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1 **Individual-level factors predicting consumer financial behavior at a time of high**
2 **pressure**

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Abstract

Understanding the individual-level factors relating to consumer financial behaviors during periods of distinct pressure to spend may provide new insights as to the particular barriers people face in maintaining better control over their finances. Using Christmas as a focal example of a financially and psychologically pressured time, we collected survey data (N=294) in the post-Christmas 2013 period, and investigated the extent to which levels of reported spending and borrowing in relation to Christmas could be predicted by sociodemographics, money management behaviors, and psychological factors such as coping style, locus of control, materialism, and spendthrift tendencies. A separate analysis examined the kinds of factors relating more specifically to money management behaviors. Spending was predicted by factors including external locus of control and spendthrift tendency. Emotional coping and denial coping predicted borrowing behavior, as did external locus of control. Money management behaviors predicted who borrowed, but were not related to amount borrowed. Spendthrift tendencies and materialistic values were predictive of less active money management. Our findings suggest that interventions to improve financial decision making might prove more effective if increased emphasis is placed on psychological issues such as developing coping skills and buffering agency.

Keywords: spending; borrowing; stress; coping; money management

1. Introduction

1 In the UK, 92% of people report feeling pressure to spend at Christmas (Which? 2012). The
2 UK's National Debt Line reported an 80% increase in calls after Christmas 2013, with 1 in 20
3 callers indicating that they would likely miss a household bill in January due to their
4 Christmas expenditure (Money Advice Trust, 2015). Moreover, debtors are also more likely
5 to feel that buying Christmas gifts for children is a necessity for which they would take on
6 further debt (Lea, Webley, & Walker, 1995), and households with children tend to carry
7 higher debts at the point of seeking advice (Evans, McAteer, and Gauvin, 2011). Users of
8 debt advice services are typically aged 35-49, and below the poverty line (Muller, Trier-
9 Damgaard, Devnani, & Stonehouse, 2012). Lower-income households are significantly more
10 likely to use high-cost sources of credit such as payday loans and rent-to-own financing
11 (Croden, 2000; Bridges & Disney, 2004).

13 In this paper we aimed to identify individual differences predicting financial
14 behaviors during the psychologically and financially pressured Christmas period. We focus
15 on three distinct classes of individual factors: sociodemographics, money management
16 behaviors, and psychological characteristics. Sociodemographic factors are fundamental to
17 such an investigation; lower income households have substantially higher debt-to-income
18 ratios for instance (Evans et al., 2011). In addition to sociodemographic indicators, money
19 management behaviors such as keeping track of cash flows, balances, and upcoming
20 household bills are likely also critical. Debtors are less likely than non-debtors to have
21 engaged in such money management behaviors, even after controlling for sociodemographic
22 factors (Lea et al., 1995). People with more severe debt (>3 months in arrears) perceive their
23 financial difficulty as partially due to poor money management behaviors (Walker, 1996).
24 Interestingly, individuals on lower incomes may report more active money management
25 behaviors compared to higher income individuals (Atkinson, McKay, Collard, & Kempson,

1 2007). Yet, as many as 30% of people make no attempt to plan their Christmas expenditure
2 at all, suggesting little focus on managing money at this time (ING, 2014).

3 To date, much remains unknown about the psychological factors underlying money
4 management tendencies (Pham, Yap, & Dowling, 2012). It has been reported that
5 psychological stress reduces self-control (Fedorikhin & Patrick, 2010) and predicts debt-
6 status (Lea et al., 1995; Walker, 1996). Thus, there is a potential role for how people react to
7 stress during financially pressured times in terms of subsequent financial behaviors. Stress
8 coping strategies can entail attempts to address one's emotional reactions to a stressor, such
9 as engaging in denial, emotional release, or acceptance; or be more problem-focused,
10 involving deliberate acts to try to change the situation itself (Folkman & Lazarus, 1985).
11 Emotional release facilitates clearer thinking than denial (Stanton, Kirk, Cameron, & Danoff-
12 Burg, 2000), but problem-focused coping strategies are generally regarded as more adaptive
13 than emotion-focused ones (Carver, Scheier, & Weintraub, 1989).

14 The high levels of financial and psychological stress people report in relation to
15 Christmas thus make it an opportune time to study whether different coping strategies are
16 associated with different financial behaviors. Some people may feel, however, that they
17 cannot reasonably affect a change in their circumstances. Such a more external locus of
18 control is significantly associated with greater borrowing (Tokunaga, 1993). In contrast, a
19 more internal locus is significantly associated with more active budgeting (Kidwell, Brinberg,
20 & Turrisi, 2003). How one responds to the pressure many experience during the holiday
21 period, then, may in-part be associated with one's locus of control.

22 An additional psychological construct of importance to financial behavior is the
23 tightwad/spendthrift dimension (Rick, Cryder, & Loewenstein, 2008). For "tightwads",
24 spending money may be associated with psychological "pain" (Prelec & Loewenstein, 1998).

1 In contrast, “spendthrifts” have more materialistic values and typically accrue three times as
2 much debt (Rick et al., 2008). Higher materialism is also associated with having more open
3 attitudes to spending (Pinto, Parente, & Palmer, 2000); overspending on consumer goods
4 (Dittmar, Long, & Bond, 2007); being more willing to take out loans to fund the purchase of
5 high-cost consumer goods (Watson, 2003); and being less active money managers
6 (Garðarsdóttir & Dittmar, 2012).

7 **Research Aims**

8 The primary aim of the current study is to assess how different types of individual
9 factors might predict consumer financial behaviors during a period of high financial, and
10 psychological pressure. To that end, we selected a period of time when the various factors
11 considered above might intersect in relation to financial behavior – Christmas. Retail
12 spending in the UK reliably spikes by 45%-55% during this period (Office for National
13 Statistics, 2014), while consumer borrowing reached a seven-year high in the UK in
14 November 2014 (Bank of England, 2015). While nearly a third of people reported not
15 budgeting for Christmas, 58% of people indicated overspending on their Christmas 2012
16 budget, and only 15% spent to plan (HSBC, 2012). Christmas is also a time when the most
17 commonly cited reasons for overspending include feeling stressed about pleasing friends and
18 family, and being unable to resist consumer temptations (Money Advice Service, 2013;
19 2014). As a secondary aim, the study also investigates the extent to which sociodemographic,
20 and psychological factors predict how actively people engage in money management
21 behaviors.

22

23

2. Method

2.1. Participants and Procedure

Our survey was completed by 294 residents of a large UK city in March 2014.

Advertisements were placed in several local amenities, such as libraries, council offices, and community centres. Eligible individuals were over 18 years old, and celebrated Christmas.

Most respondents (N = 268) completed the online survey, with the remainder (N=26)

completing mailed paper surveys. Table 1 presents their demographic characteristics. The

two samples were not significantly different in terms of age, gender, marital status, number of

children, employment status, and income. The only significant difference was that online

respondents were significantly more likely to have a university degree. Across all

participants, average age was 41.2 years (SD=14.16), with 74.8% being female, 31.3% being

married, 60.2% having children, 52.4% having a university degree, 64.3% being employed

full-time. Regarding monthly household income: 12.9% earned less than £500; 12.6% earned

£501 - £800; 9.5% earned £801 - £1000; 23.8% earned £1001 - £1500; and 41.2% earned

>£1500. Participants received £10 for completing the survey.

Table 1

Demographic characteristics of sample

	Online respondents (N = 268)	Mail respondents (N = 26)	Test of difference
Mean age	41.5	37.6	t(291) = 1.32
Female	74.6%	76.9%	$\chi^2 = .35$
Is Married	31%	34.6%	$\chi^2 = .14$

Has children	58.6%	76.9%	$\chi^2 = 3.32$
Has university degree	54.9%	26.9%	$\chi^2 = .741^*$
Is Employed	65.3%	53.8%	$\chi^2 = 1.35$
Monthly household income			$\chi^2 = 3.94$
<£500	13.1%	11.5%	
£501 - £800	12.3%	15.4%	
£801 - £1000	8.6%	19.2%	
£1001 - £1500	24.6%	15.4%	
>£1500	41.4%	38%	

1 * P < .05

2

3 2.2. Materials and Design

4 **2.2.1. Independent measures.** The survey included measurements in
5 sociodemographics, money management behaviors, and psychological characteristics. The
6 following provides an overview by class of individuating factor.

7 2.2.1.1. Sociodemographic factors. Respondents indicated their age, gender (0 =
8 Male, 1 = Female), educational attainment (University degree: 0 = No, 1 = Yes), marital
9 status (Married: 0 = No, 1 = Yes), whether they had children (0 = No, 1 = Yes), employment
10 status (Employed: 0 = No, 1 = Yes), and their household monthly income (based on five
11 ranges coded as 1= £0-£500pm, 2 = £501-£800pm, 3 = £801-£1000pm, 4 = £1001-£1500pm,
12 and 5 = £1500+pm).

13 2.2.1.2. Money management behaviors. Using Garðarsdóttir and Dittmar's (2012)
14 scale, participants indicated their frequency of engaging in nine money management
15 behaviors (1=Not at all like me; 6=Very much like me). An example item asked "I make

1 detailed budgets for my expenses.” Responses showed sufficient internal consistency
2 (Cronbach’s $\alpha = .90$) to be summed, with higher scores indicating more active money
3 management.

4 2.2.1.3. Materialistic tendencies. Participants received eight items from Richins and
5 Dawson’s (1992) Materialistic Values Scale (Cronbach’s $\alpha = .74$), adapted to refer to
6 Christmas (1=Strongly Disagree; 5=Strongly Agree). An example item asked “The things I
7 buy at Christmas say a lot about how I am doing in life.” Internal consistency was sufficient
8 (Cronbach’s $\alpha = .74$) to warrant summing, with higher scores reflecting stronger materialistic
9 values.

10 2.2.1.4. Tightwad-spendthrift scale. Four items distinguished between “Tightwads”
11 and “Spendthrifts” (Rick et al., 2008). For example, participants rated the extent to which
12 they consider themselves as being like person A who “has trouble limiting their spending”
13 (spendthrift), and Person B who “has trouble spending money” (tightwad) (1=Never;
14 5=Always). Higher overall scores on the recoded items represented more spendthrift-type
15 tendencies (Cronbach’s $\alpha = .76$).

16 2.2.1.5. Locus of control. Six items from Lumpkin’s (1988) Brief Version of
17 Levenson’s Internal-External Control Scale measured internal locus (e.g. “My life is
18 determined by my own actions”, Cronbach’s $\alpha = .64$ for 3 items) and “chance” locus
19 (reflecting a more externalised locus e.g. “When I get what I want it’s usually because I’m
20 lucky”, Cronbach’s $\alpha = .58$ for 3 items, increased to .59 by removing one item). Responses
21 were provided on a Likert scale (1=Strongly Disagree; 5=Strongly Agree).

22 2.2.1.6. Coping strategy. The survey assessed four key coping strategies identified in
23 interviews we conducted about stress during the holiday period. We selected corresponding
24 items from Carver’s (1997) Brief COPE inventory to assess 1) “Active” coping (“I

1 concentrate my efforts on trying to do something about the situation”); 2) “Acceptance”
2 coping (“I accept the reality of the situation that is happening”); 3) “Emotional” coping (“I’ve
3 been letting my negative emotions out”); and 4) “Denial” coping (“I say to myself “This isn’t
4 real”). Participants indicated their agreement with each item using a five-point Likert scale
5 (1=Strongly Disagree; 5=Strongly Agree). While the Brief COPE uses two items per strategy,
6 and was developed partly in response to issues of item redundancy in the full COPE scale
7 (Carver, 1997), we chose to use one item per coping style to further mitigate redundancy
8 issues in line with recommendations made by Bergkvist & Rossiter (2007), and Bergkvist
9 (2014).

10

11 **2.3. Dependent Measures**

12 We employed three dependent variables to address our primary research aim. To
13 assess amount spent at Christmas participants were asked “Approximately how much did
14 you spend in total on Christmas this year?” and provided a numerical response. We posed a
15 simple binary Yes/No question about whether people borrowed – “Did you borrow money to
16 spend on Christmas this year?” Those indicating Yes were subsequently asked to indicate the
17 approximate amount borrowed. For our analyses, we adjusted amounts of spending and
18 borrowing to take account of household income levels; reported amounts of spending and
19 borrowing were expressed as a proportion of the arithmetic mean Pound (£) amount for the
20 respondent’s respective income group range. Those reporting “more than £1500 per month”
21 income, spending and borrowing was expressed as a proportion of £1500. Thus, our outcome
22 variables aimed to capture the degree to which financial behaviors were within or outside of
23 one’s means. To address our secondary research aim we employed participant scores on the
24 Money Management Scale as a dependent measure.

3. Results

1

2 **3.1. Which Individual Differences Are Associated with Financial Behaviors During the** 3 **Christmas Period?**

4 Initial zero-order correlations (Table 2) indicated several sociodemographic and
5 psychological factors that were significantly correlated with both spending and borrowing.

6 Education, income, active coping, and internal locus were negatively correlated with both
7 spending and borrowing, while active coping, and internal locus were positively correlated

8 with money management behaviors. Having children, and stronger spendthrift tendencies

9 were additionally positively correlated with spending behavior, while denial coping, and

10 external locus were positively correlated with borrowing.

1 Table 2

2 Bi-variate Pearson correlations between each class of predictive factor, and dependent measures.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1. Amount Spend (adjusted for income)	--	.57***	-.02	.02	-.17**	.19**	.03	-.14*	.19**	.14*	.05	-.07	.08	-.19**	-.04	.21***	-.10	-.32***	
2. Amount borrowed (adjusted for income)(N=69)		--	-.17	.02	-.24*	.46*	.07	-.41***	.37**	.10	-.02	-.13	-.15	-.27**	-.18	.20	-.35**	-.40**	
3. Money Management Behaviors			--	.10	.25***	-.10	-.08	.28***	-.14*	-.42***	-.30***	.16**	.07	.05	.03	.07	-.04	.07	
Psychological factors																			
4. Emotional Coping				--	.06	.20**	.09	-.05	.22*	.04	.04	-.17**	.23***	.06	-.06	-.11	-.05	-.16**	
5. Active Coping					--	-.15**	-.01	.36***	-.20**	-.07	-.03	.12*	.18*	.12*	.10	.14*	.01	.21***	
6. Denial Coping						--	.17**	-.26***	.23***	.11	.07	.03	-.08	-.17**	-.02	.04	-.19**	-.24***	
7. Acceptance Coping							--	-.01	.13*	.13*	-.01	-.07	.04	-.06	-.08	.04	-.09	-.07	
8. Internal Locus								--	-.14*	-.08	-.01	-.01	.08	.1	.04	-.05	.07	.22***	
9. External Locus									--	.08	.13*	-.19**	-.01	-.16**	-.01	-.04	-.03	-.15*	
10. Spendthrift										--	.28***	-.18**	-.04	-.03	-.06	-.08	.11	-.01	
11. Materialism											--	-.12*	.04	-.03	-.06	-.08	.11	-.1	
Sociodemographic factors																			
12. Age												--	-.24***	-.09	.22***	.36***	-.14*	.20***	
13. Gender													--	.04	-.10	.01	.17**	.02	
14. Degree														--	.04	-.18**	.14*	.20***	
15. Married															--	.29***	.04	.31***	
16. Children																--	-.04	.19**	
17. Employed																	--	.49***	
18. Income																		--	

3 N.B. N = 294 unless otherwise stated. * = <.05, ** = <.01, *** = <.001

RUNNING HEAD: FINANCIAL BEHAVIOR AT PRESSURED TIMES

1 Table 3 presents linear regressions, including the standardized model coefficients,
 2 proportions of variance explained, and model fit statistics predicting amount spent adjusted
 3 for income. Sociodemographic variables (Step 1) yielded a significantly fitting model.
 4 Adding money management behaviors (Step 2) did not yield significant changes in
 5 explanatory power. The addition of psychological variables (Step 3) yielded a significant
 6 increase in R^2 from Step 2.

7

8 Table 3

9 Hierarchical regression model predicting amount spent towards Christmas (adjusted for
 10 income).

		Step 1	Step 2	Step 3
		B	B	B
Sociodemographic factors	Age	-.09	-.09*	-.07
	Female	.05	.05	.09
	Has Degree	-.08	-.08	-.04
	Has Children	.30***	.30***	.29***
	Is Employed	.10	.10	.07
	Is Married	.02	.02	.02
	Income Group	-.40*	-.40***	-.35***
Money Management Behaviors			.01	.10
Psychological factors	Emotional Coping			-.07
	Denial Coping			.09
	Active Coping			-.11 [†]
	Acceptance Coping			-.03
	Internal Locus			-.01
	External Locus			.12*
	Spendthrift			.12*
	Materialism			.01
	R^2	.21	.21	.26
	Model fit: F	10.66***	9.30***	5.96***
	ΔR^2	.21	.01	.05

ΔF 10.66*** .01 2.29**

1 N.B. N = 294. Models present standardized coefficients. * = <.05, ** = <.01, *** = <.001, † = <.1

2 Tolerance values for the full model ranged from .65 - .94, indicating no problematic multicollinearity; Durbin-Watson = 1.91, indicating
3 independence of residuals.

4

5 The final model yielded significant sociodemographic, and psychological predictors
6 of spending. Participants who had children; lower incomes; who had a more external locus of
7 control; and who were stronger spendthrifts spent higher proportions of their income.

8 To examine borrowing behavior, we first conducted a hierarchical binary logistic
9 regression. Table 4 presents the unstandardized co-efficients for each step, and odds-ratios for
10 significant predictors in the final model.

11

12 Table 4

13 Hierarchical regression predicting those that borrowed towards Christmas.

		Step 1	Step 2	Step 3	Step 3
		B	B	β	Expo(B)
Sociodemographic factors	Age	-.03*	-.02 [†]	-.02 [†]	
	Female	-.06	.10	.30	
	Has Degree	-.21	-.12	.12	
	Has Children	1.32***	1.37***	1.28**	3.60
	Is Employed	.52	.48	.49	1.63
	Is Married	-.25	-.27	-.31	
	Income Group	-.12	.11	-.08	
Money Management Behaviors			-.05**	-.04*	1.00
Psychological factors	Emotional Coping			-.41*	.66
	Denial Coping			.33	
	Active Coping			.06	
	Acceptance Coping			.08	
	Internal Locus			-.02	

	External Locus			.26*
	Spendthrift			.04
	Materialism			-.02
	<hr/>			
	Nagelkerke R ²	.11	.16	.22
	X ² test of model fit	22.00**	32.75***	44.94***

1 N.B. N = 294. Models present unstandardized coefficients. * = <.05, ** = <.01, *** = <.001, † = <.1

2 Box-Tidwell tests on the continuous variables in the final model indicated linear relationships with the dependent variable.

3

4 The initial sociodemographic model (Step 1) was improved by the addition of money
5 management behaviors (Step 2) and psychological factors (Step 3). Four variables retained
6 significant predictive value at Step 3: having children, being a more active money manager,
7 having a stronger external locus of control, and engaging in more emotional coping each
8 predicted lower propensity to borrow. Younger adults were marginally more likely to borrow.

9 We next conducted regression models specifically including those who borrowed
10 towards Christmas (N= 69), predicting amounts borrowed. Table 5 presents the model
11 coefficients, proportions of variance explained, and model fit statistics. Sociodemographic
12 factors alone (Step 1) yielded a significantly predictive model, which was not significantly
13 improved by adding money management skills (Step 2). However, adding psychological
14 factors (Step 3) did produce a significant improvement. This model identified denial coping
15 as significantly predictive of greater borrowing, and external locus as a marginally significant
16 predictor. Lower borrowing was also marginally significantly predicted by emotional coping.
17 Two sociodemographic factors retained marginal significance in the full model, with having
18 children predictive of higher borrowing, while being married was predictive of lower
19 borrowing.

20

21

1 Table 5

2 Hierarchical regression models predicting amount borrowed towards Christmas (adjusted for
3 income).

		Step 1	Step 2	Step 3
		B	B	B
Sociodemographic factors	Age	-.07	-.04	-.01
	Female	-.15	-.15	-.15
	Has Degree	-.15	-.13	-.05
	Has Children	.16	.14	.23 [†]
	Is Employed	-.16	-.21	-.20
	Is Married	-.14	-.17	-.22 [†]
	Income Group	-.17	-.14	.02
Money Management Behaviors			-.16	.01
Psychological factors	Emotional Coping			-.22 [†]
	Denial Coping			.37**
	Active Coping			.03
	Acceptance Coping			-.14
	Internal Locus			-.19
	External Locus			.23 [†]
	Spendthrift			.09
Materialism			-.05	
	R ²	.25	.28	.48
	F	2.95*	2.85**	2.98**
	ΔR ²	.25	.02	.21
	ΔF	2.95*	1.86	2.65**

4 N.B. N = 69. Models present standardized coefficients. * = <.05, ** = <.01, *** = <.001, [†] = <.1

5 Tolerance values for the full model ranged from .52 - .81, indicating no problematic multicollinearity; Durbin-Watson = 1.95, indicating
6 independence of residuals.

7

8

9

10

11

1 **3.2. Additional Analysis**

2 We report a further regression model and discussion in the online supplemental materials
3 accompanying this paper that analysed individual differences predicting money management
4 behaviors.

5 **4. General Discussion**

6 This study aimed to understand people's financial behaviors under times of pressure.
7 Previous work had mostly examined the role of socio-demographic variables in
8 understanding these behaviors. However, our findings indicate that psychological factors of
9 (1) locus of control, (2) spendthrift tendency, and (3) coping styles played an important role
10 in predicting levels of spending and borrowing after taking into account sociodemographic
11 factors, and money management behaviors.

12 First, perceiving a lack of control over one's circumstances was associated with spending
13 and borrowing higher proportions of income during the Christmas period. Possibly, social
14 norms about gift exchange may be perceived as unavoidable; Schwartz (1967), for example,
15 considers gift-giving to be built on the principle of a "gratitude imperative", governed by the
16 social norm of reciprocity. The pressure that parents feel to fulfil their children's desires
17 maximally at Christmas (Money Advice Service, 2013) is likely further compounded by
18 social norms and peer comparisons. The so-called "keeping up with the Jones" effect—when
19 people benchmark themselves in material terms against their peers—is known to be
20 associated with increased propensity to borrow (Livingstone & Lunt, 1991); our findings
21 suggest this likely extends to actual amounts borrowed.

22 Secondly, stronger spendthrift tendencies were associated with spending higher amounts
23 of one's income. For tightwads, who are more prone to paying by cash, the opportunity cost
24 of purchasing may be felt as more immediate or tangible, which is known to attenuate

1 overspending (Raghubir & Srivastava, 2008). In contrast, spendthrifts are more predisposed
2 to using credit cards (Rick et al., 2008), which reduce “the pain of paying” as they decouple
3 the cost of an item from the point of purchase by reducing the salience of the cost (Prelec &
4 Loewenstein, 1998). It may be necessary for spendthrifts to take more instrumental
5 approaches in order to keep spending within available means. Webley & Nyhus (2001), for
6 example, note that debtors use simpler, more auxiliary money management measures (e.g.
7 limiting the amount of cash one carries; not carrying cards; avoiding shopping malls) to
8 curtail spending.

9 Thirdly, we observed differences in how coping strategies relate to financial behaviors.
10 Emotional coping—the mitigation of emotional stress—predicted lower propensity to
11 borrow. It has been argued that emotional coping can be an adaptive response in situations
12 where one does not feel in control (Folkman & Lazarus, 1985), which may make it
13 particularly important during the pressured Christmas season. A failure to mitigate emotional
14 stress at Christmas, then, may push someone towards borrowing as an instrumental means of
15 addressing financial constraints in order to facilitate further spending. Denial coping may
16 offer an additional buffer against any further immediate emotional distress that could arise as
17 a result of deciding to borrow, in turn increasing amounts borrowed. Our results thus suggest
18 that maladaptive coping strategies may offer some explanation for the typically high levels of
19 debt reported after Christmas (Money Advice Trust, 2015). In particular, it may be important
20 for people to avoid suppressing emotional stress as this increases negative affect (Gross &
21 John, 2003), which in turn compromises self-regulation (Muraven & Baumeister, 2000).

22 Like any study, ours had limitations. Most notably, we focused on Christmas as a
23 particular period of high expense. Yet, our results nonetheless offer an insightful view into
24 how these particular individual differences may relate to financial behaviors during other
25 periods of pressure. Additionally, the sample size was relatively small for our analysis of

1 amount borrowed, although regression analyses are appropriate in instances where the
2 number of participants exceeds the number of predictors by at least 50 (Harris, 1985), as is
3 the case in our data.

4 In sum our results demonstrate the important implications that psychological factors such
5 as stress coping strategies and agency have for financial behaviors, in several cases proving
6 more predictive than financial management tendencies. Future research could establish the
7 robustness of these findings by studying these kinds of issues in individuals with ongoing
8 debt issues. That said, our findings do speak to recent and ongoing developments regarding
9 how to more effectively improve peoples' financial capability as spearheaded by the UK's
10 Money Advice Service (Bagwell, Hestbaek, Harries, & Kail, 2014), and the US Consumer
11 Finance Protection Bureau (2015).

12 A practical implication of our findings is that support agencies may develop their practice
13 through incorporating stress coping skills, and measures to address agency, or self-efficacy
14 into the advice and support they provide, which may be a critical factor in people's financial
15 behaviors at times of high pressure. Such psychological characteristics are malleable, and are
16 the focus of techniques such as Cognitive Behavioral Therapy, for instance, which may offer
17 some in-roads as to how support agencies may further develop the effectiveness with which
18 they assist people to maintain control over their financial behaviors.

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Supplementary Materials

2 Additional analyses

3 Which individual differences are associated with money management behaviors?

4 Participant scores on the Money Management Behaviors scale ranged from 9 to 54 (with 54
 5 representing the top score available on the scale), with a mean score of 40.41 (SD = 9.48) for
 6 the sample. Money management scores were positively correlated with age, and a displayed a
 7 range of positive and negative correlations with various psychological factors. (Table 1). As
 8 previously, we further investigated how these factors predicted money management using a
 9 series of linear regressions, entering sociodemographic factors in Step 1, followed by
 10 psychological factors at Step 2. Table 5 details model standardized coefficients, proportions
 11 of variance explained, and model fit statistics for a hierarchical regression on money
 12 management skills, with sociodemographic, and psychological factors as predictors.

13

14 Table 1

15 Hierarchical regression models predicting money management behaviors.

		Step 1	Step 2
		B	B
Sociodemographic factors	Age	.18**	.11 [†]
	Female	.12*	.06
	Has Degree	.06	-.01
	Has Children	.01	.06

	Is Employed	-.07	.06
	Is Married	-.02	-.04
	Income Group	.05	-.06
Psychological factors	Emotional		.14*
	Coping		
	Denial Coping		.01
	Active Coping		.11 [†]
	Acceptance		-.04
	Coping		
	Internal locus		.21***
	External locus		-.07
	Spendthrift		-.34***
	Materialism		-.20***
	R²	.05	.33
	F	2.01*	9.24***
	ΔR²	.05	.29
	ΔF	2.01*	14.88***

- 1 N.B. N = 294. Models present standardized coefficients. * = <.05, ** = <.01, *** = <.001, [†] =
- 2 <.1
- 3 Tolerance values for the full model ranged from .70 - .90, indicating no problematic
- 4 multicollinearity; Durbin-Watson = 2.15, indicating independence of residuals.

1 Sociodemographic factors alone provided a significantly fitting model that accounted
2 for a small proportion of variance (5%) in money management. The addition of psychological
3 factors in Step 2 significantly improved predictive power, producing an increase in R^2 from
4 .05 to .33. The full model indicated that psychological characteristics such as emotional
5 coping, and internal locus predicted higher engagement in money management behaviors.
6 Higher spendthrift tendencies, and stronger materialistic values each predicted less
7 engagement in money management.

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9 Discussion

10 Previous research has observed positive links between internal locus of control and budgeting
11 attitude (Kidwell, Brinberg, & Turrissi, 2003), and this study extends this link directly to
12 money management behaviors. Elsewhere, there has remained a lack of understanding
13 concerning exactly what kinds of characteristics predict those who are more active money
14 managers (Pham, Yapp, & Dowling, 2012). Our results suggest that those engaging in
15 emotional coping, and who have feelings of agency over their outcomes are important
16 psychological components for money management. Evidence shows, for example, that for
17 behavioural interventions to affect actual changes beyond the level of intentions requires that
18 people feel they can directly affect their outcomes through their actions (Webb & Sheeran,
19 2006). Our findings have particularly current relevance, given more recent findings that
20 skills-based behavioural interventions designed to improve financial outcomes account for
21 only very marginal degrees of change in people's subsequent financial behaviours (.1% in a
22 meta-analysis of 168 interventions by Fernandes, Lynch, & Netemeyer, 2014. See also
23 Miller, Reichelstein, Salas, & Zia, 2014). Fernandes et al., (2014) contend that interventions
24 focusing on practical skills overlook that such skills may also require a degree of

1 psychological fortitude to implement, and our research suggests several candidate
2 psychological factors to that end.

3 That materialism was significantly negatively associated with money management
4 behaviors also supports other emergent findings (Garðarsdóttir & Dittmar, 2012; Donnelly,
5 Iyer, & Howell, 2012). In particular, we further extend the range of psychological
6 characteristics in relation to which materialistic tendencies seem to remain independently
7 predictive of money management behaviors. Donnelly et al., (2012) provide a compelling
8 argument that materialists likely avoid active money management as it may involve directly
9 confronting financial constraints that undermine their goals, causing distress. Our additional
10 finding that those with higher spendthrift tendencies are also less likely to engage in money
11 management behaviors may add further credence to this particular argument. Other previous
12 research has reported positive links between materialistic tendencies and favourable attitudes
13 towards spending (Pinto, Parente, and Palmer, 2000; Watson, 2003), with something
14 similarly borne out in the current results where materialism and spendthrift tendencies were
15 positively related. Experiencing less “pain” when spending may be a facilitator of
16 materialistic tendencies, reducing any immediate anxiety one might feel at indulging
17 consumer temptations, and overriding active money management behaviors.

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