



Romantic Attachment Orientations, Financial Behaviors, and Life Outcomes Among Young Adults: A Mediating Analysis of a College Cohort

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Abstract

Guided by the Vulnerability-Adaption-Stress model (Karney and Bradbury 1995), we used data from 635 college-educated young adults to examine associations between romantic attachment orientations (i.e., attachment anxiety and attachment avoidance) and young adults' life outcomes (i.e., financial satisfaction, life satisfaction, and relationship satisfaction; Aim 1). We also conducted a mediating model to examine indirect associations from romantic attachment orientations to life outcomes via young adult's own financial behaviors and perceived partners' financial behavior (i.e., each young adult's perception of their partner's financial behaviors; Aim 2). For Aim 1, high attachment anxiety and/or high attachment avoidance was associated with low life satisfaction and low relationship satisfaction. For Aim 2, high attachment anxiety was associated with low financial satisfaction and low life satisfaction via young adults' own less responsible financial behaviors. Further for Aim 2, high attachment anxiety and high attachment avoidance were associated with low relationship satisfaction via perceived partners' less responsible financial behavior. Across these two aims, we found that romantic attachment orientations were associated with financial behaviors and, in turn, life outcomes. We suggest researchers and practitioners consider romantic attachment orientations when seeking to understand and improve financial behaviors and life outcomes among young adults.

Keywords Financial behaviors · Indirect associations · Life outcomes · Romantic attachment orientations · Young adults

Attachment orientations reflect internal working models of the self (i.e., whether individuals view themselves as valued and able to elicit others' support) and others (i.e., whether other people are trustworthy and helpful; Bowlby 1973). Researchers have developed attachment orientations, focusing on two dimensions: (a) *attachment anxiety* (i.e., models of self that are negative; models of others that are positive), which refers to a tendency to eschew self-reliance and seek to establish a close union and responsive relationship with others, and (b) *attachment avoidance* (i.e., models of self that are positive; models of others that are negative), which refers to a tendency to rely on oneself and feel discomfort and distrust when associating with others (Mikulincer and

Shaver 2009). Overall, insecure attachment orientations are characterized by high attachment anxiety *or* high attachment avoidance; secure attachment is characterized by low attachment anxiety *and* low attachment avoidance (Mikulincer and Shaver 2009). Secure attachment typically predicts positive life outcomes (for reviews, see Mikulincer and Shaver 2009; Ravitz et al. 2010).

Among young adults, attachment orientations in couple relationships (i.e., *romantic attachment orientations* hereafter) should play salient roles in understanding young adults' life outcomes. Specifically, couple relationships are "the site of some of the most important emotional bonds in adulthood (Shaver and Mikulincer 2006, p. 251)." Moreover, the romantic partner becomes the primary attachment figure for young adults (Allen and Land 1999; Markiewicz et al. 2006). Further, accumulative empirical evidence has shown associations between young adults' secure romantic attachment orientations and positive life outcome (e.g. less loneliness, better relationship functioning, and higher psychological well-being; Caron et al. 2012; Cook et al. 2017; Moore and Leung 2002).

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Although informative, prior studies seem to be limited in two important ways. For one, when examining associations between romantic attachment orientations and young adults' life outcomes, prior researchers often ignored individuals' satisfaction with economic situations (i.e., financial satisfaction; Joo and Grable 2004). Nevertheless, financial satisfaction is one of the strongest indicators of individuals' well-being (Ng and Diener 2014). Further, researchers have increasingly acknowledged the necessity of examining whether personal traits (e.g., romantic attachment orientations, as conceptualized in the present study) are associated with individuals' well-being in financial domains (Brandstatter 2005; Donnelly et al. 2012). Hence, *the first aim* of the present study is to extend the understanding of direct associations between romantic attachment orientations and young adults' life outcomes by including financial satisfaction as a new outcome.

Second, some researchers have taken a *process* perspective to examine underlying mechanisms in the associations between romantic attachment orientations and life outcomes among young adults (DiTommaso et al. 2003; Raque-Bogdan et al. 2011; van den Brink et al. 2016). However, further efforts are still needed to examine potential mediating roles of young adults' own behaviors as well as their perception of romantic partners' financial behaviors (i.e., *perceived partners' financial behaviors* hereafter) in associations between attachment orientations and young adults' life outcomes, which is *the second aim* of the present study. Specific to potential mediating roles of young adults' own financial behaviors, finances have been conceptualized as a salient symbol of security, love, power, and independence (Goldberg and Lewis 1978). As romantic attachment orientations reflect the ways in which individuals manage independence and maintain security, romantic attachment orientations should be associated with young adults' own financial behaviors such as investing, saving, and budgeting (Mikulincer and Shaver 2009; Moschis 1987). Considering that young adults' own financial behaviors are salient predictors for developmental outcomes, we examine indirect associations from romantic attachment orientations to young adults' life outcomes via young adults' own financial behaviors.

With respect to the potential roles of perceived partners' financial behaviors, it is noteworthy that attachment orientations encompass both the intrapersonal domain (i.e., representation of self) and the relational domain (i.e., representation of partner). Given that perceived partners' financial behaviors reflect the relational domain of financial behaviors (i.e., perception of the partner), we can speculate that romantic attachment orientations should be associated with perceived partners' financial behaviors. Further, as young adults often navigate the development of personal well-being within the context of romantic relationships,

perceived partners' financial behaviors can have long-term implications for young adults' well-being (Li et al. 2019; Padilla-Walker et al. 2017). Thus, we test whether perceived partners' financial behaviors mediate associations between romantic attachment orientations and young adults' life outcomes.

Literature Review

Theoretical Framework

The examination of our two research aims was guided by the Vulnerability-Stress-Adaptation (VSA) model: Vulnerability shapes an individual's well-being via adaptive processes (Karney and Bradbury 1995). *Vulnerability* refers to enduring traits that each individual brings into the couple's relationship (e.g., stable personality and childhood experiences). In the present study, we conceptualize romantic attachment orientations as vulnerability, given that (a) romantic attachment orientations are based on internal working models of self and others that were shaped given individuals' pervasive and repeated interactions with caregivers during infancy (Bowlby 1973), and (b) if not disrupted by major life events (e.g. parental death), romantic attachment orientations are often stable throughout the lifespan (Mikulincer and Shaver 2012).

In contrast, *adaptive processes* refer to behaviors that are enacted to handle problems as well as individuals' perceptions of these behaviors; further, adaptive processes are dynamic and may vary across a series of factors including time (Karney and Bradbury 1995; Lavner and Bradbury 2019). Here, we conceptualized young adults' own financial behaviors and perceived partners' financial behaviors as adaptive processes given the definition of financial behaviors: money-management specific behaviors involving crediting, saving, and investing (Xiao 2008). Moreover, and in line with the dynamic nature of adaptive processes, young adults can experience fluctuations in not only their own financial behaviors but also the perceived partners' financial behaviors when in romantic relationships (Li et al. 2019; Serido et al. 2013).

Illuminated by the VSA model, and as seen in the conceptual model (Fig. 1), we proposed two research aims. For Aim 1, the VSA model contends that enduring vulnerabilities should be predictive of well-being in the long term (Karney and Bradbury 1995). As such, we examined direct associations between romantic attachment orientations and young adults' life outcomes. For Aim 2, the VSA model contends that high levels of enduring vulnerability limit partners' capabilities to adapt to specific problems, and the diminished adaptive processes in turn relate to negative outcomes (Karney and Bradbury 1995). Thus, we tested indirect

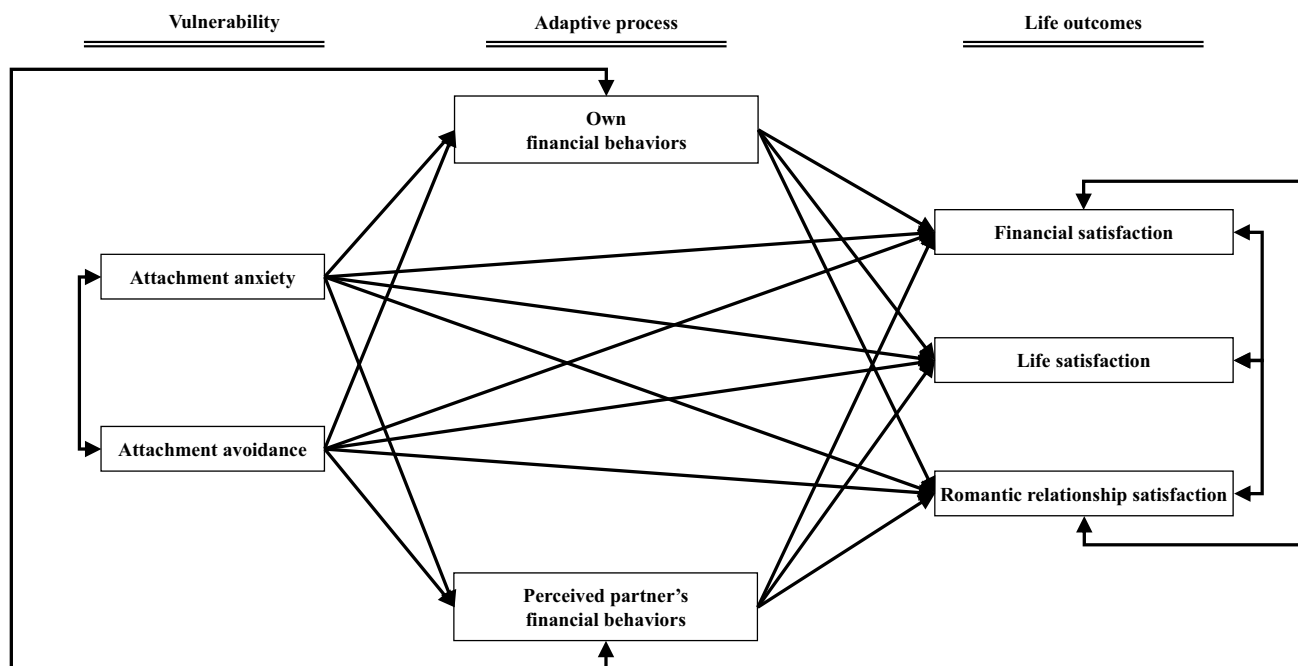


Fig. 1 Conceptual model

associations from romantic attachment orientations to life outcomes via young adult's own financial behaviors and perceived partners' financial behaviors.

Romantic Attachment Orientations and Young Adults' Own Financial Behaviors

Attachment avoidance (positive models of self; negative models of others), which is associated with a desire for personal control and dominance as well as an individual's use of defensive self-enhancement strategies to quell self-doubts, can impel individuals to use their own financial behaviors as ways to gain a sense of self-worth and to minimize feelings of self-doubt and helplessness (Mikulincer and Shaver 2009). Individuals with high attachment avoidance may believe that money can purchase power, prestige, and control over others (Creasey 2008; Mikulincer and Shaver 2008). Such beliefs are then correlated with less responsible financial behaviors (Klontz and Britt 2012).

Attachment anxiety (negative models of self; positive models of others) is often associated with exaggerated needs and attempts to gain the love and support of others (Mikulincer and Shaver 2009). For individuals with high attachment anxiety, financial behaviors might be used to obtain others' love (or, at least, admiration and attention; Creasey 2008; Mikulincer and Shaver 2008). For these reasons, attachment anxiety has also been positively associated with beliefs that one's own financial behaviors can solve all problems (Norris et al. 2012). As such, individuals with high attachment anxiety may engage in

irresponsible financial behaviors. In line with this perspective, one recent study found negative associations that linked insecure attachment orientations to irresponsible financial behaviors of college students (Jorgensen et al. 2017).

Romantic Attachment Orientations and Perceived Partners' Financial Behavior

To our knowledge, no studies to date have examined associations between romantic attachment orientations and perceived partners' financial behaviors, the latter of which is regarded as an important indicator for the relational component of financial behaviors among young adults. Yet, one study has partially supported our speculation of the aforementioned associations. Specifically, Jorgensen et al. (2017) stated that financial behaviors are comprised of intrapersonal components (i.e., college students' own financial behaviors) and relational components (perceived parents' financial behaviors). Moreover, as Jorgensen et al. (2017) found negative associations linking insecure attachment orientations to the relational components of financial behaviors, we can also speculate that romantic attachment orientations should be associated with perceived partners' financial behaviors.

Young Adults' Own Financial Behaviors and Life Outcomes

The associations between young adults' own financial behaviors and their life outcomes are well-established.

Specific to outcomes included in the present study, responsible financial behaviors (i.e., own financial behaviors in the current study) are associated with high levels of financial satisfaction and life satisfaction (Curran et al. 2018; Stein et al. 2013; Sorgente and Lanz 2017; Xiao et al. 2009). Two potential explanations can be proposed. First, financial satisfaction is among the key indicators for life satisfaction (Ng and Diener 2014; Xiao et al. 2009). Second, obtaining independence via responsible financial behaviors is one of the major developmental tasks undertaken by young adults (Xiao et al. 2014). Whereas young adults who achieve self-sufficiency are more likely to regard their lives as ideal, those who are unable to fulfill the developmental goals often experience lower levels of life satisfaction (Nurmi 1997). With respect to relationship satisfaction, responsible financial behaviors may promote high levels of romantic relationship satisfaction, presumably by preventing financial difficulties (Dew and Xiao 2013; Hill et al. 2017; Kerkmann et al. 2000; Zimmerman and Roberts 2012).

Perceived Partners' Financial Behaviors and Life Outcomes

Perceived partners' financial behaviors also play salient roles in associations with young adults' life outcomes. To date, positive associations between perceived partners' financial behaviors and relationship satisfaction have been well established (Britt et al. 2008, 2017; Curran et al. 2018; Mao et al. 2017; Ross et al. 2017; Totenhagen et al. 2019). The explanation for these associations is that perceived partners' responsible financial behaviors can reduce hostile interactions between two partners and be regarded as the reward of staying in the relationship (Britt et al. 2008; Ross et al. 2017).

Results specific to associations from perceived partners' financial behaviors to either financial satisfaction or life satisfaction are sparse. However, as young adults often rely on their romantic partners to provide financial information and resources (Romo 2014; Serido et al. 2015), it is reasonable to posit that perceived partners' financial behaviors may be associated with young adults' well-being in domains beyond the couple relationship. Empirically, one study to date has found significant bivariate correlations between perceived partners' financial behaviors and either financial well-being or life satisfaction (Curran et al. 2018). However, these associations disappeared after controlling for young adults' own financial behaviors (Curran et al. 2018). Thus, it seems necessary to reconsider the roles of perceived partners' financial behaviors in the associations to young adults' life outcomes across multiple domains.

The Present Study

Data in the present study were from 635 college-educated young adults in romantic relationships. We examined direct associations between romantic attachment orientations and young adults' life outcomes (Aim 1) as well as indirect associations from romantic attachment orientations to young adults' life outcomes via young adults' own financial behaviors and perceived partners' financial behaviors (Aim 2). The following hypotheses were tested:

H1 Romantic attachment orientations should be associated with young adults' life outcomes.

H1a Higher attachment anxiety should be associated with lower life satisfaction, lower relationship satisfaction, and lower financial satisfaction.

H1b Higher attachment avoidance should be associated with lower life satisfaction, lower relationship satisfaction, and lower financial satisfaction.

H2 Financial behaviors should explain associations between romantic attachment orientations and young adults' life outcomes.

H2a Higher attachment anxiety should be associated with lower life satisfaction, lower relationship satisfaction, and lower financial satisfaction via *young adults' own less responsible financial behaviors*.

H2b Higher attachment anxiety should be associated with lower life satisfaction, lower relationship satisfaction, and lower financial satisfaction via *perceived partners' less responsible financial behaviors*.

H2c Higher attachment avoidance should be associated with lower life satisfaction, lower relationship satisfaction, and lower financial satisfaction via *young adults' own less responsible financial behaviors*.

H2d Higher attachment avoidance should be associated with lower life satisfaction, lower relationship satisfaction, and lower financial satisfaction via *perceived partners' less responsible financial behaviors*.

Method

Study Design

The data used in this study were drawn from a larger, longitudinal research project that sought to understand factors

that contribute to the formation of financial behaviors and associations between financial behaviors and well-being (The data may be requested from the fourth and fifth authors). After obtaining approval from the university's institutional review board, all first-year students enrolled full-time at a public university in the southwest U.S. received emails inviting them to take the Wave 1 online survey in the spring semester. A total of 2098 first year-students (ages 18 to 21) completed the Wave 1 survey in spring 2008 (see Shim et al. 2010 for more information about the design and data collection). Except for those who opted out, all participants in the Wave 1 survey were invited to take subsequent surveys. Three additional waves of data were collected via online surveys. That is, 1511 young adults (ages 21–24) participated in the Wave 2 survey in fall 2010 when they were in their fourth year of college; 977 young adults (ages 23–26) participated in the Wave 3 survey in spring/summer 2013, which was two years after college; and 855 young adults (ages 26–31) participated in the Wave 4 survey in spring/summer 2016, which was 5 years after college. The surveys administered at each wave were similar in size and scope. At each wave, participants received a monetary incentive (\$10, \$25, \$25, and \$50, respectively; U.S. currency).

Participants

The data for the present study were drawn from Wave 4 (i.e., 2016, 5 years after college), when romantic attachment orientations (i.e., our predictors) were assessed. We included participants who were in romantic relationships at Wave 4, as our research aims were to examine associations between romantic attachment orientations and young adults' life outcomes (i.e., including relationship satisfaction) as well as the roles played by young adults' own financial behaviors and perceived partners' financial behaviors in these associations. The final sample size was 635 young adults, hereafter referred to as the relationship subsample.

We conducted a multivariate analysis of variance (MANOVA) to examine differences in key study constructs and covariates between the 635 young adults in the relationship subsample (Table 1) and the 220 young adults excluded from the present study as they were not in a romantic relationship. Based on Bandalos's (2002) criterion (partial $\eta^2 > .14$), only one notable difference emerged: young adults in the relationship subsample reported lower levels of attachment avoidance than those who were excluded

Table 1 Descriptive analyses and bivariate correlations for key study constructs and covariates (N = 635 young adults)

	Mean	SD	1	2	3	4	5	6	7
Key study constructs									
1. Attachment anxiety	2.93	1.08							
2. Attachment avoidance	2.15	1.04	.34***						
3. Own financial behaviors	3.50	.88	-.19***	-.16***					
4. Perceived partners' financial behaviors	3.51	.94	-.22***	-.24***	.37***				
5. Financial satisfaction	3.39	1.06	-.21***	-.16***	.48***	.25***			
6. Life satisfaction	3.75	.86	-.31***	-.41***	.36***	.30***	.55***		
7. Relationship satisfaction	6.34	.90	-.39***	-.54***	.18***	.32***	.15**	.39***	
Covariates									
8. Gender ^a	.35	.48	-.04	.09*	.18***	-.06	.10*	-.01	.07
9. Age	27.42	.83	-.06	-.03	.07	.003	.01	-.03	.002
10. Race/ethnicity ^a	.32	.47	.10*	.11**	-.10*	-.04	-.10*	-.15***	-.07
11. Relationship status ^a	.40	.49	-.18***	-.27***	.13**	.06	.18***	.22***	.13**
12. Relationship length (years)	5.17	4.01	-.14**	-.17***	.11**	.06	.13**	.09*	.03
13. Parental status ^a	.14	.34	-.04	-.11**	-.01	-.10*	-.02	.03	-.03
14. Employment status ^a	.21	.41	-.02	.04	-.12**	-.02	-.21***	-.11**	-.02
15. Annual income	3.09	1.34	-.11**	-.09*	.42***	.16***	.46***	.31***	.09*
16. Undergraduate loans ^a	.32	.47	.03	.11**	-.23***	-.21***	-.26***	-.22***	-.03
17. Graduate loans ^a	.27	.45	-.04	-.02	-.16***	-.07	-.15***	-.03	-.04
18. Credit card loans ^a	.38	.49	.06	.05	-.46***	-.21***	-.37***	-.24***	-.06
19. Mortgage loans ^a	.29	.45	-.13**	-.19***	.21***	.13**	.23***	.21***	.11*
20. Other loans ^a	.39	.49	-.02	-.06	-.08*	-.08	-.06	-.02	-.01

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed)

^aFor binary variables, the mean indicates the proportion of participants in the category that were represented by 1

($M_{\text{included}} = 2.15$ versus $M_{\text{excluded}} = 3.59$; $F_{(1, 853)} = 302.021$, adjusted $p < .001$ (two-tailed level); partial $\eta^2 = .26$).

The median age of the participants in the present study (i.e., the relationship subsample and at Wave 4; $N = 635$) was 27 years old. The average relationship length was 5.17 years ($SD = 4.01$). For relationship status, 60.2% were married, 28.3% were unmarried and cohabiting, and 3.5% were in a serious dating relationship (not married, not cohabiting). For parental status, 13.5% had at least one child and 86.5% had no children. For gender, 65.0% were female and 35.0% were male. For ethnicity, 67.8% were non-Hispanic White, 15.9% were Hispanic/Latino American, 9.1% were Asian American, 2.2% were African American, and 5.0% were in another race/ethnic group. For employment status at Wave 4, 79.1% were employed full time, 9.0% were employed part-time, 4.3% were self-employed, 7.0% were unemployed, and .6% were not able to work for specific reasons (e.g., disability). For annual income at Wave 4, the median level was between \$40,000 and \$59,000. The average level of debt from multiple sources (i.e., graduate education, credit cards, mortgage, and other) that young adults owed at Wave 4 was \$94,410.

Predictors (Vulnerabilities from the VSA Model)

Romantic attachment orientations were assessed using the 12-item, short-form Experiences in Close Relationship Scale (Wei et al. 2007). The scale included two subscales, *attachment anxiety* and *attachment avoidance*, with 6 items in each subscale. A sample item of attachment anxiety was “I turn to my partner for many things, including comfort and reassurance (reverse coded)”; a sample item of attachment avoidance was “My desire to be very close sometimes scares people away”. Participants indicated the extent to which each item described themselves on a 7-point Likert scale from 1 (*absolutely untrue*) to 7 (*absolutely true*). We recoded reverse items and then calculated the score for each subscale. In descriptive analyses and bivariate correlation analyses, we used the scale score that was calculated by averaging all 6 items. Latent constructs of attachment avoidance and attachment anxiety were created and used in the final analyses. Cronbach’s α s were .69 for attachment anxiety and .83 for attachment avoidance.

Mediators (Adaptive Processes from the VSA Model)

Young adults’ *own financial behaviors* were assessed using 6 items (Serido et al. 2015). As this six-item scale included key facets of financial behaviors (seen in Dew and Xiao 2011), the content validity of this scale was relatively high. Construct validity of the scale was demonstrated by confirmatory factor analyses on data from participants in the present study. Moreover, both existing studies and the current study provided evidence for criterion validity (i.e., a

middle sized, negative correlation with credit card debt, seen in Table 1) and predictive validity of this scale (i.e., seen in Serido et al. 2013). On each item, participants indicated how often they performed the behavior described by each item on a 5-point Likert scale from 1 (*never*) to 5 (*very often*). A sample item was to “save money each month for the future.” In descriptive analyses and bivariate correlation analyses, we used the scale score that was calculated by averaging all 6 items. Latent constructs were created and used in the final analyses. Cronbach’s α was .72.

Perceived partners’ financial behaviors (Mao et al. 2017) were assessed using the same 6 items as the young adult’s *own financial behaviors*. Participants indicated how often they perceived that their partner performed the behavior described by each item on a 5-point scale from 1 (*never*) to 5 (*very often*). In descriptive analyses and bivariate correlation analyses, we used the scale score that was calculated by averaging all 6 items. Latent constructs were created and used in the final analyses. Cronbach’s α was .81.

Outcomes

Financial satisfaction was assessed using 3 items (Friedline et al. 2017; Serido et al. 2010). Confirmatory factor analyses suggest that the three-item scale had relatively high construct validity. On each item, participants indicated their agreement with each item on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). A sample item was “I am satisfied with my current financial status”, which is comparable to the measure that was used in other research projects (e.g., the National Financial Capability Study assessed financial satisfaction with the item “Overall, thinking of your assets, debts and savings, how satisfied are you with your current personal financial condition?”, Robb et al. 2019). In descriptive analyses and bivariate correlation analyses, we used the scale score that was calculated by averaging all 3 items. Latent constructs were created and used in the final analyses. Cronbach’s α was .82.

Life satisfaction was assessed using the 5-item, unidimensional Satisfaction with Life Scale (Diener et al. 1985). Participants indicated their agreement with each item on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). A sample item was “In most ways, my life is close to my ideal.” In descriptive analyses and bivariate correlation analyses, we used the scale score that was calculated by averaging all 5 items. Latent constructs were created and used in the final analyses. Cronbach’s α was .90.

Relationship satisfaction was assessed using the 3-item, unidimensional Kansas Marital Satisfaction Scale (Schumm et al. 1983). Participants indicated how satisfied they were with the romantic relationship, the romantic partner, and the relationship with the romantic partner on a 7-point Likert scale from 1 (*extremely dissatisfied*) to 7 (*extremely*

satisfied). In descriptive analyses and bivariate correlation analyses, we used the scale score that was calculated by averaging all 3 items. Latent constructs were created and used in the final analyses. Cronbach's α was .93.

Covariates

We assessed a set of covariates given that prior research suggests that these covariates were associated with key study constructs (Curran et al. 2018; Dew and Xiao 2013; Totenhagen et al. 2019). Gender and ethnicity were dummy coded at Wave 1 (0 = male, 1 = female; 0 = White, 1 = non-White). Relationship status, parental status, and employment status were dummy coded at Wave 4 (0 = unmarried, 1 = married; 0 = no children, 1 = having one or more children; 0 = employed full-time, 1 = not employed full time). Annual income at Wave 4 was assessed using a five-point ordinal scale from 1 (less than \$24,999) to 5 (more than \$74,999). With respect to the debt that participants carried at Wave 4, a series of dummy codes were created for undergraduate education loans (0 = did not take out undergraduate loans or already paid in full, 1 = still carry undergraduate loans), graduate education loans (0 = did not take out graduate loans or already paid in full, 1 = still carry undergraduate loans), credit card loans (0 = no credit card debt, 1 = currently carry credit card debt), mortgage loans (0 = no mortgage loans, 1 = currently carry mortgage loans), and other loans (0 = no other type of loans, 1 = currently carry other type of loans).

Analytic Plan

We conducted a mediating model in Mplus 7.4. Missing values were handled using the full information maximum likelihood estimation method (FIML), which is the preferred technique for producing estimates with minimal bias (Acocck 2005). To evaluate model fit, several indices were included: comparative fit index (CFI > .90), the root-mean-square error of approximation (RMSEA < .09), and the standardized root-mean-square residual (SRMR < .09) (Kline 2015). Latent constructs of key study variables were constructed using items, to partial out measurement errors (MacCallum and Austin 2000).

To detect specific indirect effects, we used bootstrapping methods. Indirect effects are the multiplication of two regression coefficients (i.e., effect of the predictor on mediator \times effect of the mediator on the outcome), and the distributions of indirect effects are always skewed (Zhao et al. 2010). As bootstrapping is a nonparametric method that does not assume a normal distribution, inflated Type I and Type II errors along with the skewed distribution of indirect effects can be adjusted (Preacher and Hayes 2008). To generate robust findings, the bias-corrected bootstrapped Standard Errors (SEs) and Confidence Intervals (CIs) in

the current study were based on 5,000 bootstrap resamples (Preacher and Hayes 2008). Conclusions regarding the statistical significance of indirect pathways were based on 95% bias-corrected bootstrapped CIs around the unstandardized indirect associations.

Notably, to test the robustness of our findings while also ruling out alternative hypotheses, we conducted supplementary analyses to examine (a) whether associations among romantic attachment orientations, young adults' own financial behaviors, and life outcomes were consistent between young adults who were in romantic relationships and who were not, and (b) how romantic attachment orientations, young adults' own financial behaviors, and/or perceived partners' financial behaviors were associated with whether and when young adults entered into romantic relationships. Results for supplementary analyses were not included due to the page limit yet are available upon emailing the first author.

Results

Table 1 displays descriptive analyses and bivariate correlations for key study constructs and covariates.

Associations Between Romantic Attachment Orientations and Life Outcomes (Aim 1)

Figure 2 displays the standardized pathway coefficients for the structural equation model, and Table 2 displays the original item as well as the factor loading of each item on the latent construct of the structural equation model. For H1a, higher attachment anxiety was associated with lower life satisfaction and lower relationship satisfaction. H1a was partially supported. For H1b, higher attachment avoidance was also associated with lower life satisfaction and lower relationship satisfaction. H1b was partially supported.

Indirect Associations via Young Adults' Own Financial Behaviors and Perceived Partners' financial behaviors (Aim 2)

Table 3 displays significant indirect pathways based on bias-corrected bootstrap estimates. For H2a, higher attachment anxiety was associated with lower financial satisfaction and lower life satisfaction via young adults' own less responsible financial behaviors. H2a was partially supported. For H2b, higher attachment anxiety was associated with lower relationship satisfaction via perceived partners' less responsible financial behaviors. H2b was partially supported. For H2c, we found no supportive evidence. For H2d, higher attachment avoidance was associated with lower relationship

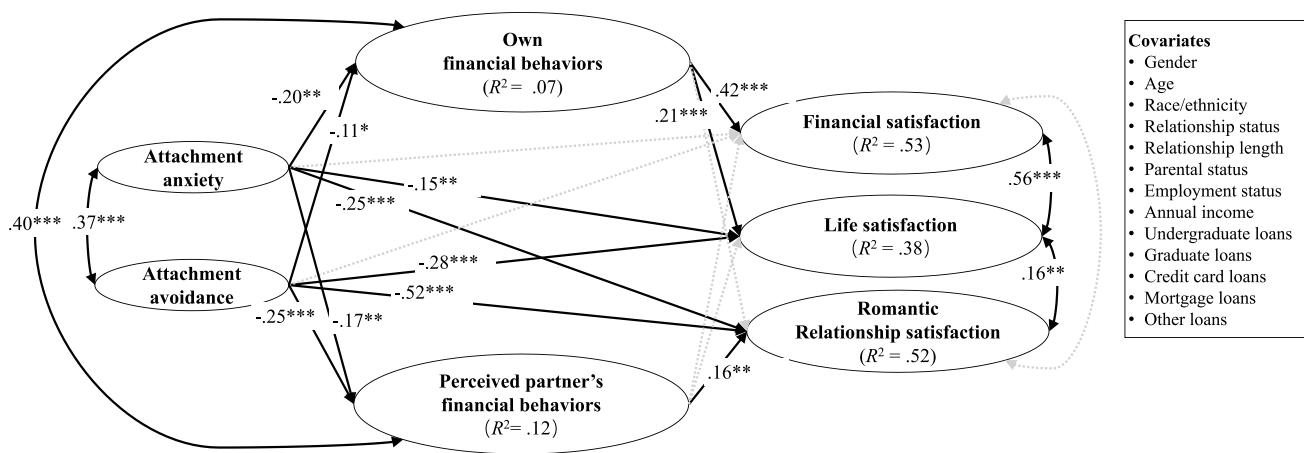


Fig. 2 Associations among Romantic Attachment Orientations, Financial Behaviors, and Life Outcomes (N=635 young adults). $\chi^2(336)=923.947$, $p < .001$; CFI=.926; RMSEA=.053 with 90% CI [.049, .057]; SRMR=.038. The standardized coefficients are

displayed. For clarity, (a) pathways with parameter estimates with $p < .05$ are in solid, black lines, and (b) pathways with parameter estimates with $p > .05$ are in grey, dotted lines. * $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed)

satisfaction via perceived partners' less responsible financial behaviors. H2d was partially supported.

Discussion

Guided by the Vulnerability-Stress-Adaptation (VSA) model (Karney and Bradbury 1995), the current study is among the first to empirically examine associations from romantic attachment orientations to young adults' life outcomes in multiple domains (i.e., financial satisfaction, life satisfaction, and relationship satisfaction) via financial behaviors. Our findings support as well as extend the extant literature in several important ways.

First, the indirect associations identified in the present study provide further support for the theoretical perspective of the VSA model. Drawn from internal working models (models of self; models of others) that form during the early years of life (Bowlby 1973), romantic attachment orientations (i.e., an enduring personal characteristic) were associated with individuals' life outcomes in their late 20s and early 30s. Such findings are consistent with the VSA model in that individuals' backgrounds and personal traits are associated with individuals' well-being. Further, and in line with one of the key notions of the VSA model (i.e., vulnerability \rightarrow adaptive process \rightarrow well-being), we found that young adult's romantic attachment orientations were associated with life outcomes via the adaptive processes specific to the financial domain (i.e., financial behaviors). Moreover, as the VSA model states, adaptive processes should encompass behaviors that were enacted to handle problems as well as the perceptions of those behaviors (Karney and Bradbury

1995). Here, our findings suggest that both the responsible financial behaviors enacted by a young adult as well as the young adult's perception of a romantic partner's financial behaviors account for associations that link romantic attachment orientations to young adults' life outcomes.

Second, the VSA model was originally proposed as a way to describe how one's background and traits are related to relationship-specific outcomes (e.g., relationship satisfaction). Our findings extend the original purpose of this model given that we included both relationship-specific and non-relationship-specific well-being constructs (i.e., financial satisfaction *and* relationship satisfaction). In this way, our research responds to Karney and Bradbury's (1995) call for studies that simultaneously consider outcomes across multiple domains when applying the VSA model. If our findings are also replicated by others in future studies, we should be able to obtain a more comprehensive understanding of the mechanisms underlying how vulnerabilities (e.g., romantic attachment orientations, as conceptualized in the present study) are associated with young adults' life outcomes.

Third, our findings further extend the VSA model by including financial behaviors (i.e., young adults' own and those perceived in romantic partnerships) as indicators of adaptive processes. As previously noted, financial behaviors are relevant to the ways in which individuals manage security, love, power, and independence (Goldberg and Lewis 1978). Nevertheless, prior researchers have found that today's young adults may lack the skills needed to apply certain financial management techniques (Anderson and Card 2015; LeBaron et al. 2018; Lusardi et al. 2010). Consistent with these findings, we also found that young adults themselves and their partners (based on the young adults' report) enacted only moderate levels of responsible

Table 2 Original Items as well as factor loading of each item on the latent construct in Fig. 2 ($N=635$ young adults)

Items on each scale	Standardized factor loading	<i>p</i>
Attachment anxiety		
I need a lot of reassurance that I am loved by my partner	.36	<.001
I find that my partner does not want to get as close as I would like	.77	<.001
My desire to be very close sometimes scares people away	.76	<.001
I do not often worry about being abandoned (Reverse)	.26	<.001
I get frustrated if romantic partners are not available when I need them	.38	<.001
I worry that romantic partners won't care about me as much as I care about them	.75	<.001
Attachment avoidance		
It helps to turn to my romantic partner in times of need (Reverse)	.46	<.001
I want to get close to my partner, but I keep pulling back	.80	<.001
I turn to my partner for many things, including comfort and reassurance (Reverse)	.41	<.001
I try to avoid getting too close to my partner	.89	<.001
I usually discuss my problems and concerns with my partner (Reverse)	.50	<.001
I am nervous when partners get too close to me	.83	<.001
Young adults' own financial behaviors		
Tracked monthly expenses	.39	<.001
Spent within the budget	.38	<.001
Payed credit card balances in full each month	.45	<.001
Saved money each month for the future	.76	<.001
Invested for long-term financial goals	.63	<.001
Learned about financial management	.47	<.001
Perceived partners' financial behaviors		
Tracked monthly expenses	.47	<.001
Spent within the budget	.53	<.001
Payed credit card balances in full each month	.54	<.001
Saved money each month for the future	.85	<.001
Invested for long-term financial goals	.86	<.001
Learned about financial management	.57	<.001
Financial satisfaction		
I am satisfied with my current financial status	.85	<.001
I have difficulty paying for things (reverse)	.79	<.001
I am constantly worried about money (reverse)	.69	<.001
Life satisfaction		
In most ways my life is close to ideal	.83	<.001
The conditions of my life are excellent	.85	<.001
I am satisfied with my life	.88	<.001
So far I have gotten the most important things I want in life	.81	<.001
If I could live my life over, I would change almost nothing	.68	<.001
Romantic relationship satisfaction		
How satisfied are you with your romantic relationship?	.90	<.001
How satisfied are you with your romantic partner?	.90	<.001
How satisfied are you with your relationship with your romantic partner?	.92	<.001

financial behaviors (i.e., a mean of about 3.5 out of 5, as displayed in Table 1). As many of today's young adults struggle to understand how to responsibly manage their finances, researchers should continue to include financial behaviors as indicators of adaptive processes and use the VSA model as a guide when identifying the precursors and consequences of

young adults' own financial behaviors and perceived partners' financial behaviors.

Fourth, our findings extend the understanding of potential factors that are associated with financial behaviors (i.e., young adults' own financial behaviors as well as perceived partners' financial behaviors). Moreover, it is interesting

Table 3 Significant indirect effects based on bias-corrected bootstrap estimates (N = 635 young adults)

	Bootstrap estimates for indirect effects		
	Unstandardized	95% CI	Standardized
Attachment anxiety → financial satisfaction			
Via own financial behaviors	–.090	[–.172, –.028]	–.082
Attachment anxiety → life satisfaction			
Via own financial behaviors	–.036	[–.081, –.005]	–.040
Attachment anxiety → relationship satisfaction			
Via perceived partners' financial behaviors	–.027	[–.054, –.006]	–.027
Attachment avoidance → relationship satisfaction			
Via perceived partners' financial behaviors	–.038	[–.070, –.012]	–.038

Indirect effect = effect of the predictor on the mediator × effect of the mediator on the outcome. Take the first row of the table for example: The bootstrap estimation for the indirect effect of attachment anxiety on financial satisfaction via young adults' own financial behaviors (i.e., standardized coefficient = –.082) is the bootstrap estimation for the multiplication of the effect of attachment anxiety on young adults' own financial behaviors (i.e., standardized coefficient = –.20, Fig. 2) and the effect of young adults' own financial behaviors on financial satisfaction (i.e., standardized coefficient = .42, Fig. 2)

that attachment avoidance (models of self that are positive; models of others that are negative) were associated with life outcomes via perceived partners' financial behaviors only, whereas attachment anxiety was associated with life outcomes via both young adults' own financial behaviors and perceived partners' financial behaviors. Consider that high attachment avoidance indicates a desire for self-defensiveness and self-enhancement (Mikulincer and Shaver 2009), individuals with high levels of attachment avoidance may have devalued the partner's financial behaviors to maintain their sense of self-worth and self-reliance.

High attachment anxiety, on the other hand, indicates a desire for closeness with others yet the lack of confidence in others' availability (Mikulincer and Shaver 2009). Although they hoped that they could rely on a partner, individuals with high attachment anxiety only reported low-to-moderate levels of trust in romantic partners (Simpson et al. 1996). To compensate for insecure affectional bonds, individuals of high attachment anxiety may engage in less responsible financial behaviors (Creasey 2008; Jorgensen et al. 2017; Mikulincer and Shaver 2008; Norris et al. 2012). Meanwhile, the lack of trust to partner renders individuals with high attachment anxiety to be hypervigilant regarding threatening cues (Holmes and Rempel 1989). Instead of focusing on responsible financial behaviors enacted by romantic partners, young adults with high attachment anxiety may be sensitive to the less responsible aspects of romantic partners' financial behaviors.

Fifth, consistent with prior studies, we found that young adults' own financial behaviors were related to individual life outcomes but not relationship outcomes, whereas perceived partners' financial behaviors were associated with outcomes specific to the relationship (Britt et al. 2008; Curran et al. 2018; Mao et al. 2017). Overall, these findings are consistent with prior studies suggesting that *both* young

adults' own financial behaviors and perceived salient others' (romantic partner for young adults) financial behaviors matter for life outcomes (Jorgensen et al. 2017; Romo 2014; Serido et al. 2015).

Theoretical propositions were then proposed to explain how to substantiate the notion that young adults' own financial behaviors and perceived partners' financial behaviors contribute to life outcomes in different domains. In particular, the young adults in our sample (i.e., in their late 20s and early 30s) were at the age in which individuals typically need to accept responsibilities for themselves as well as make their own decisions about how they wish to live (Arnett 2006). To obtain a satisfactory financial situation and a sense of personal existence (i.e., non-relationship-specific life outcomes), young adults need to independently enact responsible financial behaviors (rather than rely on others). With respect to the outcome specific to relationships, it seems that young adults may have been motivated by self-interest. As such, it is the perceived partners' financial behaviors (i.e., the indicators for benefits and costs) that seem to matter for relationship satisfaction (Britt et al. 2008).

Limitations and Future Directions

The present study is limited in several ways. For one, data used were originally collected from a college-cohort sample. Understanding how the associations we examined might be understood in a broader population of young adults would require data collection from young adults who have not attended college.

In addition, we only included participants who were in romantic relationships. On the one hand, this criterion is in line with the theoretical consideration that romantic relationships are the most important emotional bonds and key

developmental contexts among young adults (Arnett 2000; Shaver and Mikulincer 2006; Padilla-Walker et al. 2017). Further, it is noteworthy that our findings of the associations among romantic attachment orientations, young adults' own financial behaviors, financial satisfaction, and life satisfaction were consistent across young adults who were as well as who were not in romantic relationships (details of the supplementary analyses are available upon request).

On the other hand, young adults may not be in romantic relationships given either financial or non-financial concerns (Addo 2014; Smock et al. 2005). In the present study, we also found that attachment insecurity (high anxiety or high avoidance) prevented young adults from entering into romantic relationships; in comparison, no supporting evidence emerged for financial behaviors in the understanding of young adults' entering into romantic relationships (details for supplementary analyses available upon request). Future researchers would benefit from examining both financial and non-financial domains to know more about what prevents young adults from entering into romantic relationships.

We also note that the young adults in the present study reported relatively low levels of attachment avoidance and relatively high levels of relationship satisfaction; consequently, our findings regarding those aspects should not be generalized to young adults who report high levels of attachment avoidance and low levels of relationship well-being.

Our study is also limited in the cross-sectional design. Although it is theoretically robust to treat romantic attachment orientations (i.e., vulnerabilities based on the VSA model) as predictors for financial behaviors and life outcomes, longitudinal studies are needed to clarify causality in associations between financial behaviors and life outcomes. We also note that our data were collected via self-report survey, of which the caveats have been well-documented (e.g., social desirability bias). In the future, researchers should use multi-informant and multi-method measures.

Practical Implications

Collectively, our findings may provide potential avenues for financial therapists, clinicians, and parents in terms of the ways to promote responsible financial behaviors and positive life outcomes for today's young adults as well as generations to follow. Building a bridge between mental health and financial health, financial therapists seek to first understand the psychological process underlying the clients' financial decision and then improve those psychological processes and subsequent behaviors. As financial therapists seek to help their clients improve their financial behaviors and financial satisfaction, associations among romantic attachment orientations, young adults' own financial behaviors, and financial satisfaction would suggest that attachment be

a psychological/relational intervention point. Thus, financial therapists may want to screen their clients for insecure attachment. If clients are insecurely attached, financial therapists may want to be aware of the associations that are noted with each type of insecure attachment orientation as found in the current study.

Given our findings that perceived partners' financial behaviors were associated with young adults' own relationship satisfaction, courses (e.g., secondary education, outreach programs, family life education programs, etc.) on romantic relationships may benefit from integrating some financial instruction, and courses on finances may benefit from integrating some parenting/relationship instruction. For example, instructors of financial courses may consider giving their students the 12-item, short-form Experiences in Close Relationship Scale (Wei et al. 2007) so that students can assess their own attachment style. The instructors could then teach students about associations among romantic attachment orientations, financial behaviors, and financial well-being. Finally, other clinicians need to be aware of the impact that attachment and financial behaviors have on well-being. For example, marriage and family therapists should be aware of the impact of perception of the partner's financial behaviors on relationship satisfaction, and psychologists should be aware of the impact of their own financial behaviors on life satisfaction.

Compliance with Ethical Standards

Conflict of interest The authors declare no conflict of interest.

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