financial Aid*, *49*(1), 4.

Rea, J.K., Danes, S.M., Serido, J. *et al.* (2019). "Being able to support yourself": Young adults' meaning of financial well-being through family financial socialization. *Journal of Family and Economic Issues, 40*(2), 250–268.

Ryan, R. (2009). Self-determination theory and well-being. *Social Psychology*, *84*(822), 848.

Sabri, M. F., & MacDonald, M. (2010). Savings behavior and financial problems among college students: The role of financial literacy in Malaysia. *Cross-Cultural Communication*, *6*(3), 103-110.

Woodyard, A., Robb, C. & Jung, J. (2017) Knowledge and practice: Implications for cash and credit management behaviors. F*amily and Consumer Sciences Research Journal, 45*(3), 300-314.

Xiao, J. J., Ahn, S. Y., Serido, J., & Shim, S. (2014). Earlier financial literacy and later financial behaviour of college students. *International Journal of Consumer Studies*, *38*(6), 593-601.

Xiao, J. J., Porto, N., and Mason, I. R. (2020). Financial capability of student loan holders who are college students, graduates, or dropouts. *Journal of Consumer Affairs* (online advance).