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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%	

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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	
<b>1. Amount Spend (adjusted for income)</b>	--	.57***	-.02	.02	-.17**	.19**	.03	-.14*	.19**	.14*	.05	-.07	.08	-.19**	-.04	.21***	-.10	-.32***	
<b>2. Amount borrowed (adjusted for income)(N=69)</b>		--	-.17	.02	-.24*	.46*	.07	-.41***	.37**	.10	-.02	-.13	-.15	-.27**	-.18	.20	-.35**	-.40**	
<b>3. Money Management Behaviors</b>			--	.10	.25***	-.10	-.08	.28***	-.14*	-.42***	-.30***	.16**	.07	.05	.03	.07	-.04	.07	
<b>Psychological factors</b>																			
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	
<b>Sociodemographic factors</b>																			
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. \* = &lt;.05, \*\* = &lt;.01, \*\*\* = &lt;.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
<b>Sociodemographic factors</b>	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***
<b>Money Management Behaviors</b>			.01	.10
<b>Psychological factors</b>	Emotional Coping			-.07
	Denial Coping			.09
	Active Coping			-.11 <sup>†</sup>
	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***
	$\Delta R^2$	.21	.01	.05

$\Delta F$  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	$\beta$	Expo(B)
<b>Sociodemographic factors</b>	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	
<b>Money Management Behaviors</b>			-.05**	-.04*	1.00
<b>Psychological factors</b>	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 <sup>2</sup>	.11	.16	.22
	X <sup>2</sup> 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
<b>Sociodemographic factors</b>	Age	-.07	-.04	-.01
	Female	-.15	-.15	-.15
	Has Degree	-.15	-.13	-.05
	Has Children	.16	.14	.23 <sup>†</sup>
	Is Employed	-.16	-.21	-.20
	Is Married	-.14	-.17	-.22 <sup>†</sup>
	Income Group	-.17	-.14	.02
<b>Money Management Behaviors</b>			-.16	.01
<b>Psychological factors</b>	Emotional Coping			-.22 <sup>†</sup>
	Denial Coping			.37**
	Active Coping			.03
	Acceptance Coping			-.14
	Internal Locus			-.19
	External Locus			.23 <sup>†</sup>
	Spendthrift			.09
Materialism			-.05	
	R <sup>2</sup>	.25	.28	.48
	F	2.95*	2.85**	2.98**
	ΔR <sup>2</sup>	.25	.02	.21
	ΔF	2.95*	1.86	2.65**

4 N.B. N = 69. Models present standardized coefficients. \* = <.05, \*\* = <.01, \*\*\* = <.001, <sup>†</sup> = <.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

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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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## References

- 1  
2
- 3 Atkinson, A., McKay, S., Collard, S., & Kempson, E. (2007). Levels of financial capability in  
4 the UK. *Public Policy and Management*, 27(1), 29-36. DOI: 10.1111/j.1467-  
5 9302.2007.00552.x
- 6
- 7 Bagwell, S., Hestbaek, C., Harries, E., & Kail A. (2014). Financial Capability Strategy for  
8 the UK (Report commissioned by Money Advice Service). Retrieved from:  
9 [http://www.thinknpc.org/publications/financial-capability-outcome-  
11 frameworks/financial-capability-outcome-frameworks-mas/?post-parent=11765](http://www.thinknpc.org/publications/financial-capability-outcome-<br/>10 frameworks/financial-capability-outcome-frameworks-mas/?post-parent=11765)
- 12 Bank of England. (2015). Money and Credit - November 2014. Retrieved from:  
13 <http://www.bankofengland.co.uk/statistics/documents/mc/2014/nov/moneyandcredit.pdf>  
14 [f](#)
- 15
- 16 Bergkvist, J.B. (2014). Appropriate use of single-item measures is here to stay. *Marketing*  
17 *Letters*, 26, 245-255. doi: 10.1007/s11002-014-9325-y
- 18
- 19 Bergkvist, L., & Rossiter, J.R. (2007). The predictive validity of multiple items vs. single-  
20 item measures of the same construct. *Journal of Marketing Research*, 44(2), 175-184.  
21 doi: 10.1509/jmkr.44.2.175
- 22

- 1 Bridges, S., & Disney, R. (2004). Use of credit and arrears on debt among low income  
2 families in the United Kingdom. *Fiscal Studies*, 25, 1-25. DOI: 10.1111/j.1475-  
3 5890.2004.tb00094.x
- 4
- 5 Carver, C.S. (1997). You want to measure coping but your protocol's too long. Consider the  
6 brief COPE. *International Journal of Behavioral Medicine*, 4, 92-100. DOI:  
7 10.1207/s15327558ijbm0401\_6
- 8
- 9 Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: a  
10 theoretically based approach. *Journal of Personality and Social Psychology*, 56(2),  
11 267–83. DOI: 10.1037/0022-3514.56.2.267
- 12
- 13 Consumer Finance Protection Bureau. (2015). Financial well-being: The goal of financial  
14 education. Retrieved from:  
15 [http://files.consumerfinance.gov/f/201501\\_cfpb\\_report\\_financial-well-being.pdf](http://files.consumerfinance.gov/f/201501_cfpb_report_financial-well-being.pdf)
- 16
- 17 Croden, N. (2000). Credit use among low income groups. In A. Fleiss (Ed.), *Department of*  
18 *Social Security Research Yearbook 1999/2000* (pp. 151-170). Leeds, UK: Corporate  
19 Document Services
- 20
- 21 Dittmar, H., Long, K., & Bond, R. (2007). When a better self is only a button click away:  
22 Associations between materialistic values, emotional and identity- related buying  
23 motives, and compulsive buying tendency online. *Journal of Social and Clinical*  
24 *Psychology*, 26(3), 334–361. DOI: 10.1521/jscp.2007.26.3.334

- 1
- 2 Evans, G., McAteer, M., & Gauvin, A. (2011). Report #1: Debt and Household Incomes (A  
3 Report commissioned by StepChange Debt Charity). Retrieved from:  
4 [https://www.stepchange.org/Portals/0/Documents/media/reports/additionalreports/Repo](https://www.stepchange.org/Portals/0/Documents/media/reports/additionalreports/Report_Debt_and_household_incomes.pdf)  
5 [rt\\_Debt\\_and\\_household\\_incomes.pdf](https://www.stepchange.org/Portals/0/Documents/media/reports/additionalreports/Report_Debt_and_household_incomes.pdf)  
6
- 7 Fedorikhin, A., Patrick, V.M. (2010). Positive mood and resistance to temptation: The  
8 interfering influence of elevated arousal. *Journal of Consumer Research*, 37(4), 698–  
9 711. DOI: 10.1086/655665.
- 10
- 11 Folkman, S. & Lazarus, R.S. (1985). If it changes it must be a process: A study of emotion  
12 and coping during three stages of a college examination. *Journal of Personality and*  
13 *Social Psychology*, 48, 150 - 170. DOI: 10.1037/0022-3514.48.1.150
- 14
- 15 Garðarsdóttir, R. B., & Dittmar, H. (2012). The relationship of materialism to debt and  
16 financial well-being: The case of Iceland's perceived prosperity. *Journal of Economic*  
17 *Psychology*, 33(3), 471–481. DOI:10.1016/j.joep.2011.12.008
- 18 Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes:  
19 Implications for affect, relationships, and well-being. *Journal of Personality and Social*  
20 *Psychology*, 85(2), 348–362. DOI: 10.1037/0022-3514.85.2.348
- 21 Harris, R.J. (1985). *A Primer of Multivariate Statistics* (2nd ed.). New York: Academic Press.  
22
- 23 HSBC. (2012). *Christmas Spending Survey 2012*. London, UK: HSBC Press Office.
- 24

- 1 ING. (2014). Brits top spenders on gifts this Christmas; Money the hot topic for 2015  
2 resolutions. Retrieved from ING eZonomics website:  
3 [http://www.ezonomics.com/pdf/iis/IIS\\_special\\_report\\_Christmas\\_and\\_New\\_Year\\_201](http://www.ezonomics.com/pdf/iis/IIS_special_report_Christmas_and_New_Year_2015.pdf)  
4 [5.pdf](http://www.ezonomics.com/pdf/iis/IIS_special_report_Christmas_and_New_Year_2015.pdf)  
5
- 6 Lea, S. E. G., Webley, P., & Walker, C. M. (1995). Psychological factors in consumer debt:  
7 Money management, economic socialization, and credit use. *Journal of Economic*  
8 *Psychology*, 16(4), 681–701. DOI:10.1016/0167-4870(95)00013-4  
9
- 10 Livingstone, S. M., & Lunt, P. K. (1991). Generational and life cycle differences in  
11 experiences of ownership. *Journal of Social Behavior and Personality*, 6(6), 165–186  
12
- 13 Lumpkin, J.R. (1988). Validity of a brief locus of control scale for survey research.  
14 *Psychological Reports*, 57(2), 655-659. DOI: 10.2466/pr0.1985.57.2.655  
15
- 16 Kidwell, B., Brinberg, D., & Turrisi, R. (2003). Determinants of money management  
17 behavior. *Journal of Applied Social Psychology*, 33(6), 1244–1260. DOI:  
18 10.1111/j.1559-1816.2003.tb01948.x  
19
- 20 Money Advice Service. (2013). A third of Brits to cover Christmas with credit, and a million  
21 to turn to payday loans. Retrieved from:  
22 [https://www.moneyadvice.service.org.uk/en/corporate/a-third-of-brits-to-cover-](https://www.moneyadvice.service.org.uk/en/corporate/a-third-of-brits-to-cover-christmas-with-credit-and-a-million-to-turn-to-payday-loans)  
23 [christmas-with-credit-and-a-million-to-turn-to-payday-loans](https://www.moneyadvice.service.org.uk/en/corporate/a-third-of-brits-to-cover-christmas-with-credit-and-a-million-to-turn-to-payday-loans)  
24



- 1 Money Advice Service. (2014). Almost half of Brits to use credit and overdrafts to cover  
2 Christmas, while 1.4 million turn to payday loans. Retrieved from:  
3 [https://www.moneyadviceservice.org.uk/en/corporate/almost-half-of-brits-to-use-](https://www.moneyadviceservice.org.uk/en/corporate/almost-half-of-brits-to-use-credit-and-overdrafts-to-cover-christmas)  
4 [credit-and-overdrafts-to-cover-christmas](https://www.moneyadviceservice.org.uk/en/corporate/almost-half-of-brits-to-use-credit-and-overdrafts-to-cover-christmas)  
5
- 6 Money Advice Trust. (2015). Warning as Britons put Christmas on credit. Retrieved from:  
7 [http://www.moneyadvicetrust.org/media/news/Pages/Warning-as-Britons-put-](http://www.moneyadvicetrust.org/media/news/Pages/Warning-as-Britons-put-Christmas-on-credit.aspx)  
8 [Christmas-on-credit.aspx](http://www.moneyadvicetrust.org/media/news/Pages/Warning-as-Britons-put-Christmas-on-credit.aspx)  
9
- 10 Muller, P., Trier-Damgaard, M., Devnani, S., & Stonehouse, R. (2012). Debt Advice in the  
11 UK: Final Report for The Money Advice Service. London, UK: London Economics.  
12
- 13 Muraven, M., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources:  
14 Does self-control resemble a muscle? *Psychological Bulletin*, 126, 247–259. DOI:  
15 10.1037/0033-2909.126.2.247  
16
- 17 Office for National Statistics. (2014). Economic Review - December 2013. Retrieved from:  
18 [http://www.ons.gov.uk/ons/dcp171766\\_343680.pdf](http://www.ons.gov.uk/ons/dcp171766_343680.pdf)  
19
- 20 Pham, T.H., Yap, K., & Dowling, N.A. (2012). The impact of financial management  
21 practices and financial attitudes on the relationship between materialism and  
22 compulsive buying. *Journal of Economic Psychology*, 33(3), 461-470. DOI:  
23 10.1016/j.joep.2011.12.007  
24

- 1 Pinto, M.B., Parente, D.H., & Palmer, T.S. (2000). Materialism and credit card use by college  
2 students. *Psychological Reports*, 86, 643-652. DOI: 10.2466/pr0.86.2.643-652  
3
- 4 Prelec, D., & Loewenstein, G. (1998). The red and the black: Mental accounting of savings  
5 and debt. *Marketing Science*, 17(1), 4-28. DOI: 10/1287/mksc.17.1.4  
6
- 7 Raghurir, P. Srivastava, J. (2008). Monopoly money: The effect of payment coupling and  
8 form on spending behavior. *Journal of Experimental Psychology: Applied*, 14(3). DOI:  
9 10.1037/1076-898x.14.3.213.  
10
- 11 Rick, S., Cryder, C., & Loewenstein, G. (2008). Tightwads and spendthrifts. *Journal of*  
12 *Consumer Research*, 34(6), 762-782. DOI: 10.1086/523285.  
13
- 14 Richins, M., & Dawson, S. (1992). Materialism as a consumer value: Measure development  
15 and validation. *Journal of Consumer Research*, 19(3), 303–316. DOI: 10.1086/209304  
16
- 17 Schwartz, B. (1967). The social psychology of the gift. *AJS; American Journal of Sociology*,  
18 73(1), 1–11. DOI: 10.1086/224432  
19
- 20 Stanton, A.L., Kirk, S.B., Cameron, C.L., & Danoff-Burg, S. (2000). Coping through  
21 emotional approach: Scale construction and validation. *Journal of Personality and*  
22 *Social Psychology*, 78(6), 1150-1169. DOI: 10.1037/0022-3514.78.6.1150  
23

- 1 Tokunaga, H. (1993). The use and abuse of consumer credit: Application of psychological  
2 theory and research. *Journal of Economic Psychology*, 14(2), 285–316. DOI:  
3 10.1016/0167-4870(93)90004-5  
4
- 5 Walker, C. M. (1996). Financial management, coping and debt in households under financial  
6 strain. *Journal of Economic Psychology*, 17(6), 789–807. DOI: 10.1016/S0167-  
7 4870(96)00036-0  
8
- 9 Watson, J.J. (2003). The relationship of materialism to spending tendencies, saving, and debt.  
10 *Journal of Economic Psychology*, 24, 723-729. DOI: 10.1016/j.joep.2003.06.001  
11
- 12 Webley, P., & Nyhus, E. (2001). Life-cycle and dispositional routes into problem debt.  
13 *British Journal of Psychology*, 92, 423–446. DOI: 0.1348/000712601162275  
14
- 15 Which? (2012). Half of Brits pay for Christmas on credit. Retrieved from:  
16 <https://press.which.co.uk/whichpressreleases/half-of-brits-pay-for-christmas-on-credit/>  
17  
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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
<b>Sociodemographic factors</b>	Age	.18**	.11 <sup>†</sup>
	Female	.12*	.06
	Has Degree	.06	-.01
	Has Children	.01	.06

	Is Employed	-.07	.06
	Is Married	-.02	-.04
	Income Group	.05	-.06
<b>Psychological factors</b>	Emotional		.14*
	Coping		
	Denial Coping		.01
	Active Coping		.11 <sup>†</sup>
	Acceptance		-.04
	Coping		
	Internal locus		.21***
	External locus		-.07
	Spendthrift		-.34***
	Materialism		-.20***
	<b>R<sup>2</sup></b>	.05	.33
	<b>F</b>	2.01*	9.24***
	<b>ΔR<sup>2</sup></b>	.05	.29
	<b>ΔF</b>	2.01*	14.88***

- 1 N.B. N = 294. Models present standardized coefficients. \* = <.05, \*\* = <.01, \*\*\* = <.001, <sup>†</sup> =
- 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.

8

## 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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