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ORIGINAL PAPER

Depressive Symptom and Financial Conflict Relate Over Time Among Couples

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Abstract

Since the housing market collapsed in the late 2000′s, researchers have explored the link between finances and mental health in more depth. Although there is discussion around how financial conflict is related to mental health illnesses, it remains unclear how financial conflict and depressive symptoms are related bidirectionally over time. Using an integrated family stress model and stress generation theoretical lens, we sought to investigate bidirectional relations between financial conflict trajectories and depressive symptom trajectories among partnered men and women. Using 1273 German couples and multivariate latent growth models, we tested this bidirectional association over three waves. Our results revealed that men's and women's initial financial conflict and initial depressive symptoms were related. This bidirectional association, however, was more nuanced when we examined these associations longitudinally. Men's and women's initial depressive symptoms were associated with the partner perceiving greater financial conflict over the three waves. In addition men's initial financial conflict was associated with increases in their partner's depressive symptoms over the three waves. These findings begin to address a gap literature, which has not yet explored the bidirectional association between financial conflict and depressive symptoms among couples over time. These findings also offer insights for practitioners to explore with couples regarding the relation between their financial conflicts and depressive symptoms.

Keywords Bidirectional association · Depressive symptoms · Financial conflict · Multivariable latent growth model

It is no surprise that couples argue about finances (Dew and Dakin 2011), but arguing about finances can have devastating effects on couples, including conflicts becoming more problematic, persistent, and unresolved (Papp et al. 2009), partners experiencing less relationship satisfaction (Britt et al. 2010), greater marital instability (Gudmuson et al. 2007), and higher risks of divorce (Dew 2011). Beyond these harmful effects, there is a growing discussion around how financial conflict is related to greater risks for mental health issues—particularly depression (e.g., Afifi et al. 2018). The housing market collapse in the late 2000′s left many people financially distressed, which in the years since, has been related to an increase in the number of antidepressant prescriptions (Lin et al. 2013) and greater reports of depression and psychological distress (Yilmazer et al. 2015). In essence, couples reported more depressive behaviors in money-related conflicts than non-money related conflicts (Papp et al. 2009). Although this discussion has raised awareness of the relation between financial conflict and depressive symptoms, there is a gap in our understanding of the bidirectional relation between financial conflict and depressive symptoms over time or how the two predict changes in each other over time. People who seek help for mental health issues often report that finances are a common problem in their lives, yet many practitioners avoid the topic of finances (Falconier and Elkin 2008). This avoidance may stem from a lack of training in financial matters as well as that they themselves, as practitioners, are avoidant about the topic of money (Britt et al. 2015; Klontz et al. 2008). Thus, understanding of the bidirectional relations between financial conflict and depressive symptoms over time can provide insights for educators, clinicians, and financial planners in helping couples navigate conflict about finances as well as mental health.

Integrating a family stress model (Conger et al. 1994) and stress generation (Hammen 1991) perspectives provided a theoretical background for the exploration of the bidirectional relationship between financial conflict and depressive

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symptoms among couples. Based on these theoretical perspectives, the extant literature, and using a sample of 1273 couples from the Panel Analysis of Intimate Relationships and Family Dynamics (pairfam), we tested the bidirectional relationship between partnered men's and women's financial conflict trajectories and depressive symptoms trajectories across three waves that spanned four years. This explorative study expands the current literature by exploring the bidirectional and longitudinal associations between financial conflict and depressive symptoms among romantic partners.

An Integration of Family Stress and Stress Generation Theories

The family stress model (Conger et al. 1994, 1999) is a well-known theory that describes financial conflict and depressive symptoms in romantic relationships (Conger et al. 2010). Specifically, when couples face economic hardships and pressures, they are at greater risk for emotional and behavioral problems including depression. Depression impairs a partner's ability to function, carry out daily tasks, and their mood. These depressed couples then struggle to communicate, which increases hostility and conflict within the couple—particularly around finances. Thus, from a family stress model perspective, when couples experience depressive symptoms they also theoretically experience greater financial conflict. However, the family stress model is limited in describing the opposite direction, where greater conflict about finances worsens depressive symptoms.

To address this, we pull from stress generation theory (Hammen 1991) that is also a well-known theory on describing the effects stress and depression among couples (e.g., Davila et al. 1997; Gotlib and Hammen 2015; Hammen 2005). Theoretically, when a partner becomes stressed by internal factors, external factors, or both, they become vulnerable to depressive symptoms. For example, a depressed partner may frequently avoid their partner, miss work, and avoid doing household chores. Hence, stress acts a generator for more depressive symptoms. This stress can often be manifested by conflict. Given that arguing about finances is a major source of conflict in relationships (American Psychological Association; APA 2017), when couples argue more about their finances, theoretically their depressive symptoms worsen. By integrating the family stress model and stress generation theory, this explorative study is able to explain a bidirectional relationship between both partnered men's and women's depressive symptoms and financial conflict.

An important aspect of stress generation that relates to the purposes of this study is that the effects of stress and depression can be experienced over time, meaning that stressful experiences can greatly affect depressive symptoms over time and that depressive symptoms can affect stress over time. From this perspective, financial conflict and depressive symptoms are theoretically related over time. Thus, we would expect that financial conflict is related to increased changes in depressive symptoms over time and that depressive symptoms are also related to increased changes in financial conflict over time.

Literature Review

The way couples talk about finances can affect their mental health. Particularly, when couples blame each other and cannot effectively navigate financial discussions, they are at risk for poorer psychological well-being in comparison to couples who are unified in their financial discussions (Afifi et al. 2018). This highlights the role that financial conflict can have on couple's overall mental health. When specifically examining depressive symptoms, however, few studies also examined financial conflict as related to depressive symptoms. One study, several decades ago, found that those with a history of depressive symptoms also reported many financial problems and marital conflicts (Kendler and Karkowski-Shuman 1997). More recently, both men and women reported more depressive behaviors in money-related conflicts (Papp et al. 2009). These studies highlight a relation between financial conflict and depressive symptoms and a strong rationale for greater exploration.

One such area of exploration is to determine the bidirectional association between financial conflict and depressive symptoms. In other words, does financial conflict predict depressive symptoms or do depressive symptoms predict financial conflict? Furthermore, in the context of couples, how does one partner's depressive symptoms or financial conflict affect the other partner? To date, we were unable to identify any study that tested the bidirectional relationship between financial conflict and depressive symptoms, let alone tested this bidirectional relationship longitudinally. This highlights a gap in our understanding as to whether there is a difference in how financial conflict predicts depressive symptoms over time and how depressive symptoms predict financial conflict over time. Understanding this can greatly aid educators, clinicians, and financial planners in knowing whether it's important to focus on the couple's financial conflict or depressive symptoms. Despite this gap in the literature, there is some literature on the separate directions, that is, financial conflict to depressive symptoms and depressive symptoms to financial conflict.

Financial Conflict to Depressive Symptoms

Conflict is inevitable in couple relationships. A number of studies found that how couples manage their conflict can affect the level of their depressive symptoms. For example,

greater conflict among partners was associated with higher depressive symptoms (Choi and Marks 2008). Conflict can also vary by style. Particularly, men's angry or hostile conflict style was associated with increases in their own depressive symptoms one year later while women's depressive or withdrawn conflict style was associated with increases in their own depressive symptoms one year later (Du Rocher Schudlich et al. 2011). Not all conflict is destructive, as constructive conflict was associated with less depressive symptoms in men and women (Du Rocher Schudlich et al. 2011). Another study found support that conflict predicted depressive symptoms only when moderated by attributions or explanations about their partner's behavior (Ellison et al. 2016). Together, these studies provide support that conflict between partners can affect their level of depressive symptoms.

Some topics in couple relationships are more distressing and instigate more conflict than other topics. Specifically, finances are a major source of conflict in relationships (APA 2017). Despite this, how financial conflict predicts depressive symptoms is seldom studied. One such study, found that both husbands and wives experienced depressive behaviors (e.g., withdrawal, sadness) in money related conflicts compared to non-money related conflicts (Papp et al. 2009). Specifically, they found that unresolved conflicts about money contributed to more depressive behaviors (Papp et al. 2009). This study provided some support for this direction, but highlights a need for more studies to explore how financial conflict predicts depressive symptoms. However, based on the studies on general conflict, we expected financial conflict to be associated with greater depressive symptoms in couples.

Depressive Symptoms to Financial conflict

A number of studies examined the association of depressive symptoms predicting conflict. A qualitative study found that depressed couples were more prone to argue with each other (Sharabi et al. 2016). Similarly, among older couples, another qualitative study found that depressed couples expressed difficulty problem-solving and communicating (Sandberg et al. 2002). Generally, qualitative research suggests depressive symptoms are associated with greater conflict and hostility among couples (Bodenmann and Randall 2013; Coyne et al. 2002; Goldfarb and Trudel 2019; Heene et al. 2007; Knobloch-Fedders et al. 2013; Lemmens et al. 2007; Mackinnon et al. 2012). Together these studies provide support for higher depressive symptoms associating with higher conflict among couples.

Unlike the literature on financial conflict to depressive symptoms, we were unable to identify any studies on the direction of depressive symptoms to financial conflict. This highlights a gap in our understanding of financial conflict and depressive symptoms. This gap could be due to the fact that previous researchers were interested in financial or relationship factors that predicted financial conflict such as economic pressure, economic power, and commitment (Britt et al. 2010; Dew and Stewart 2012). We aimed to contribute to this literature by testing whether depressive symptoms predicted financial conflict in couples. Despite the lack of literature on how depressive symptoms predict financial conflict, there is a sizable literature supporting depressive symptoms predicting conflict, generally. From this we expected that depressive symptoms would be associated with greater financial conflict in couples.

Longitudinal Associations

In reviewing the literature on financial conflict, generally, there is a plea for longitudinal studies (Valentino et al. 2014). This is because couples not only argue about finances for one moment, but these arguments can persist over time. Specifically, these financial conflicts have been shown to occur more frequently, are mishandled, unresolved, and persist over time in comparison to other arguments (Papp et al. 2009). Hence, by testing financial conflict trajectories, we can examine if financial conflict increases or decreases over time, but more importantly test if depressive symptoms are associated with changes in financial conflict over time. We identified one study that examined trajectories of financial stress. Specifically, mothers with higher depressive symptoms were less likely to experience lower levels of financial stress over time (Valentino et al. 2014). Other studies examining financial disagreements at two time points found that financial disagreements were associated with more heated arguments and less calm discussions subsequently (e.g., Dew and Dakin 2011). However, we were unable to identify any study that examined financial conflict beyond two time points.

In contrast, depressive symptoms can persist for years and there is a sizable literature studying depressive symptom trajectories (see reviews: Musliner et al. 2016; Schubert et al. 2017). These studies identified a number of subgroups of depressive symptoms trajectories that generally range from depressive symptoms that increase, decrease, or remain stable over time. Furthermore, depressive symptom trajectories may vary by gender in that more women tended to be in the subgroups with higher depressive symptoms than men in similar subgroups (Musliner et al. 2016). Hence, we examined both partner's trajectories of depressive symptoms.

Given the lack of literature in either direction simlutaneously, not only is there a need for testing the bidirectional association of financial conflict and depressive symptoms, but also a great importance of testing the

associations longitudinally. The study of change over time is important because it moves beyond cross-sectional associations to demonstrate possible effects that unfold over time. This means that we can test if depressive symptoms are associated with greater increases in financial conflict over time rather than just increasing financial conflict at the same time point and vice versa. This can be particularly helpful for practitioners as both depressive symptoms and financial conflict can persist over time, yet it is unclear if and how they affect each other over time. This explorative study tested if financial conflict and depressive symptoms were bidirectional at both one point in time, as well as if possible effects over time.

Present Study

Based on the literature and using an integrated family stress model and stress generation theoretical lens, we investigated bidirectional association between financial conflict trajectories and depressive symptom trajectories among partnered men and women. In our pursuit to test this aim, we also examined the partner effects between partnered men's and women's depressive symptoms and financial conflicts, respectively. Specifically, we tested the following research questions:

RQ1: To what degree are men's and women's initial and rates of changes in financial conflict trajectories and depressive symptom trajectories correlated across the three waves?

RQ2: To what degree are one partner's initial depressive symptoms associated with changes in the other partner's depressive symptoms across three waves?

RQ3: To what degree are one partner's initial financial conflicts associated with changes in the other partner's financial conflicts across three waves?

RQ4: To what degree are one partner's initial depressive symptoms associated with changes in their own financial conflict trajectories and the other partner's financial conflicts trajectories across three waves.

RQ5: To what degree are one partner's initial financial conflicts associated with changes in their own depressive symptom trajectories and the other partner's depressive symptom trajectories across three waves?

Methods

Procedure

We expanded on previous studies that used the Panel Analysis of Intimate Relationships and Family Dynamics (Pairfam) to study couple dynamics over time (e.g., Morgan et al. 2018a, b). Specifically, we utilized three waves from the Pairfam (release 9.1) study that covered a 4-year period, which is a longitudinal study of German adults over time that assessed individual, relational, and family characteristics. Anchor or focal participants were selected by a stratification process of regions in Germany, subareas of those regions, and households in those subareas. Once households were identified, anchors were selected by 3 age cohorts: 1971–1973, 1981–1983, 1991–1993. Each year, anchor participants were interviewed while partners, parents, and children who gave consent completed questionnaires that were returned via mail. Thus, this sampling procedure resulted in a representative sample of German adults, couples, and families across 3 age cohorts. This study began in 2008 with the baseline wave and annual waves planned through 2022 (see Huinink et al. (2011) for more information on sampling procedures as well as https://www.pairfam.de/en/study.html).

Initially, 12,402 anchors and 3743 couples were sampled at baseline. For the purposes of this study we used waves 3, 5, and 7 because not all of the predictors and outcomes were assessed at each wave. In order to study the same couples over time, we removed 483 couples who, by Wave 7, were not with the same partner across the three waves. This limited the sample to couples who remained with the same partner across those three waves ($N = 1309$ couples). Next, gay and lesbian couples were removed due to the small sample size ($N = 13$). Finally, we removed couples where one or both partners were under the age of 18 ($N = 23$), which resulted in a final sample of 1273 couples.

Measures

Financial Conflicts

One item measured the degree to which couples had conflicts about financial matters. This item was adapted from the Dyadic Adjustment Scale (Spanier 1976) and conflict frequency scale (Wagner and Weib 2005) and was rated on a scale from 1 (*almost never or never*) to 5 (*very frequently*). Financial conflicts were separated by biological sex to create men's and women's financial conflicts at Waves 3, 5, and 7.

Depressive Symptoms

Ten items were selected from the State-Trait-Depression Scales (STDS; Spaderna et al. 2002) to assess positive and negative moods in general. As a scale, STDS has been highly correlated with other well-known depression scales such as the Beck Depression Inventory (Beck and Steer 1987). These items included a range of items from "I am sad" and "my mood is melancholy" to "I feel good" and "I feel happy"; all items were rated on a scale from 1 (*almost never*) to 4

(*almost always*). The positive mood items were recoded, so that higher values indicated greater depressive symptoms. Depressive symptoms were coded at each wave and then separated by biological sex to create men's and women's depressive symptoms at Waves 3, 5, and 7. These variables had reliable alphas for men's depressive symptoms at Wave 3 ($\alpha = .87$), Wave 5 ($\alpha = .90$), and Wave 7 ($\alpha = .89$) as well as women's depressive symptoms at Wave 3 ($\alpha = .89$), Wave 5 ($\alpha = .88$), and Wave 7 ($\alpha = .92$).

Controls

To test our research questions, we controlled for household income (in Euros), which was transformed by a logarithmic function to have a normal distribution, relationship duration (in years), number of children, and cohort. Also, each partner's age (in years), full time employment (dichotomous), and education (based on the International Standard Classification of Education) were controlled in the empirical model. All of these controls were measured at Wave 3. Correlation tests of the controls revealed potential multi-collinearity with men's and women's age and cohort. For this reason, we dropped men's and women's age from our analyses because it was important to control for potential cohort differences.

Analysis Plan

Latent growth models estimate trajectories by latent constructs of initial levels (i.e., intercepts) and rates of change (i.e., slopes) across time (Bollen and Curran 2006). For example, a latent growth model has initial levels of financial conflict as well as rates of changes in financial conflict trajectories. Multivariate latent growth models build on latent growth models and cross-lagged autoregressive models by testing multiple latent growth models at the same time (Bollen and Curran 2006; Cole and Maxwell 2003; Young et al. 2011). Thus, we can test men's and women's trajectories of financial conflict and depressive symptoms in the same model. For example, men's initial financial conflicts predicting rates of changes in women's financial conflict trajectories.

Our analysis plan was carried out in several steps. First, in SPSS 25, we coded variables and then conducted preliminary tests. Particularly, because anchors and partners were measured differently (i.e., interviews or questionnaire), we ran multiple t-tests to evaluate differences between anchor and partner's scores on depressive symptoms and financial conflict at Waves 3, 5, and 7. Second, multivariate latent growth models in Mplus 8 (Muthén and Muthén 1998–2012) tested how men's and women's trajectories of depressive symptoms predicted men's and women's trajectories of financial conflict. Model fit was evaluated by common guidelines (Kline 2015), such as CFI and TLI greater than .95, RMEA and SRMR less than .05. Due to missing data that ranged from 0.00% (e.g., number of children) as the least missing to 40.92% (women's full time employment) as the most missing as well as multivariate nonnormality in our data (e.g., women's financial conflict at Wave 3 and household income had kurtosis value greater than 7), we used maximum likelihood estimation with robust standard errors (MLR; Yuan and Bentler 2000), which is a robust estimator that handles missing data, non-normal, and nonindependence of observations. Particularly, MLR accounts for missing data by estimating standard errors and chi square statistics of the parameters in the model (Muthén and Muthén 1998–2012). Thus, we can adequately estimate missing data and test non-normal data by using the MLR estimator.

Results

Preliminary Analyses

T-Tests

Prior to running results, we tested for any significant differences between the anchors' and partners' responses on depressive symptoms and financial conflict as well as education, and full-time employment (the other controls were reported by the anchor only). Some significant differences were found between anchor and partners for depressive symptoms and financial conflicts that ranged from an effect size of .09 as the lowest (full time employment) to .11 (depressive symptoms at Waves 3 and 7) as the highest effect size. All were below the common small effect of .20 (Cohen 1992) so we proceeded with our analyses.

Descriptives and Correlations

We ran basic descriptive analyses of the predictors and outcomes (see Table 1). Sample characteristics were assessed at 2010 or Wave 3. More than half (58.80%) of the sample was in cohort 3 (born in 1971–1973), 37.90% were in cohort 2 (born in 1981–1983), and 3.40% were in cohort 1 (born in 1991–1993). These couples had been together an average of 10.30 years ($SD = 6.30$) where most were married (69.20%). These couples had on average 1 child ($SD = 1.33$) with 67.90% of couples having at least one child. On average, women were 32 years old ($SD = 6.05$) and men were 35 years old ($SD = 6.63$). Concerning women's employment, 44.30% were full time, 27.45% were part time, 21.80% were homemakers, and 3.80% were unemployed; whereas for men, 86.40% were full time, 3.30% were part time, 1.40% were homemakers, and 3.30% were unemployed. In examining the level of education based on the ISCED-97

Table 1 Descriptives and sample characteristics (N = 1273)

Characteristic/variable	M or %	SD	Range	α
W3 women's financial conflict	2.03	.99	1–5	–
W5 women's financial conflict	2.06	.98	1–5	–
W7 women's financial conflict	2.08	1.02	1–5	–
W3 men's financial conflict	1.98	.97	1–5	–
W5 men's financial conflict	2.06	.99	1–5	–
W7 men's financial conflict	2.05	.98	1–5	–
W3 women's depressive symptoms	1.67	.47	1–4	.89
W5 women's depressive symptoms	1.72	.47	1–4	.88
W7 women's depressive symptoms	1.72	.48	1–4	.92
W3 men's depressive symptoms	1.59	.43	1–4	.87
W5 men's depressive symptoms	1.64	.44	1–4	.90
W7 men's depressive symptoms	1.66	.45	1–4	.89
Household monthly income[a]	3112.20	1443.33	0–20,100	–
Relationship duration	10.30	6.30	.08–34.58	–
Women's age	32.71	6.05	18–54	–
Men's age	35.51	6.63	18–71	–
Number children	1.33	1.19	0–10	–
Women's full time employment	44.30%	–	0, 1	–
Men's full time employment	86.40%	–	0, 1	–
Women's education (ISCED)[b]	32.20%	–	1–8	–
Men's education (ISCED)[b]	42.50%	–	1–8	–
Cohort 3[c]	58.80%	–	1, 2	–
Cohort 2[c]	37.90%	–	1, 2	–

[a]Income is in euros

[b]Education was measured on the ISCED-97 classification that ranged from 1 (*no degree*) to 8 (*second stage of tertiary education*), this percentage represents those that had a university level education

[c]Reference group is cohort 1

classification, 42.50% of men and 32.20% of women had tertiary level education (university level education) with the remaining having less than a tertiary level education. On average the combined household monthly income was 3112.20 euros ($SD = 1443.33$). Generally, both men and women had low levels of depressive symptoms and financial conflicts across the waves.

Pearson correlations revealed that men's and women's depressive symptoms and financial conflicts were correlated (see Table 2). Particularly, women's financial conflict was moderately correlated with their own higher depressive symptoms at Wave 3 ($r = .29$), Wave 5 ($r = .25$), and Wave 7 ($r = .26$). Similarly, men's financial conflict was moderately correlated with their own higher depressive symptoms at Wave 3 ($r = .29$), Wave 5 ($r = .22$), and Wave 7 ($r = .22$). These findings provided support for an association between financial conflict and depressive symptoms among men and women at each wave. With these preliminary analyses run, we next tested latent growth models.

Multivariate Latent Growth Models

Unconditional Models

In following common latent growth modeling procedures, we first ran separate and dyadic unconditional models of men's and women's trajectories of depressive symptoms and financial conflicts. For example, a separate unconditional model tested the initial levels (i.e., intercept) and rates of change (i.e., slope) for women's depressive symptoms at Waves 3, 5, and 7 without predictors or controls in model. Because the waves were 2 years apart, the loadings for Waves 3, 5, and 7 were set at 0, 2, and 4 respectively. Similar to SEM, the error terms for women's depressive symptoms at Waves 3, 5, and

Table 2 Correlations of partnered men's and women's depressive symptoms and financial conflict

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. F3FC	–											
2. F5FC	.53**	–										
3. F7FC	.47**	.59**	–									
4. M3FC	.41**	.38**	.34**	–								
5. M5FC	.34**	.43**	.37**	.53**	–							
6. M7FC	.33**	.34**	.38**	.49**	.53**	–						
7. F3DS	.29**	.25**	.26**	.19**	.16**	.17**	–					
8. F5DS	.27**	.31**	.30**	.18**	.17**	.19**	.64**	–				
9. F7DS	.27**	.29**	.33**	.20**	.18**	.23**	.60**	.67**	–			
10. M3DS	.18**	.15**	.15**	.29**	.22**	.22**	.23**	.21**	.19**	–		
11. M5DS	.15**	.22**	.19**	.23**	.32**	.23**	.19**	.27**	.21**	.65**	–	
12. M7DS	.16**	.22**	.20**	.24**	.26**	.27**	.18**	.23**	.26**	.60**	.72**	–

**$p < .05$

F Women's, *M* Men's, *3* Wave 3, *5* Wave 5, *7* Wave 7, *FC* financial conflict, *DS* depressive symptoms

7 were all correlated. This same procedure was conducted for women's and men's financial conflicts as well as men's depressive symptoms. Once each separate unconditional model had good model fit, we ran dyadic unconditional models of men's and then women's trajectories of depressive symptoms and financial conflict. With good model fit for both dyadic unconditional models, we then tested a multivariate unconditional model of all four latent growth models in the same model. This resulted in good model fit: χ^2 (34) = 109.78, $p < .05$; CFI = .98; TLI = .97, RMSEA = .04 (95% confidence interval [.03, .05]), and SRMR = .01. This revealed similarly low initial levels of depressive symptoms for men ($b = 1.59$, $p < .01$) and women ($b = 1.68$, $p < .01$) and significant rates of change that slightly increased for women ($b = .01$, $p < .01$) and men ($b = .02$, $p < .05$). Likewise, there were similarly low initial levels of financial conflict for men ($b = 2.01$, $p < .01$) and women ($b = 2.03$, $p < .01$) as well as significant rates of change that slightly increased only for men ($b = .02$, $p < .05$), but not women.

Next, we conducted a series of tests to add rigor to our analyses as well as develop a parsimonious conditional model. First, we determined if our outcomes were predicted by the initial levels of men's and women's depressive symptoms and financial conflict in the unconditional model. We added predictive pathways of the initial levels of the predictors predicting the rates of change, which also had good model fit: χ^2 (38) = 109.78, p < .05; CFI = .99; TLI = .97, RMSEA = .04 (95% confidence interval [.03, .05]), and SRMR = .02. These results suggested that outcomes were predicted by some of the predictors, so each outcome remained in our model. Second, we determined which predictors and controls were associated with the four initial levels and the four rates of change. To do this, we exported the Mplus output of the previous model to SPSS where we conducted correlations. Refer to Table 3 for full details as we summarized the findings here. Most noticeably, women's initial depressive symptoms were correlated with rates of change in women's financial conflict, but men's initial depressive symptoms were correlated with men's rates of change in financial conflict. Women's initial levels of financial conflict were correlated with both men's and women's rates of change in depressive symptoms while men's initial financial conflict was only associated with men's rates of change in depressive symptoms. On the other hand, only a few controls were associated with three of the four rates of change outcomes (i.e., household income, relationship duration, and men's education) whereas most of the controls were associated with the initial levels of men's and women's financial conflict (i.e., household income, relationship duration, number of children, cohort, and men's and women's education as well as full-time employment). Particularly, men's and women's' full-time employment each had one association. Due to the few associations, we removed them from our model for parsimony.

Conditional Model

The significant associations shown in Table 3 were retained in our conditional model, controls predicted the intercepts, and both controls and intercepts predicted the slopes of other latent growth models. For example, women's initial levels (i.e., intercept) of depressive symptom trajectories predicted the changes (i.e. slopes) in women's financial conflict trajectories, men's financial conflict trajectories, and men's depressive symptom trajectories. This conditional model had good model fit: χ^2 (101) = 241.85, p < .05; CFI = .97; TLI = .96, RMSEA = .03 (95% confidence interval [.03, .04]), and SRMR = .04. There were a number of controls that were significantly associated with men's and women's initial levels of financial conflict and depressive symptom. Household income was associated with women's lower financial conflict ($b = -.02$, $p < .01$, $\beta = -.19$), men's lower financial conflict ($b = -.01$, $p < .01$, $\beta = -.13$), women's lower depressive symptoms ($b = -.01$, $p < .01$, $\beta = -.23$), and men's lower depressive symptoms ($b = -.01$, $p < .01$, $\beta = -.17$). Number of children were associated with women's higher financial conflict ($b = .23$, $p < .01$, $\beta = .20$) and men's higher financial conflict ($b = .11$, $p < .01$, $\beta = .17$). Being in cohort 2 (born in 1981–1983) was associated with women's higher financial conflict ($b = .40$, $p < .01$, $\beta = .28$).

In summary, the results revealed a number of partner effects (see Table 4). Women's higher initial levels of depressive symptoms were associated with increases in men's financial conflict trajectories ($b = .09$, $p < .01$, $\beta = .34$), but not associated with women's financial conflict trajectories or men's depressive symptoms trajectories. Men's higher initial levels of depressive symptoms were associated with increases in women's in financial conflict trajectories ($b = .10$, $p < .01$, $\beta = .27$), but not associated with men's financial conflict trajectories. Women's initial levels of financial conflict were associated with decreases in men's financial conflict trajectories ($b = -.06$, $p < .01$, $\beta = -.42$), but were not associated with women's depressive symptom trajectories. Men's initial financial conflict was associated with decreases in women's financial conflict trajectories ($b = -.04$, $p < .05$, $\beta = -.20$) and increases in women's depressive symptom trajectories ($b = .03$, $p < .01$, $\beta = .45$). Of the controls, only relationship duration ($b = -.00$, $p < .01$, $\beta = -.19$) and men's education ($b = -.01$, $p < .05$, $\beta = -.17$) were associated with decreases in women's financial conflict trajectories.

Table 3 Controls, initial levels and rates of changes in men's and women's financial conflict (FC) and depressive symptoms (DS) trajectories: correlations (N = 1273)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Household income	–																
2. Relationship duration	.24*	–															
3. Number of children	.13*	.47*	–														
4. Cohort 3[a]	.29*	.55*	.44*	–													
5. Cohort 2[b]	− .26*	− .47*	− .37*	− .93*	–												
6. M full time emp	.18*	.10*	.00	.09*	− .03	–											
7. F full time emp	.09*	− .09*	− .42*	− .17*	.20*	− .11*	–										
8. F education	.33*	.19*	.03	.18*	− .04	.03	.18*	–									
9. F education	.39*	.11*	.06*	.18*	− .09*	.12*	.01	.41*	–								
10. F initial DS	− .23*	− .06*	.01	− .04	.03	− .05	− .06	− .12*	− .13*	–							
11. F changes DS	− .04	− .05	.01	− .01	.02	− .03	.00	− .03	− .10	.08*	–						
12. F initial FC	− .22*	− .06*	.08*	− .09*	.09*	.02	− .10*	− .10*	− .16*	.53*	.13*	–					
13. F changes FC	− .06*	− .06*	.04	− .01	.02	.02	.02	− .03	− .10*	.05	.69*	.16*	–				
14. M initial DS	− .17*	− .03	.03	− .04	.03	− .09	− .04	− .03	− .11*	.39*	− .00	.37*	− .03	–			
15. M changes DS	− .01	− .01	.00	.03	− .02	− .03	− .04	.02	− .07*	− .02	.84*	.04	.418	.18*	–		
16. M initial FC	− .20*	− .06*	.07*	− .11*	.11*	− .02	− .05	− .13*	− .15*	.37	.12*	.83*	− .01	.52*	.01	–	
17. M changes FC	.02	− .05	− .01	.01	− .02	− .01	.03	− .03	− .04	− .10*	.72*	− .27*	.65*	− .19*	.60*	− .19*	–

Initial intercept, *Changes* rates of changes or the slope, *M* men's, *F* women's

[a]Born in 1971–1973

[b]Born in 1981–1983

*$p < .05$

Table 4 Unstandardized, standardized, and significance levels for model in CONDITIONAL model (standard errors in parentheses; N = 1273)

Parameter estimate	b	(SE)	β	Parameter estimate	b	(SE)	β
Initial levels				Rates of change			
Women's FC				Women's FC			
Household income	− .02**	.00	− .19	Men's initial DS	.10**	.03	.27
Number of kids	.23**	.02	.20	Women's initial DS	− .02	.03	− .07
Relationship dur	.00	.01	.01	Men's initial FC	− .04*	.02	− .20
Cohort 3	.23	.15	.16	Household income	.00	.00	.03
Cohort 2	.40*	.15	.28	Relationship duration	− .00*	.00	− .19
Women's education	.03	.02	.01	Men's education	− .01*	.00	− .17
Men's education	− .02	.02	− .05				
				Men's FC			
Men's FC				Men's initial DS	− .04	.03	− .14
Household income	− .01**	.00	− .13	Women's initial DS	.09**	.03	.34
Number of kids	.11**	.03	.17	Women's initial FC	− .06**	.02	− .42
Relationship dur	− .00	.00	− .03				
Cohort 3	.04	.18	− .03	Women's DS			
Cohort 2	.27	.18	.18	Men's initial FC	.03*	.01	.45
Women's education	− .03	.02	− .08	Women's initial FC	− .02	.01	− .31
Men's education	− .03	.02	− .07	Women's education	.00	.00	.08
				Men's education	− .00	.00	− .05
Women's DS							
Household income	− .01**	.00	− .23	Men's DS			
Women's education	.01	.01	− .05	Women's initial DS	− .01	.01	− .07
Men's education	.00	.01	− .00	Men's education	− .00	.00	− .10
Men's DS							
Household income	− .01**	.00	− .17				
Women's education	.01	.01	.07				
Men's education	− .01	.01	− .04				

*p < .05, **p < .01

This model was a multivariate latent growth model with acceptable model fit: χ^2 (101) = 241.85, p < .05; CFI = .97; TLI = .96, RMSEA = .03 (95% confidence interval [.03, .04]), and SRMR = .04

Discussion

We sought to test the bidirectional relationships between financial conflict trajectories and depressive symptom trajectories among partnered men and women. There is some literature supporting the direction of general conflict predicting depressive symptoms (e.g., Du Rocher Schudlich et al. 2011) and of depressive symptoms predicting general conflict (e.g., Mackinnon et al. 2012). However, few studies narrowed the focus of conflict to financial conflict and its relationship with depressive symptoms (e.g., Papp et al. 2009). We were unable to identify any study that examined the nature of this bidirectional association cross-sectionally or longitudinally. Furthermore, we examined these associations within an integrated theoretical lens of the family stress model and stress generation theory. Using multivariate latent growth models we were able to test the bidirectional association between partnered men's and women's financial conflict trajectories and depressive symptom trajectories among 1273 German couples.

In summary, we found three findings that provide some support for four of the five research questions. Particularly, we found support for RQ1 in that men's and women's financial conflict and depressive symptoms are related initially and over time. Although our results do not support one partner's initial depressive symptoms being associated with rates of change in depressive symptoms in the other partner (RQ2), our results do provide support that one partner's initial financial conflict is associated with decreasing rates of change of financial conflicts in the other partner (RQ3). Both RQ4 and RQ5 were partially supported in that men's and women's initial depressive symptoms are associated only with the rate of change in their partner's financial conflict and not their own rate of change in financial conflict. On the other hand, only men's initial financial conflict

is associated with their partner's rate of change in depressive symptoms. Together, these results provide three findings that add to the literature.

Depressive Symptoms Predict Higher Financial Conflict Over Time

First, these results provide support for the direction of depressive symptoms predicting financial conflict, but as partner effects rather than actor effects. In other words, both men's and women's higher depressive symptoms are associated with their partner perceiving greater financial conflict over the next three waves (partner effect). Although men's and women's depressive symptoms and financial conflict were correlated initially, men's and women's depressive symptoms did not predict their own rates of change in financial conflict (actor effect). These findings of partner effects and a lack of actor effects are perplexing, which may be explained by the following possible reasons. One reason, for example, is that our sample had lower levels of depressive symptoms and financial conflict across the waves. These low levels could, perhaps, explain why men's and women's depressive symptoms are not predictive of their own financial conflict. Previous literature finds that when couples argue over money related issues, they feel depressed (Papp et al. 2009), so it is possible our sample did not have, on average, intense financial conflicts. Future research could explore this further by examining if the intensity of financial conflicts moderates the association between financial conflict and depressive symptoms. Additionally, it is also possible that this perplexing finding could be attributed to depressive symptoms impairing a partner's perceptions about life and the relationship (Sharabi et al. 2016). Speculatively, they may be more consumed by their negative thoughts about life than about their financial arguments with their partner.

Even with these low levels of depressive symptoms, however, these results reveal that depressive symptoms may affect their partner more, than themselves, in terms of perceived financial conflict. One reason for these partner effects could be because of the relational nature that depressive symptoms may have on a couple (Heene et al. 2007; Knobloch-Fedders et al. 2013). Partners with depressive symptoms can be difficult to be around and the other partner can be strained and emotionally drained (Sharabi et al. 2016). These partners tend to be more critical and sometimes hostile towards the partner with depressive symptoms (Bodenmann and Randall 2013). Thus, the partner may be more vulnerable to perceiving not only greater conflict (Sharabi et al. 2016), but also more arguments about finances. From a family stress model perspective, the topic of finances is a continuing topic for couples and this partner may perceive greater financial conflict over time. Although it has been established that depressive symptoms are associated with higher conflict generally among couples (e.g., Heene et al. 2007; Knobloch-Fedders et al. 2013), this study contributes to the literature by specifically examining financial conflict. Furthermore, these findings advance the previous literature on financial conflict (e.g., Britt et al. 2010; Dew and Stewart 2012), by demonstrating how perceived financial conflict may be related to their partner's depressive symptoms.

Financial Conflict Predicts Depressive Symptoms Over Time

Second, only men's initial financial conflict levels predict greater rates of change in women's depressive symptoms. Furthermore, neither men's nor women's initial financial conflict are correlated with rates of change in men's depressive symptoms. Together, these findings only partially support this direction, in that it is a partner effect from men's financial conflict to women's depressive symptoms. Specifically, men's depressive symptoms can negatively affect their partner's perceptions of arguments over finances over time. One reason for this could be that gender roles continue to play an important part in a relationship—particularly in how couples disagree over finances (Dew and Dakin 2011). Women tend to be less financially literate than men, even in relationships where both partners make joint decisions (Bucher-Koenen et al. 2017). Previously, women's degree of financial satisfaction varied greatly over a span of 2 weeks (Totenhagen et al. 2018), suggesting that women are susceptible to changes in finances. Furthermore, women tend to experience greater depressive symptoms than men (Musliner et al. 2016), as shown in our sample where women report slightly higher levels of depressive symptoms than men. From this literature, it would appear that when couples argue about money–a topic that affects their livelihood—women seem to be more vulnerable to subsequent depressive symptoms.

Another possible explanation from a stress generation perspective, could be that stress—financial conflict, in this case—generates depressive symptoms in their partner. Previous studies find that stress generally affects one's own and one's partner's depressive symptoms (Davila et al. 1997; Gotlib and Hammen 2015), which could suggest that financial conflict is a unique situation. It is possible that the way couples argue about finances could be associated with depressive symptoms. For example, whether couples experience greater depressive symptoms varies by whether couples argued by being withdrawn, hostile, or constructive (Du Rocher Schudlich et al. 2011). Future research can further examine, perhaps qualitatively, the ways couples argue about finances when also experiencing depressive symptoms. Given that our sample had low average levels of financial

conflict, it is possible that the arguments about finances need to be of higher intensity in order to have a greater effect on depressive symptoms. Nevertheless, this finding extends the literature on the relation between financial conflict and depressive symptoms. Specifically, the one previous study found that unresolved conflicts about money contributed to more depressive behaviors (Papp et al. 2009), whereas we found a partner effect in that men's financial conflict was related with their partner perceiving more arguments about finances over time.

Bidirectional Associations

Third, in summary, our results reveal that the bidirectional association between financial conflict and depressive symptoms among couples is complex. From our integrated theoretical lens of the family stress model and stress generation, men's and women's initial financial conflict and initial depressive symptoms are related. Generally, the more couples experience greater financial conflict, the more likely they are to also experience more depressive symptoms. This bidirectional association, however, is more nuanced when we examine these associations longitudinally. Given the relational nature of these theories, these findings suggest that when one partner experiences depressive symptoms, the other partner may be vulnerable to perceiving greater conflict in the relationship—particularly when talking about finances—over time. Furthermore, when men describe greater conflict around their finances, their partners may be more vulnerable to depressive symptoms over time. Together, these findings contribute to the gap in the literature examining the bidirectional nature of depressive symptoms and financial conflict longitudinally. Future research can examine a number of factors that may further explore why and when this bidirectional association may occur over time. Particularly, future research can explore how cohort, debt, financial stress, employment, couples' financial management practices, and couples' conflict management styles could mediate or moderate the association between financial conflict trajectories and depressive symptoms trajectories.

Beyond these associations, we also find a potentially important partner effect related to financial conflict. Specifically, initial financial conflict for both men and women is associated with less financial conflict over time in their partner. Given that the literature suggests that financial conflict persists over time and can become more problematic (Papp et al. 2009), this finding is somewhat perplexing. This finding is inconsistent with previous literature that financial disagreements about money are associated with more heated arguments, and less calm discussions over two waves (Dew and Dakin 2011). In the literature, conflict typically encourages couples to address issues that are uncomfortable and when addressed the tensions abate (Overall and McNulty 2017). From this perspective, when couples address these financial issues now, they may have fewer arguments about finances in the future. These couples may have found ways to resolve their financial issues as well as ways to navigate future financial conflicts. Given that financial conflict can be more intense and more pervasive, a more plausible reason may be that these couples avoid conflict when talking about money. After the economic downturn, many couples felt uncertain about their finances and as a result avoided the topic of finances (Romo 2014). In summary, these possible reasons pose alternative explanations for these findings and encourage future research to explore possible explanations as to why financial conflict could decline over time in the context of couples successfully managing conflict or avoiding conflict.

Implications

These findings offer several insights for educators, practitioners, clinicians, and financial planners in working with couples about their finances and mental health. First, our findings not only reveal that depressive symptoms and financial conflict are related, but that they occur over time. When working with heterosexual couples, it would be important to assess depressive symptoms and conflict around financial matters in the relationship. Particularly, we find that for both men and women in a relationship, their initial depressive symptoms are associated with their partner perceiving more financial arguments over time. If one partner is complaining about their financial conflicts, it is possible that the other partner may experience depressive symptoms, either currently or in the past. The Patient Health Questionnaire (PHQ-9 and PHQ-2; Kroenke et al. 2001) is a widely used screening measure for depression in a variety of settings (Mitchell et al. 2016; Saxon et al. 2017). Although financial planners are not trained to diagnose depression, the use of the PHQ could be used as a screening tool for treatment referral for depressive symptoms. Many settings use the PHQ as part of their initial paperwork and financial practitioners could do the same. This knowledge could greatly aid financial planners in understanding that there are relational dynamics at play with couples' financial arguments and mental health.

Second, couples often present financial problems in therapy and clinicians often ignore this problem (Falconier and Elkin 2008). As mentioned previously, reasons for clinicians to ignore finances range from a lack of training to poor management of their own finances (Britt et al. 2015; Klontz et al. 2008). Our findings regarding the association between a couple's financial conflict and their partner perceiving less financial conflict over time, could suggest that couples

may be avoiding the topic of money. Thus, clinicians could be key in helping couples talk about finances rather than avoid the topic. Clinicians may not necessarily need an in-depth financial training, but can use therapeutic techniques to help partners understand more about their own and their partner's experience with financial conflict (Falconier and Epstein 2011). Clinicians could use an Emotionally Focused Couples therapy approach (EFT; Johnson 2012) as a way to address the couples' finances and depressive symptoms, rather than avoiding the topic of finances. This approach enables clinicians to identify as well as explore interactional patterns involving depressive symptoms and financial conflict. Given that financial conflicts are problematic, it is likely these couples have developed a negative interaction pattern that results in unresolved conflict. A clinician could first understand how this interaction is linked with money and depressive symptoms as well as each partner's role in the conflict when talking about finances. Finally, clinicians could also explore the underlying emotions that are driving the interaction pattern and help partners share those emotions with each other. By way of treatment coordination, clinicians could refer these couples to financial educators or financial planners for help with their financial issues, specifically while treating their relational conflict. In this way, the couple is able to get help for ways of talking about their finances and getting specific financial guidance.

Limitations

Despite these findings, this study has a number of limitations. First, these findings are correlational and not causal. Second, this sample was mostly Caucasian, somewhat educated, with low levels of depressive symptoms, and low rates of financial conflict. These results may be different for couples from more diverse ethnic groups, couples with less education, and those who experience higher levels of depressive symptoms and financial conflict. Third, our sample is comprised of German couples and may not generalize to other populations. Fourth, financial conflict was measured by a single item and as such is a global measure. Future research could expand on these findings with stronger measures of financial conflict.

Conclusion

Financial conflict and depressive symptoms among couples are related, and this association seems to affect partners over time. Although there is some support for bidirectional associations, there is more support for depressive symptoms predicting financial conflict over time. Particularly, the more depressive symptoms men and women experience, the more likely their partner perceives higher financial conflicts over time. This provides some support for an integration of the family stress model and stress generation in describing the associations between depressive symptoms and financial conflict. Researchers can use this integration to further explore possible mechanisms as to why this bidirectional association occurs. Together, these findings encourage financial practitioners to assess clients' depressive symptoms, and for clinicians to explore financial conflict within couples. This approach is important as many clinicians avoid the topic of finances and yet financial conflict is a prominent topic of conflict among couples. Thus, there is a need for practitioners to be collaborative and consider both financial problems and mental health problems among couples.

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Compliance with Ethical Standards

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Ethical Approval This article does not contain any studies with human participants or animals performed by any of the authors.

Informed Consent Furthermore, this data was de-identified and informed consent was previously collected by the developers (Huinink et al. 2011). This data is publicly available and can be used at request of the developers at https://www.pairfam.de/en/data/data-access/.

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