

### **Supplemental Materials (Preliminary Study A and Study B)**

Two pre-existing datasets allowed us to conduct preliminary analyses examining the relationships between Financial CSW, perceptions of time pressure and time allocation, and social outcomes (loneliness and social connection). In Study 1a, we hypothesized that higher Financial CSW would be related to greater feelings of loneliness and that this would be due to spending less time with family and friends. In Study 1b, we hypothesized that higher Financial CSW would be related to lower feelings of social connection and this would be due to feeling more time pressure.

### **Participants and Procedure**

As part of larger studies examining purchasing behavior, participants were recruited using Qualtrics (Study A) or Amazon Mechanical Turk (MTurk; Study B), which are online survey platforms that allow researchers to request users to complete various types of research studies. Participants completed each study online using their personal computer or internet-capable device (i.e., cell phone, tablet) at a time and location of their choice. In Study A, 821 participants (56% male) were recruited with the majority (61%) between the ages of 25 and 54; the sample consisted of approximately 66% Caucasians, 14% African Americans, 10% Hispanics, and 10% other ethnicities. In Study B, 333 participants (55% male) were recruited with the largest proportion (46%) between the ages of 25 and 34; data on ethnicity were not collected in this sample.

### **Materials**

Embedded within a series of other measures, participants completed the following questionnaires.

**Financial CSW.** Participants reported the degree to which they based their self-worth on

financial success (5 items,  $\alpha=.75-.83$ ) with items such as, "My self-esteem is influenced by how much money I make" and "I feel bad about myself when I feel like I don't make enough money" on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*) (Park et al., 2017).

**Time allocation (Study A).** Participants were presented with four categories of activities - being alone, working, socializing with friends, socializing with family - and asked to indicate the percentage of time they spent engaging in each of these activities over the past week. Given that we were interested in time spent socializing with others, we created a composite measure of the percentage of time spent socializing with family and friends ( $M=33.70$ ,  $SD=20.85$ ).

**Time pressure (Study B).** Participants reported the degree to which they perceived time pressure (e.g., "There have not been enough minutes in the day," 3 items,  $\alpha=.80$ ) on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*) (Kasser & Sheldon, 2009).

**Loneliness (Study A).** Participants reported how often they felt lonely (3 items,  $\alpha=.80$ ) with items such as, "How often do you feel left out?" and "How often do you feel isolated from other people?" on a scale of 1 (*hardly ever*), 2 (*some of the time*), or 3 (*often*) (adapted from Russell, Peplau, & Ferguson, 1978).

**Social connection (Study B).** Participants responded to items from the Social Connectedness Scale (Lee & Robbins, 1995) to assess how connected they felt to other people (e.g., "I don't feel connected to most people," 5 items,  $\alpha=.96$ ) on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Participants' responses were reverse-coded so that higher values indicate greater feelings of social connection.

**Covariates.** We controlled for a variety of personality and demographic variables potentially relevant to Financial CSW or social outcomes. Since the preliminary studies were not designed to address the present research question, covariate options were limited and varied

across studies.

**Extraversion (Study A).** Participants responded to two items from the Ten-Item Personality Inventory (Gosling, Rentfrow, & Swann, 2003) by rating the extent to which two pairs of adjectives - "extraverted, enthusiastic" and "reserved, quiet" (reversed) - applied to them on a scale from 1 (*disagree strongly*) to 7 (*agree strongly*) ( $r=.31, p < .001$ ).

**Financial aspirations (Study B).** Participants were presented with financial goals (e.g., "I will be financially successful") and indicated how important each goal was to them on a scale from 1 (*not at all*) to 7 (*extremely*) (4 items,  $\alpha=.84$ ; Kasser & Ryan, 1993).

**Materialistic values (Study B).** Participants reported the extent to which they held materialistic values (e.g., "I like a lot of luxury in my life," 3 items,  $\alpha=.82$ ) on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*) (Richins, 2004).

**Resource orientation (Study B).** Participants were asked to make a binary choice indicating which they prioritized more: time or money. Specifically, they read a scenario describing two individuals who prioritized money or time in their everyday lives and then selected the individual that they most closely identified with (39% prioritized money over time) (Whillans, Weidman, & Dunn, 2016).

**Economic hardship (Study B).** Participants reported the degree to which they perceived themselves as having economic hardships (e.g., "I have had difficulty paying monthly bills," 3 items,  $\alpha=.82$ ) on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*) (Conger, Rueter, & Elder, 1996).

**Demographics.** Participants reported their age, gender, ethnicity (Study A only), marital status (58.7% married/in a marriage-like relationship in Study A, 50.8% in Study B), income (*Median*=\$50,000-\$74,999 in Study A; *Median*=approximately \$50,000 in Study B), number of

hours worked per week (39.6% reported working 40+ hours per week in Study A, 46.3% in Study B), and whether or not they had children (66.2% reported having at least 1 child in Study A, 26.7% in Study B).

## Results and Discussion

**Study A.** Zero-order correlations among the study variables are shown in Table 1a below. For our primary analyses, we used Hayes' PROCESS macro (model 4) for SPSS to test whether Financial CSW predicted feelings of loneliness and whether time spent with family and friends mediated this relationship. Specifically, we inputted *Y* (the dependent variable: loneliness), *X* (the independent variable: Financial CSW), *M* (the mediator: percentage of time spent with family and friends), and covariates (i.e., age, gender, marital status, number of children living at home, income, number of hours worked per week, extraversion). This tests the diagrammed model, providing bias-corrected confidence intervals based on 5,000 resamples. Results showed that (a) higher Financial CSW was associated with less time spent with family and friends, (b) less time spent with family and friends was associated with greater loneliness, (c) higher Financial CSW was associated with greater feelings of loneliness, and (d) the indirect effect of percentage of time spent with family and friends was significant (see Figure 1a).

These results suggest that the relationship between Financial CSW and loneliness is partially explained by time allocation. Individuals with higher Financial CSW reported spending *less* time with family and friends, and less time with close others was associated with greater loneliness. These findings emerged even after accounting for effects of age, gender, marital status, number of children living at home, income, number of hours worked per week, and extraversion.<sup>1</sup>

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<sup>1</sup> When covariates were removed from the model, the indirect effect of time spent with family and friends was not significant (.004 [BC CI: -.0018, .0108]). This was likely driven by a non-significant indirect effect of time spent

**Study B.** Zero-order correlations among the study variables are shown in Table 1b. As in Study A, we used Hayes' (2014) PROCESS macro (model 4) to test whether Financial CSW was related to feelings of social connection and whether perceptions of time pressure mediated this relationship. Results showed that (a) higher Financial CSW was associated with greater perceived time pressure, (b) greater time pressure was associated with less social connection, (c) higher Financial CSW was related to less social connection, and the indirect effect of time pressure was significant (see Figure 1b). These findings emerged after accounting for the effects of age, gender, marital status, number of children living at home, income, number of hours worked per week, materialism, financial aspirations, and economic hardship.<sup>2</sup>

To test alternative models, we examined whether Materialism or Financial Aspirations were related to lower social connection via perceptions of time pressure. Results of Hayes' PROCESS macro (model 4) showed that neither Materialism ( $b = -.04$ ,  $p = .52$ ) nor Financial Aspirations ( $b = .00$ ,  $p = .99$ ) were associated with the proposed mediator (i.e., perceived time pressure). In fact, whereas Financial CSW was related to lower feelings of social connection ( $b = .21$ ,  $p < .01$ ), Financial Aspirations was related to *greater* feelings of social connection ( $b = .24$ ,  $p = .01$ ) and Materialism was unrelated to social connection ( $b = -.06$ ,  $p = .44$ ).

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with friends ( $-.002$  [BC CI:  $-.0067$ ,  $.0008$ ]). That is, when separating "time spent with family and friends" into its two components – i.e., "time spent with friends" and "time spent with family," only time spent with family remained significant ( $.007$ , [BC CI:  $.0014$ ,  $.0137$ ]).

<sup>2</sup> When covariates were removed from the model, the indirect effect of time pressure remained significant ( $-.007$ , [BC CI:  $.0014$ ,  $.0137$ ]).

Table 1a.

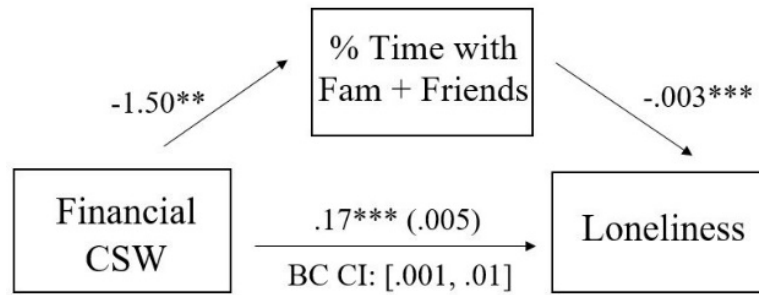
*Zero-Order Correlations among Variables (Study A)*

	1	2	3	4	5	6	7	8	9
1. Financial CSW	--								
2. Time Spent with Family & Friends	-.05	--							
3. Loneliness	.38***	-.19***	--						
4. Age	-.20***	.01	-.24***	--					
5. Gender	-.13***	-.09*	-.04	-.01	--				
6. Marital Status	-.06	-.24***	.18**	-.09**	.15***	--			
7. Number of Children at Home	.17***	.18***	.03	.02	-.17***	-.42***	--		
8. Hours Worked per Week	.01	-.07*	-.09**	-.02	-.04	-.12***	.08*	--	
9. Income	.13	.05	-.01	.09*	.27***	-.42***	.35***	.31***	--
10. Extraversion	.02	.15***	-.24***	.02	-.10*	-.11*	.15***	.05	.14***

Note. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ . Gender was coded as 1=male, 2 = female; marital status was coded as 1=married, 2=in a marriage-like relationship, 3=not married or in a marriage-like relationship.

Figure 1a.

Study A. Time spent with family/friends partially mediates the relationship between Financial CSW and loneliness



*Note.* Parameter estimates are unstandardized with a 95% bias-corrected bootstrap confidence interval; indirect effect noted in parentheses.

Table 1b.

*Zero-Order Correlations among Variables (Study B)*

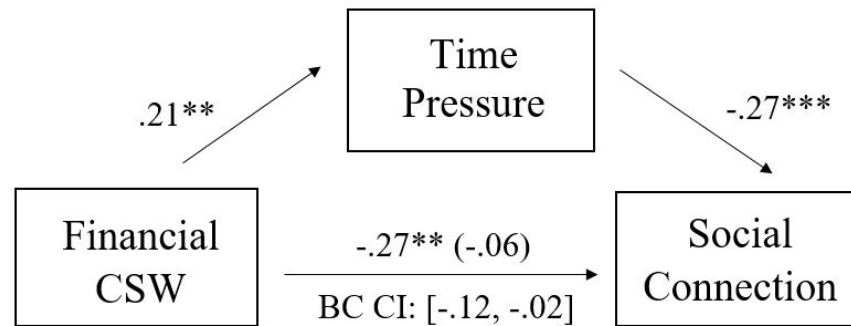
	1	2	3	4	5	6	7	8	9	10	11	12
1. Financial CSW	--											
2. Time Pressure	.22***	--										
3. Social Connection	-.21***	-.29***	--									
4. Materialism	.58***	.10	-.11*	--								
5. Financial Aspirations	.43***	.04	.11*	.54***	--							
6. Economic Hardship	.13***	.24***	-.31***	.02	-.24***	--						
7. Resource Orientation	.36***	.10	-.03	.21***	.27***	.01	--					
8. Age	-.12*	.19***	.12*	-.20***	.19***	-.01	-.08	--				
9. Gender	.04	-.12	.01	.11	.04	-.03	.05	-.04	--			
10. Marital Status	.01	-.12*	-.17**	.11*	.06	.01	.09	-.18***	.13*	--		
11. Children (Y/N)	.08	-.08	-.16**	.10	.08	.06	.05	-.14**	.15**	.51***	--	
12. Hours Worked per Week	.07	.08	.05	.10	.17**	-.08	.08	-.11*	.21***	.19***	.02	--
13. Income	.04	-.03	.18***	.05	.30***	-.40***	.06	.06	.01	-.03	-.18***	.12*

Note. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ . Resource orientation was coded as 1=valuing time over money, 2=valuing money over time; gender as 1=female, 2 = male; marital status as 1=married or in a marriage-like relationship, 2=not married; Children? as 1=yes, 2=no.



Figure 1b.

Study B. Perceived time pressure partially mediates the relationship between Financial CSW and social connection



*Note.* Parameter estimates are unstandardized with a 95% bias-corrected bootstrap confidence interval; indirect effect noted in parentheses.

## Supplemental Materials (Studies 1-3)

### Study 1

#### Effects of Materialism and Financial Aspirations

We also tested whether constructs related to Financial CSW – i.e., materialism and financial aspirations – would be associated with worse social outcomes via perceptions of autonomy and subsequently, spending less time with family and friends. When replacing Financial CSW with materialism, higher materialism was associated with lower autonomy ( $b = -.12, p = .009$ ), which was related to spending less time with friends and family ( $b = 2.02, p = .032$ ), which was related to worse social outcomes ( $b = .01, p = .015$ ). However, the indirect effect of the sequential mediation was not significant ( $-.002$  [BC CI:  $-.0053, .0001$ ]). In fact, materialism was indirectly related to *better* social outcomes via a positive relationship with time spent with family and friends ( $b = 1.73, p = .026$ ;  $.012$  [BC CI:  $.0002, .0284$ ]). When replacing Financial CSW with financial aspirations, financial aspirations was not significantly related to autonomy ( $b = .60, p = .14$ ), although it was negatively associated with time spent with family and friends ( $b = -1.81, p = .01$ ), which in turn, was related to worse social outcomes ( $b = .007, p = .02$ ;  $-.013$  [BC CI:  $-.0286, -.0012$ ]). Neither materialism nor financial aspirations were directly related to social outcomes ( $ps > .28$ ).

#### Exploratory Measures / Analyses Listed in Pre-registration

As an exploratory measure, participants indicated the percentage of time each week they would (a) *ideally* like to spend engaging in the various activities listed, and (b) thought they *ought* to spend engaging in these activities. As described in the pre-registration, we tested two additional alternative models examining whether Financial CSW was related to a discrepancy between (a) actual and ideal and (b) actual and ought time spent with friends and family and if

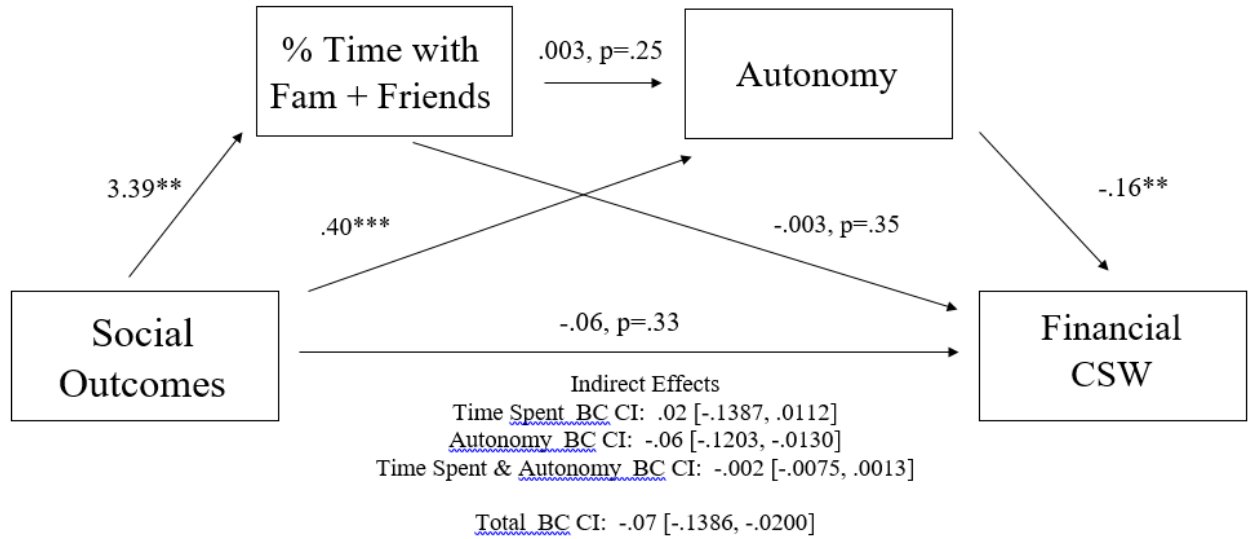
either of these discrepancies were related to social outcomes. Financial CSW was not related to either type of discrepancy ( $ps > .15$ ). Participants also indicated how often they chose to pursue work over social activities (i.e., interacting with others online or offline for non-work-related purposes) during a typical work week ( $1=A \text{ lot more time spent working than socializing}$ ,  $4=Equal \text{ time spent working and socializing}$ ,  $7=A \text{ lot more time spent socializing than working}$ ). Although higher perceived time pressure was related to greater time spent working ( $b=-.24$ ,  $p<.001$ ), this item was unrelated to social outcomes ( $p=.66$ ).

### **Test of Reverse Mediation**

We also tested whether the reverse of our hypothesized model was plausible. Specifically, we explored whether people who feel more socially connected to others have lower Financial CSW compared to those who experience greater loneliness and social disconnection, and if this is related to spending more time with close others and experiencing greater autonomy (see Figure 2). Results showed that feeling more socially connected with others was related to spending more time with friends and family ( $b=3.30$ ,  $p=.001$ ), but time spent with close others was unrelated to perceptions of autonomy ( $b=.004$ ,  $p=.25$ ). Higher perceived autonomy was related to lower Financial CSW ( $b=-.16$ ,  $p=.01$ ). The indirect effect of the reverse sequential mediation was not significant ( $-.002$  [BC CI:  $-.0075$ ,  $.0013$ ]).

Figure 2.

Study 1. No evidence for time spent with close others and autonomy, in sequence, to account for an indirect relationship between social connection and Financial CSW



*Note.* Parameter estimates are unstandardized with a 95% bias-corrected bootstrap confidence interval. Model fit was good,  $\chi^2(13)=22.31$ ;  $p=.05$ ; RMSEA=0.05; CFI=.97; SRMR=0.03.

## Study 2

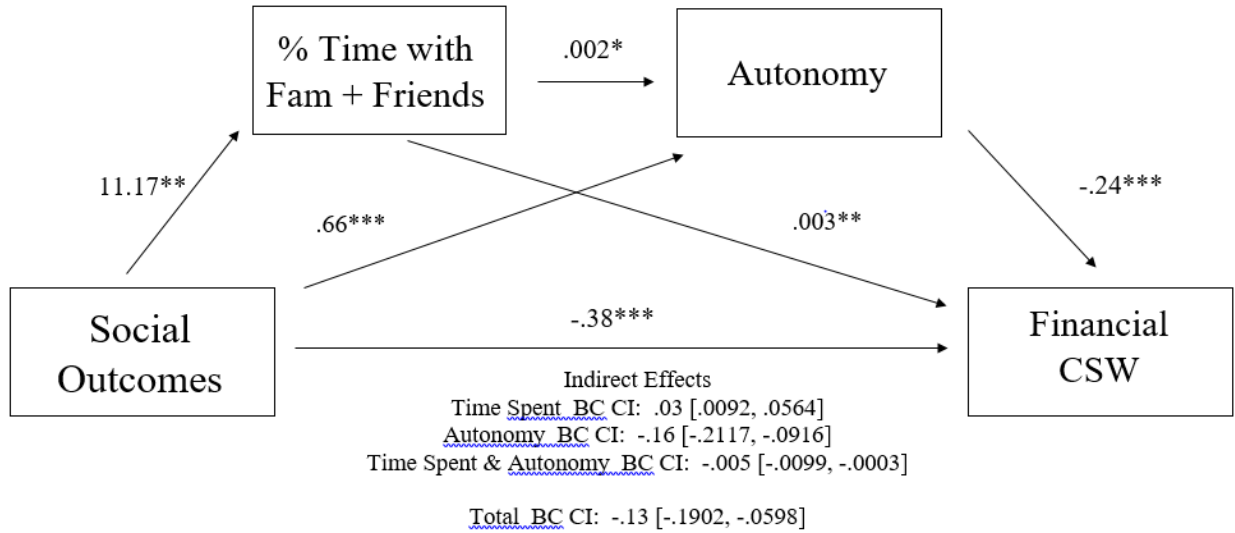
It was additionally tested whether constructs related to Financial CSW, such as materialism (financial aspirations were not assessed in this study), would predict worse social outcomes via perceptions of autonomy and spending less time with family and friends. When replacing Financial CSW with materialism, materialism did not significantly predict autonomy ( $b=.02, p=.64$ ). In fact, materialism indirectly predicted *better* social outcomes via a positive relationship with time spent with family and friends ( $b=3.99, p<.001; .012$  [BC CI: .0045, .0201]).

### Test of Reverse Mediation

We further tested whether the reverse of our hypothesized model was plausible. Specifically, we examined whether people who feel more socially connected to others have lower Financial CSW compared to those who experience greater loneliness and social disconnection, and if this is related to spending more time with close others and experiencing greater autonomy (see Figure 3). Results showed that feeling more socially connected with others was associated with spending more time with friends and family ( $b=11.17, p<.001$ ), and that time spent with close others was related to perceptions of autonomy ( $b=.002, p=.04$ ). Higher perceived autonomy was related to lower Financial CSW ( $b=.003, p=.004$ ). The indirect effect of the reverse sequential mediation was significant ( $-.005$  [BC CI:  $-.0099, -.0003$ ]).

Figure 3.

Study 2. Time spent with close others and autonomy, in sequence, also account for an indirect relationship between social connection and Financial CSW



*Note.* Parameter estimates are unstandardized with a 95% bias-corrected bootstrap confidence interval. Model fit was good,  $\chi^2(6)=21.92$ ;  $p<.01$ ; RMSEA=0.05; CFI=.98; SRMR=0.02.

### Study 3

#### Results of Lagged Models

Robust maximum likelihood estimation (MLR) was used for the lagged models. All within-person models included the day of study participation as a covariate to account for any linear trends over time. In addition, lagged analyses controlled for current levels of the subsequent outcome variable (e.g., today's social outcomes was included as a predictor of tomorrow's social outcomes) to account for stability in the outcome variables (i.e., their autocorrelation).

We conducted two lagged within-person analyses to explore the temporal primacy of key associations. The models were specified as follows: (a) today's Financial CSW predicts today's autonomy, which predicts today's time spent with family/friends, which predicts tomorrow's social outcomes; (b) today's Financial CSW predicts today's autonomy, which predicts tomorrow's time spent with family/friends, which then predicts tomorrow's social outcomes.

Neither of the lagged paths in these models were significant. Specifically, the standardized lagged paths were as follows: (a) today's time spent with family/friends to tomorrow's social outcomes in the first model  $\beta=.03$  ( $SE=.02$ ,  $p=.15$ ); (b) the lagged path from today's autonomy to tomorrow's time spent with family/friends in the second model  $\beta=.01$  ( $SE=.03$ ,  $p=.71$ ).

#### How Do People with Financial CSW Allocate Time?

Basing self-worth on financial success was found to be indirectly associated with spending less time with family and friends. A question that remains, however, is what people with Financial CSW are doing instead with their time. To address this question, we first conducted a series of exploratory regression analyses using data from Studies 1 and 2.

Controlling for all relevant covariates mentioned in each study<sup>3</sup>, results showed that participants who more strongly based their self-worth on financial success reported spending more time working alone in a typical week (Study 1:  $b=4.21$ ,  $p<.001$ , 95% CI [2.07, 6.36]; Study 2:  $b=2.45$ ,  $p<.001$ , 95% CI [1.22, 3.68]) compared to participants who based their self-worth less strongly on financial success. In Study 3, Financial CSW was unrelated to spending more time working alone in a typical week ( $p=.30$ ). This may be the case because, unlike Studies 1 and 2, participants in Study 3 were all college students. College students may have less control over how much time they spend working each week (e.g., the amount of time they're able to work must be based around their class schedule) and, if they work, it's often part-time.

In the initial in-lab portion of the daily diary study (Study 3), we also asked participants about their important life goals and perceptions of how to achieve those goals (see Methodology File, pp. 11-12). Even after controlling for the covariates assessed in Study 3<sup>4</sup>, participants with higher Financial CSW identified their "most important goals" as related to achieving financial success ( $b=.41$ ,  $p<.001$ , 95% CI [.25, .57]), and believed that the more time they spent working, the more likely they would be to achieve financial success ( $b=.25$ ,  $p=.001$ , 95% CI [.11, .40]). Participants with higher Financial CSW also spent more time worrying about their finances ( $b=.53$ ,  $p<.001$ , 95% CI [.29, .78]) and being stressed ( $b=.72$ ,  $p<.001$ , 95% CI [.49, .96]) about their finances.

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<sup>3</sup> Covariates in Study 1 were: age, gender, marital status, number of children in household, income, extraversion, perceived economic pressures, materialism, financial aspirations, and resource orientation. Only age ( $b=.34$ ,  $p<.001$ , 95% CI [.17, .51]) and extraversion ( $b=-1.64$ ,  $p=.007$ , 95% CI [-2.83, -.44]) also emerged as significant predictors of time spent working alone. Covariates in Study 2 were: age, gender, marital status, income, perceived economic pressures, materialism, and manager status. In Study 2, none of the covariates predicted time spent working alone ( $ps > .08$ ).

<sup>4</sup> Covariates in Study 3 were: age, gender, income, extraversion, perceived economic pressures, materialism, and financial aspirations.



Financial CSW was unrelated to spending time on hobbies outside of work or self-care ( $ps > .57$ ). Participants with higher Financial CSW reported that spending time working by oneself was more “productive” (in terms of helping them achieve their most important goals) compared to people with lower Financial CSW ( $b=.19, p=.02, 95\% \text{ CI } [.04, .35]$ ). However, when controlling for all of the covariates from Study 3, this finding became non-significant.

Together, these findings suggest that people who strongly base their self-worth on financial success are preoccupied with money; indeed, even after taking into account variables such as income and economic pressures, they tend to spend more time feeling stressed and worried about their finances. Furthermore, they believe that spending more time working will lead to financial success and do, in fact, spend more time working compared to people with lower Financial CSW. Overall, these findings are consistent with the idea that goal-related pressures motivate people to focus on activities that are viewed as instrumental to reaching their goal.

For individuals with Financial CSW, this may be associated with more time spent working and less time interacting with close others. Indeed, we find a negative association between time spent working and time spent with close others in Preliminary Study A ( $r=-.43, p<.001$ ), Study 1  $r=-.35, p<.001$ ), and the baseline data from Study 3 ( $r=-.39, p<.001$ ). Interestingly, in Study 2, spending more time working was related to spending *more* time with close others ( $r=.20, p<.001$ ). Unlike the other studies, however, participants in Study 2 had to be employed and working outside their home at least part-time. For these individuals, it could be that reporting one works “more” reflects perceptions that they work “harder” (e.g., in order to complete tasks quicker to engage in activities outside of work, like spending time with friends and family).