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Keywords: debt, money management, mental accounting, self-control

PsycINFO Classification code: 3920
JEL Classification codes: D14, D18

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Over-indebtedness and the interplay of factual and mental money management: An interview study*

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Previous research has shown that money management contributes to over-indebtedness. This article sheds new light on this relation by looking at factual money management and its mental underpinnings, mental accounting. In a conceptual model we propose that fuzzy factual and mental money management practices aggravated by lack of congruency between factual and mental structures play an important role in over-indebtedness. Twenty-five in-depth interviews deliver preliminary support for this proposition. Successful financial control seems to build on efficient and inter-coordinated factual and mental money management. This reduces the willpower necessary for controlling financial behavior and helps to prevent and fight over-indebtedness.

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1. Introduction

Over the last few decades, most Western societies reported an increase in consumer credit use and household debt levels (e.g., Brown, Garino, Taylor, & Wheatley Price, 2005; Kida, 2009). An alarming increase in personal over-indebtedness followed in the wake of these developments (e.g., Huls, 1997; Watkins, 2009). In light of the recent financial crises the situation is likely deteriorating even further (Korczak, 2009) and consumer bankruptcy filing figures have kept climbing (for the UK see for example Department for Business Enterprise & Regulatory Reform, 2009).

Over-indebtedness is defined as the constant inability to meet one's debt payments as they come due (cf. Dessart & Kuylen, 1986). It has been acknowledged to have adverse consequences for consumers, creditors, and the society in general. Over-indebted people are more likely to suffer from poor psychological well-being (e.g., Brown, Taylor, & Wheatley Price, 2006), health problems (e.g., Drentea & Lavrakas, 2000) including mental disorders (Jenkins et al., 2008)[1], weak social networks (e.g., divorces become more likely), and problems at their workplace (e.g., Fan, 2000). Individual's debt problems feed on to creditors whose financial stability may be endangered, making it necessary to pass default risks on to consumer prices (e.g., Huls, 1997). Personal over-indebtedness consequently adversely affects economy and society (e.g., DeVaney & Lytton, 1995). Understanding factors related to the occurrence and prevention of over-indebtedness is, thus, of paramount importance.

Existing research on over-indebtedness has mainly concentrated on individuals' socio-economic, personal, and situational circumstances (e.g., Berthoud & Kempson, 1992; van Staveren, 2002), such as their particular employment situation (e.g., Lown & Rowe, 2002), income (e.g., Lea, Webley, & Levine, 1993), attitudes towards debt (e.g., Chien & Devaney, 2001; Livingstone & Lunt, 1992) or time preferences (e.g., Groenland & Nyhus, 1994). There is overwhelming evidence that vulnerability for over-indebtedness is indeed mainly determined by socio-economic factors (Angel, Einbock, & Heitzmann, 2009) and financially relevant life events such as job loss or divorce (for a review see Kamleitner & Kirchler, 2007). As a person concerned tends to have only limited influence on these factors, insights do not easily translate into practical implications for those concerned. Many psychological factors that have been identified such as attitudes and time preference do not lend themselves as a basis for interventions because their influence is often small; they may precede or result from debt problems, and they are sometimes assumed to be rather stable.

In order to meaningfully add to our understanding of over-indebtedness the present research focuses on two interrelated psychological variables that seem particularly susceptible for intervention programs: money management practices and mental accounting. Whereas money management was associated with debt problems in previous research (e.g. Lee, Abdul-Rahman, & Kim, 2007; Webley & Nyhus, 2001), mental accounting has not yet received much attention in this context. We argue that money management and mental accounting are strongly related processes that need to mirror each other in order to help prevent or fight over-

[1] The causality of the relationship between poor health and debt has yet to be determined (cf. Webley & Nyhus, 2001).

indebtedness in economically difficult situations.

This paper is structured as follows: after a discussion of money management and mental accounting, the interplay of these concepts is discussed in the context of over-indebtedness. A subsequent conceptual model of over-indebtedness which highlights the role of factual and mental money management is introduced. An interview study with 25 over-indebted people shows that most participants adhere to inadequate and non-corresponding factual and mental budgeting structures and practices. As a result and in line with the proposed model they may need to invest substantial mental resources to control spending and escape their precarious financial situation. The paper concludes with theoretical and practical implications.

1.1. Money Management

Over-indebtedness has consistently been found to relate to money management; including financial planning (e.g. Chakravarty & Rhee, 1999; Kilborn, 2005). Money management facilities (e.g. number of bank accounts) and practices (e.g. preferred frequency of paying bills, putting money away for bills on time, use of pre-commitment methods for payment) have been identified as correlates of debt (e.g., Berthoud & Kempson, 1992; Hayhoe, Leach, & Turner, 1999; Lea, Webley, & Walker, 1995). Compared to non-debtors, debtors seem to use more but simpler money-control techniques (e.g. keeping a household book, having a limited amount of money on the person; Webley &Nyhus, 2001), they seem to be more willing to use credit cards (Livingstone & Lunt, 1992), and they manage their financial resources on shorter time horizons (e.g. Lea et al., 1995)--with problem debtors often budgeting by the week (Berthoud & Kempson, 1992). In addition, Lea (1999) assumes that older people and women are less likely to be in debt than other people *because* they budget more systematically than men and younger people, respectively. However, despite an impressive amount of research, it is still unclear whether bad money management leads to debt, keeps people in debt, or results from debt as a form of learned helplessness (Lea et al., 1995; Webley & Nyhus, 2001).

Overall, money management techniques and practices that are frequently used by debtors were described as short-term, low tech, non-automated, and flexible. All these characteristics indicate a substantial requirement of willpower.

1.2. Mental Accounting

Mental accounting (Thaler, 1985, 1999) refers to consumers' *mental* tracking and grouping of (financial) outcomes in order to control income and expenditures. In a sense it is the mental equivalent to factual money management. Consumers are believed to form mental structures for monetary inflows and outflows. Inflows and wealth are grouped into several mental *accounts* (e.g. regular income, capital income, windfall gains) and outflows are divided into several mental *budgets*. Mental accounts are believed to vary in terms of marginal propensity to spend. For example, money in a current wealth account (e.g., money on a savings book) is less likely to be spend than money in a current income account (e.g. Shefrin & Thaler, 1988). Mental budgets predominantly control expenditures of certain categories. Within a budget period, the more money in a mental budget has been spent, the less likely further expenditures on items assigned to the budget become (Heath & Soll, 1996). For example, buying a theatre ticket reduces the (mental) entertainment budget, and thus, decreases willingness to further spend on entertainment in the current budgeting period (cf. Thaler, 1999; Tversky & Kahneman, 1981). Efficient mental accounting supposedly reduces the risk of overspending, while conveying a sense of control over one's spending (e.g. Shefrin & Thaler, 1988). Thus, mental accounting is likely to be related to over-indebtedness.

A fundamental prerequisite for effective mental accounting is that consumers associate costs and benefits of purchased goods (e.g., associating the benefit of a computer with the costs of a loan taken out for financing it). Without reciprocal cost-benefit-associations, consumers are hardly able to assign costs to budgets and inflows to accounts (for a review on cost-benefit-associations see Kamleitner & Hölzl, 2009).

Another crucial factor that likely contributes to the effectiveness of mental accounting is the amount of mental accounts and budgets in place. Whereas one general mental account or budget is insufficient to control spending effectively, too many accounts and budgets may favor malleability (Cheema & Soman, 2006) and reduce control and overview over financial resources and spending. For example, the frequent but arguable perception that "cash-out refinancing is a source of spendable income" (Emmons, 2004) indicates that consumers sometimes treat borrowed money and regular income in the same way. This might contribute to over-spending.

Another feature of mental accounts and budgets that may be associated with over-spending is mental budgeting periods. Consumers may set mental budgeting periods either too long for keeping an overview or too short so that mental budgets are used as self-justification of financial expenditures rather than as spending control tools.

In addition to the importance of cost-benefit-associations, amount of mental budgets and accounts, and mental time lines we argue that, mental structures need to be at least partly reflected in consumers' behavior--this is in their money management--in order to effectively influence spending.

1.3 Linking Mental Accounting with Money Management

Mental accounting has rarely been explicitly linked to money management. An exception is Ranyard and Craig's (1995) study on mental accounting of consumer credit decisions. They argue that mental accounts, as specific mental representations, influence financial performance and money management. A strong link between *factual* money management and *mental* money management, this is mental accounting, seems indeed obvious: on the one hand, it will be difficult to follow rigid money management practices unless these have—to some degree--been internalized or practiced mentally, this is translated into the mental accounting structure. On the other hand, mental accounting structures will be at least partly informed by a person's money management practices. Frequent performance of money management practices likely leads to an adaptation of the respective mental accounting features.

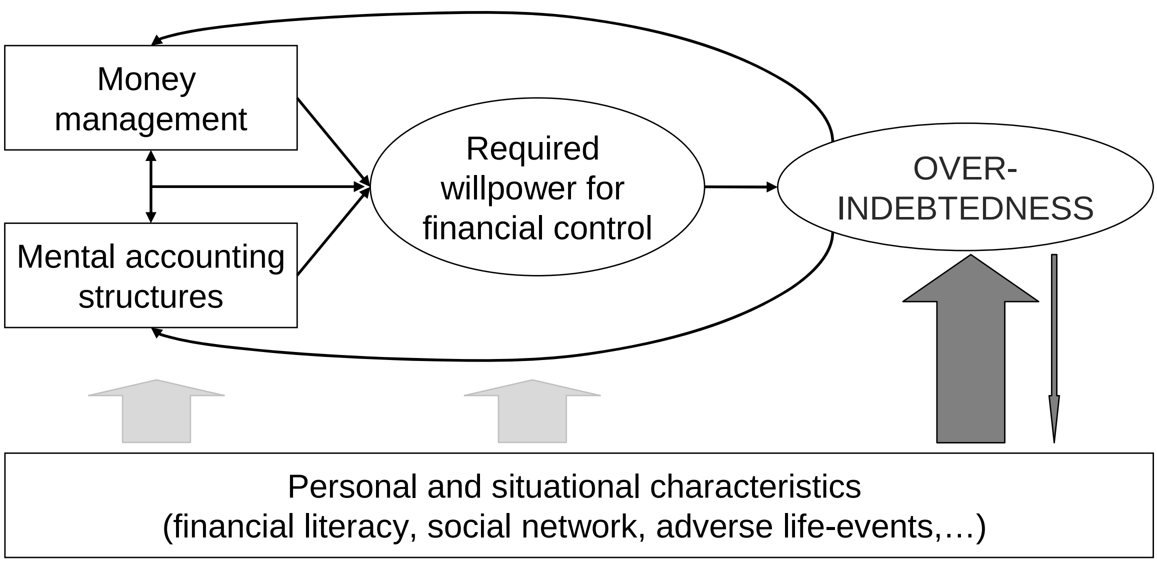
In many instances the link between mental accounting and money management is likely strong and bi-directional. For example, the number of boxes, envelopes or accounts people use to separate funds might reflect the number of mental budgets. Similarly, the degree to which certain money management practices such as keeping a household account book are automated probably depends on the degree to which strong cost-benefit associations are automated. Salient cost-benefit-associations will make it much simpler to keep a complete household book. Similarly the flexibility of money management practices may hint towards malleable mental accounting structures, and the financial planning horizon might reflect mental budgeting periods. For example the habit of regularly paying bills at the end of the month likely leads to similar mental budgeting periods.

Although mental accounting structures and money management practices are likely to correspond, they do not necessarily mirror each other perfectly. Several aspects of the mental accounting system may not become immediately visible and some money management practices may not be sufficiently internalized to form part of the mental accounting structure. Congruency between mental and factual money management is crucial in situations of restricted financial resources in which the effective control of expenditures is essential to prevent or fight over-indebtedness. However, it is exactly these situations that may lead to mismatches in response to various attempts of adaptation (e.g., consumers feeling a need to do something that clashes with how they tend to account for things mentally).

1.4 A Model of Over-Indebtedness

Building on existing literature on over-indebtedness, money management, and mental accounting we suggest a conceptual model of over-indebtedness that centers on mental and factual money management. Figure 1 outlines the main relations proposed. It acknowledges that over-indebtedness will nearly always be initiated or prevented by personal and situational factors like social networks, financial literacy, and most of all adverse life-events such as divorce, illness, or unemployment. In several cases the adversity of circumstances may make the prevention of over-indebtedness impossible. However, differences in mental accounting and money management practices might partly explain why preventing and fighting over-indebtedness may be more difficult for some people than for others. In line with previous literature we assume that factors influencing how difficult it is for people to get out of debt also influence whether people get into debt (e.g. Walker, 1996).

Figure 1: A model of over-indebtedness



As the model depicts, money management and mental accounting structures need to correspond to and mirror each other to enfold their overall potential in preventing or fighting over-indebtedness. The model suggests that money management, mental accounting structures, and their interplay are influencing the propensity to become over-indebted via their impact and dependency on self-control resources.

Willpower can be portrayed as a limited resource that can be exhausted by tasks that demand self control and replenishes itself over time (e.g. Baumeister, Muraven, & Tice, 2000). Behavior that is not automated and requires conscious thought, such as not internalized money management, depends on as well as depletes available self-control resources (e.g. Baumeister et al., 2000; Muraven & Baumeister, 2000). Consequently, depletion of will-power resources increases the likelihood of poor consumer decisions (e.g., Vohs & Heatherton, 2000) and leads to the adoption of heuristics and intuitive rather than rational decision strategies (e.g. Masicampo & Baumeister, 2008).

For most people keeping up financial self-control is a costly process in terms of willpower. The more willpower required, the more likely financial control slips; in particular if circumstances are adverse and require mental resources themselves. Automated money management practices and internalized mental accounting structures and rules are able to keep the willpower required for controlling one's financial behavior low by for example reducing propensity to spend (cf. Shefrin & Thaler, 1988). If both aspects mirror each other, this is argued to foster internalization and automation and hence reduces willpower resources required. People who have established rigid and corresponding mental accounting and money management systems are supposed to be more likely to successfully exert financial self-control--even in case of adverse life events.

The model does not only depict causes of over-indebtedness it also depicts an influence of over-indebtedness on money management and mental accounting structures. This backward loop generally makes causal interpretations difficult, yet it is likely to occur. People facing debt problems are likely to try to improve their money management; in particular if advised to do so by a debt counseling institution.

This paper aims to investigate whether indebted people's own narratives of their mental and factual money management practices and the associated experiences of willpower requirements support the suggested model. An in depth interview study (for previous studies investigating mental accounting through interviews see for example Kamleitner & Kirchler, 2006; Ranyard & Craig, 1995) combined with a questionnaire was used to identify whether the components of our model (i.e., actual money management practices, mental accounting structures, the degree of congruency between them, and experienced will-power requirements) actually seem to play a role in preventing and fighting problem debt.

2. Interviews

2.1 Participants

Twenty-five over-indebted Austrians aged between 21 and 65 years (M=39.7), 33.3% females, with an average monthly net income of € 893 were interviewed (Table 1). Sample descriptives are similar to those seeking advice at Austrian debtors counseling institutions (ASB, 2006); though divorcees were somewhat over-represented.

Table 1: Socio-demographic characteristics of participants (sorted by interview number)

Nr.	Sex	Age	Marital status	Net-income in Euro	Advised	Stated primary reason
1	m	35	married	580	yes	divorce
2	f	37	divorced	1 200	yes	money management
3	m	34	divorced		no	funeral, lavish wife
4*	m	31	single	400	yes	tax fine
5*	m	54	single	599	no	bankrupt company
6	m	50	divorced	1 000	yes	divorce, lawyers
7	m	44	widowed	1 100	yes	death of wife
8*	m	44	divorced	500	yes	
9	f	65	divorced	603	yes	health problems
10	m	29	single	1 300	yes	job change
11*	m	44	single	1 400	no	gambling
12	f	24	single	533	yes	debts for friend
13	f	23	single	900	yes	style of living
14	m	30	single	500	yes	job loss
15*	m	59	married	400	yes	bankrupt company
16	m	50	divorced	1 000	yes	divorce
17	f	21	single	800	yes	style of living
18	m	39	divorced	800	no	divorce
19	m	47	divorced		yes	job loss, divorce
20	f	52	single	400	no	renovation of flat
21	m	36	divorced	2 000	no	money management, drugs
22*	m	50	divorced	1 200	yes	debts for friend
23	f	38	married	230	yes	multiple loans
24	m	27	divorced	1 400	no	divorce
25	f	33	divorced	1 300	no	divorce

*participant excluded from analyses

To gain some standard for comparison a questionnaire on money management practices was filled in by the sample of debtors as well as an additional sample of 22 non-indebted persons. Selective sampling ensured that demographics (age, gender and marital status) of the sample of non-indebted were similar to the sample of over-indebted participants. The

2.2 Interview and Procedure

Official debt advice centers helped to recruit participants. Quota sampling was applied in order to get a fairly

mean income of the sample of non-indebted (€1376) was higher than the current income of debtors but similar to debtors' self reported income levels before becoming over-indebted. Over-indebtedness was often caused or followed by a drop in income. Non-indebted participants were aged between 23 and 58 years (M = 38.7; 45% female). representative mix of participants. Interviews took place in one-to-one settings in either a room at the University of Vienna or at a debt advice service center. One trained interviewer informed interviewees about procedure and study purpose. Interviews lasted between 15 minutes and one hour. Participants were compensated for their efforts and time by € 20.

A semi-structured interview guideline (Appendix) that started with a narrative and proceeded to more specific questions was used. After the interview, every participant was asked to fill out a questionnaire mainly assessing money management practices and psychological characteristics. Items concerning money management practices (see table 2) were based on the money management literature and heavily inspired by Hilgert et al. (2003) and Webley and Nyhus (2001). Because we assumed that over-indebtedness influenced behaviors in ways that participants are aware of, participants were asked to first answer the questionnaire with regard to their current situation and then to repeat the process with regard to how they think they would have answered before debt-problems became apparent.

Interviews were recorded and transcribed verbatim. Several participants had difficulties to express themselves clearly, used slang and stopped mid-sentence. In response to these characteristics of the verbatim material, a variant of the summarizing content analyses suggested by Mayring (2003) was used. In a first step each interview was condensed and summarized by two independent researchers; a particular focus was put on information related to money management and mental accounting. After the researchers agreed on the interview summaries, they independently extracted all recurring and relevant aspects within the interviews on separate code cards. Codes were compared and a final agreement on number and content of relevant aspects was reached. Next, codes were assigned to interview summaries. Most likely due to the amount of previous discussions held there was 100% intercoder-agreement at this stage. Finally, exemplary verbal quotes were identified in the original interview text.

2.3. Results and Discussion

The presentation and discussion of results is structured as follows: After describing interview selection, we report findings on selected aspects of money management, mental accounting, and their interplay; followed by an analysis of related willpower requirements.

Over-indebtedness has many causes and is sometimes hard to avoid (e.g., death of partner, compulsive disorders). In this research our interest focuses mainly on those cases in which prevention of over-indebtedness seemed to a limited extent under the individual's control. To identify these cases we analyzed the reasons participants named for their current financial situation (see table 1). Nearly all reasons known from the literature were present: some slipped into over-indebtedness because of a divorce, death of the partner, or unemployment, others had been drug-addicted or gambling, whereas some overstretched their financial resources for an extraordinary style of living or for helping others. Although most participants first stated one primary, easily justifiable reason for their situation, such as unemployment, during the course of the interview they themselves identified multiple additional causes. We focus on these 19 respondents and exclude five interviewees that solely became over-indebted because of going bankrupt with their own company (Interviews 5 and 15), being fined for a financial crime (Interview 4), acting as a guarantor for a friend's company (Interview 22), or having a pathological gambling problem (Interview 11). Despite talking a lot, interviewee 8 refused to answer any questions posed;

therefore this interview had to be excluded as well.

2.3.1 Money Management

Most interviewees reported that they felt that their money management had changed considerably since becoming over-indebted. Consequently, this section distinguishes between self-reports relating to the current situation and the situation before becoming over-indebted.

Before - financial planning. The majority of participants (n = 11) claimed to have planned their finances before facing over-indebtedness. However, in most cases financial planning seems to have been rather fuzzy in the sense that plans were either rather abstract or based on some flexible guidelines that were not necessarily adhered to. Interviewee 19 provided a typical statement: “Well, sure it had been planned, but not that strictly.” Asked about time horizon they planned for four participants had no specific time frame in mind, three participants planned over the timeframe of a year, and four planned over the time frame of a month.

Eight participants sporadically saved - mostly for emergencies - but only one participant saved on a regular basis. Most trusted that things will work out without long-term financial planning. About half of our interviewees reported to once have earned enough to make rigid money management practices unnecessary and to warrant this trust. Although long-term planning was nearly never done, most participants implicitly planned some of their money monthly. These “plans” seemed to have been determined externally by the rhythm of regular monetary inflows (e.g., income) and outflows (e.g., rent).

The eleven interviewees who stated that they plan their finances – regardless of how fuzzy this had been and how long it had been done – were also asked if they did check whether they adhered to their own plans. Only five people stated that they kept track of their plans. Three did this monthly, one did it annually and one did not mention a time frame. The apparent lack of frequent reviews of plans for most participants may signal that these plans may not have been part of their mental accounting structures.

Before – factual separation of money. Few interviewees (n = 2) budgeted their expenses physically (e.g., by putting money into different envelopes) or in a written way. One of these cases was interviewee 23 who stated that: “We took envelopes where we put the money in after writing on the envelope what the money’s for, but it didn’t work out for us.” Indications of actual groupings of monetary *inflows* (e.g. on separate savings and current accounts) were equally sparse (n=2). Probably related to the lack of planning there was no factual separation of different kinds of monetary inflows and wealth such as saving books or different online accounts. Before financial difficulties arose all—including borrowed--assets were put together in one account.

Before – money management strategies, degree of automation and flexibility. Interviewees mentioned adopting several different money management strategies. Like financial planning, money management strategies often seemed to have been fuzzy, and strategies were rarely applied long-term. The declaration that a strategy had only been used for a while was often followed by statements such as “I tried, but it didn’t work out (interview 9)”.

The main strategy had been to regularly pay the fixed costs. Most participants did not plan for, manage, or think about any other expenses. Ten participants had never kept a household plan, five had trialed using a household plan but never consistently used it, and four participants had always kept a household plan and tracked expenses in a written way. Those who had kept a written track record of expenses had not grouped these into subcategories. Interviewee 20 is representative for how the minority of participants who actually kept a household book went about it: "I wrote the money I've spent on paper every day, the receipts and bills of what I've spent, for years". Another practice that was rarely applied by our respondents is withdrawing a prespecified amount of money to last for a prespecified time frame. Only interviewee 25 stated that she had managed her money by following that strategy.

Questionnaire data allow comparing participants' self-reported money management practices prior to becoming over-indebted to money management practices reported by a matched sample of non-indebted people. Statistically significant differences emerge for five out of twelve money management practices[1] (see table 2). Over-indebted people stated that they used shopping lists less often, paid their receipts on time less often, were less likely to keep records of their spending, liked to pay by card more often, and were more likely to regularly draw a certain amount from the account. Controlling for income and education does not change the results. Overall, questionnaire data foster the impression gained during the interviews.

Over-indebted people rarely seem to have used well-structured approaches to money management. Although sample size and retrospective assessments restrict interpretation, it appears that our group of participants was less likely to use well-structured approaches than others from the outset. Well-structured approaches to money management are not per se a necessity and characterize many non indebted people (e.g. Hilgert et al., 2003; Perry & Morris, 2005). However, such approaches likely increased financial vulnerability. Participants whose debt problems did not primarily arise in response to adverse life events stated that their money management practices made it hard for them to detect emerging debt problems.

Now – financial planning. Throughout interviewees indicate that the emergence of financial difficulties initiated changes to their financial planning practices. Almost all interviewees (15 out of 19) stated that they now engaged in some sort of concrete financial planning over a mostly well-specified planning horizon. Only three people stated that they either do not plan their finances at all or just try to keep a "general overview" (interview 18). Interestingly the time frame seems to have decreased in comparison to before running into debt problems. Now, two participants even planned over weekly periods, eight over monthly periods and only one participant planned over the time span of a year. Four participants reported no clear planning time frame.

Of those planning, ten participants now review whether they adhere to their plans. As before, this is mainly done by having a look at the account. Reviewing plans does, however, not equate adherence to plans. Of the ten participants reporting to check whether they adhere to their plans, four have a hard time in sticking to and frequently deviate from these plans. This is, overall six out of 19 participants now plan and manage to stick to those plans.

[1] To allow simultaneous comparisons between participants before and after reports and the control group a MANOVA was run. Differences between groups were established through Dunnet-T3 tests which controlled for heterogeneity in variances. Pair-wise group comparisons in t-tests yield comparable results.

Table 2: Items assessing money management practices; means and standard deviations of persons over-indebted (retrospectively assessed for the situation before becoming over-indebted, and the current situation) and not indebted.

	Items	Over-indebted before	Over-indebted now	Non indebted control group
		M (SD)	M (SD)	M (SD)
1	When going shopping I write myself a shopping list.	2.47^{a} (1.74)	3.42^{ab} (1.61)	3.29^{b} (0.96)
2	I pay my bills on time.	3.84^{a} (1.50)	4.32^{ab} (1.16)	4.67^{b} (0.48)
3	I check the state of my account at least once every month.	4.05^{a} (1.54)	4.42^{a} (1.20)	4.52^{a} (0.93)
4	I keep records of my expenses.	1.84^{a} (1.38)	2.53^{ab} (1.71)	2.71^{b} (1.55)
5	I use a housekeeping book.	2.16^{a} (1.61)	2.79^{a} (1.9)	2.19^{a} (1.29)
6	I prefer paying by credit card to paying in cash.	3.95^{a} (1.54)	4.74^{b} (0.93)	2.76^{c} (1.41)
7	I draw a certain amount of money from my account at the beginning of each week. Then I try to get along with this sum as long as possible.	2.63^{a} (1.74)	2.74^{a} (1.79)	1.67^{b} (0.97)
8	I have only a limited amount of money on me when going shopping.	2.58^{a} (1.71)	3.26^{a} (1.69)	2.76^{a} (1.41)
9	I try to get through the month by a limit I set myself.	3.05^{a} (1.61)	4.63^{b} (0.68)	2.71^{a} (1.35)
10	Each month a certain amount of money is automatically taken from my current account and transferred to my savings account so that I cannot spend it freely.	1.32^{a} (0.82)	2.05^{a} (1.81)	1.62^{a} (1.28)
11	If I have some money left, I put it aside for special purposes.	2.95^{a} (1.65)	3.21^{a} (1.81)	3.43^{a} (1.36)
12	I avoid going shopping to avoid the temptation to buy.	2.53^{a} (1.68)	3.68^{b} (1.57)	2.00^{a} (1.10)
	N	19	19	21

Note: Items were measured on a 5-point scale from never to always.
Different superscripts ($^{a\ b}$) indicate significant mean differences ($p<.10$) per item.

Now – money management strategies, degree of automation and flexibility. Considering that most participants were advised by a debt advice service, that the debt-situation in itself restricts financial possibilities severely, and that participants themselves reported to have experienced dramatic changes in their thinking and behavior since becoming over-indebted, surprisingly little change in factual money management practices was reported. Most participants stated that money matters are now constantly on their mind. Nevertheless, the extent and type of money management strategies applied remained relatively unchanged. Also, only few interviewees (n = 2 as before) try to budget money physically or track expenses through a household plan (n = 7 as compared to n = 4 before becoming over-indebted). Most participants still managed their money as interviewee 14 did "When I get the money I pay my fixed costs and live with the money which is left." In contrast to before, this strategy is now related to the fact that very limited amounts are available in the first place. Strategies that became more popular due to financial hardship are withdrawing certain amounts of money or having only certain amounts in the wallet.

Results of the complementary questionnaire study add to this picture of minor changes in money management. Out of 12 money management practices listed, participants reported a change in two behaviors only (see table 2). They now more often try to get by with a certain amount of money that is supposed to last for a month try to go shopping less frequently. In addition and contrary to what participants reported during the interviews, they also stated that they preferred paying by credit card (which is mostly impossible[1] but may on occasion be used to temporally spread expenditures) more than they did before.

Overall, it seems that financial planning and money management may have contributed to the emergence of debt problems as well as impeded progress once an attempt to tackle financial difficulties was made. In most cases financial planning and money management practices had been too fuzzy or instable to enable people to keep track and control of their financial matters when this was becoming necessary for various reasons. Although the difficult financial situation had made interviewees aware of the necessity to adapt their money management and although they themselves consistently felt that a lot of things had changed, documented changes were mostly restricted to a heightened awareness of financial matters. In terms of money management practices, changes were few and mostly what is called "low tech" by Webley and Nyhus (2001). Only in terms of financial planning an improvement was evident. However, considering that planning horizons were often imposed by, for example external payment plans, and considering that two thirds of participants either had no concrete plans or did not stick to them consistently, it is difficult to assess the real extent of behavioral changes.

2.3.2 Mental Accounting Structures

Whereas participants reported to try to change *actual* money management practices hardly any such efforts were reported when it comes to *mental* money management. The perceived necessity to change outward behavior seems to be a much more natural implication of over-indebtedness than changing the way things are dealt with mentally. Hence, no temporal division of results was possible for this sub-section.

[1] Over-indebted people tend to lose access to credit cards. Remarks of several participants support this.

Mental accounts. Although economists often argue that treating money as fungible is rational, some 'irrationality' in this respect might help to prevent overspending if debt money has a lower propensity to be spent than money coming from other sources (e.g. Shefrin & Thaler, 1992). In contrast to what is mostly found in the mental accounting literature (e.g. Eccles & Bird, 2004; Heath & Soll, 1996; Kivetz, 1999) a majority of participants reported to treat money as fungible, that is, to make no mental difference with regard to where money comes from. For example, when asked how it feels if a purchase is made on a loan interviewee 14 said "… actually I don't give a damn about it. As long as I get money at all I don't care [where it comes from]". Ten participants expressed very similar sentiments and did not distinguish between money originating from different sources. The fungible treatment of borrowed money and money coming from the paycheck might partly explain why some participants slithered into debts without noticing it.

Fungible treatment of money was, however, not observed for all participants. Three participants reported to spend earned money more easily than debt money, whilst four participants reported the reverse. Differences in perceived ease of spending indicate that some participants did in fact have different mental accounts. However, in those cases in which debt money was easier spent than earned money, the establishment of mental accounts might have partly contributed to over-spending. Overall, only a minority of three participants seemed to establish mental accounts in a way that inhibits the spending of borrowed funds.

Mental budgets. For the self-controlling function of mental budgeting to fail we assumed that either few or many budgets – given the funds available[2] – would be used to group expenditures. Most (n = 13) participants seemed to have established few – that is only one or two – mental budgets. If there were two budgets, one budget comprised the fixed costs. This budget did not need to be tracked as it comprised all that is billed or debited automatically. The other budget accounted for everything else. This simple structure seemed to be independent of the actual remaining income and to have existed before becoming over-indebted. For example, when asked how she would mentally group her expenditures interviewee 16 said: "that's just two groups, one part simply stays in the bank account, and the rest is used."

People talked about mental budgets as if they were topical groupings (e.g. fixed costs and the 'rest'). However, due to the broad nature of these budgets they had more resemblance to a general spending timeline than a budget. As interviewee 2 puts it: "… let me say, I do it the following way. I go there, get my pay, have some idea [of what I might need], take approximately half of it, pay my bills and go shopping for the whole month. And with the rest you need to try to get along as long as possible. And then you get some more [money]."

Mental budgeting and accounting periods. Participants struggled to communicate mental budgeting and accounting periods. But those who did manage indicated that these were mostly short term. Two participants indicated monthly, five weekly, and two daily budgeting periods. Two participants reported having rolling mental budgets (i.e. after each large expenditure a new

[2] The more funds are available, the less it is necessary to have multiple budgets. As a result the mental accounting structure is supposed to be more elaborate, including more budgets, for persons with low income than for persons with high income (Heath & Soll, 1996).

budget would be set). Like factual, mental money management seemed to be mostly short-term. Long-term budgets were conspicuously lacking. Only two participants mentioned some sort of mental saving budget.

Mental accounting flexibility and degree of automation. The six participants reporting to have established several mental budgets appear to have established these budgets ad hoc and were not able to assign certain costs to these mental budgets. It seemed as if those having more sophisticated mental accounting structures also had very flexible mental accounting structures which annihilated the self-control function of mental accounting. If money had already been spent in one mental category, this had no effect on the further propensity to consume products of that category.

For most other participants mental budgets seemed too broad and/or fuzzy to become behaviorally relevant in terms of keeping track of monetary outflows. Indeed at one point or other nearly all participants mentioned troubles in keeping an overview of their spending. Some also refused to make efforts to keep such an overview because …"it wouldn't change my situation" (interview 18). In particular, participants had difficulties tracking small amounts and often wondered where the money had gone. This is no uncommon finding (cf. Gourville, 1998) but might be particularly costly for over-indebted people for whom small amounts matter relatively more. In addition this signals that participants may not have routinely established reciprocal cost-benefit-associations.

Cost-Benefit-Associations. The establishment of reciprocal cost-benefit-associations is a necessity for the functioning of rigid mental accounting structures. Only if these associations are strong in both directions are people able to track their expenditures (e.g.., Kamleitner & Hölzl, 2009). In fact, it seems that weak cost-benefit-associations may partly explain why over-indebted people had difficulties making their mental accounting structures behaviorally relevant. Even for larger purchases most participants reported to establish either no cost-benefit-associations at all (n = 11) or to associate "hedonically" (Prelec & Loewenstein, 1998), i.e. to associate payment with the good but to consume as if it were free (n = 6). This applies in particular to the situation directly after a purchase; participants did not tend to care about what things cost after they were purchased. For example, when asked whether she would think of the costs after she purchased something like a kitchen, interviewee 16 said

> No, no, for me it is always like that, if I have done that [purchased], as soon as I … uhmm … at the bank … made a banker's order, was debited or something [paid]… the story is over, it is done.

The absence of strong and persisting cost-benefit-associations might impact the propensity to spend in two ways. First, loose or hedonic cost-benefit-associations increase the likelihood of losing track of expenditures. Second, if people consume goods as if they were free, the pain of paying will not last to curb propensity to spend in future consumption situations. As a consequence of weak cost-benefit-associations people presumably become more likely to make additional purchases, to speed-up repurchases, and in turn to stretch their budgets. A possible instrument that might help getting out of debt is hence to learn to establish cost-benefit-associations. In fact, this is what two interviewees (17 and 18) reported to have learned in response to financial pressures.

To conclude and although there are noteworthy exceptions to each of our observations, a majority of participants can be characterized by one or more of the following aspects: (a) costs and benefits are not strongly associated, in particular in the post-acquisition stage, (b) difficulties in tracking and assigning expenses to mental budgets are experienced, (c) a limited number of seemingly topical mental budgets which are more similar to timelines than actual budgets are established, and (d) different sources of income are either treated as fungible signaling only one mental account or debt money is spent particularly easy.

2.3.3 Interplay of Money Management and Mental Accounting

Not surprisingly, direct reports on the interplay of mental and factual structures were hardly given. However, contrasting mental and factual money management per participant yielded some insights.

Factual and mental planning. Before becoming over-indebted participants were unlikely to plan their finances. Neither factual plans nor mental accounts indicating planning were reported. After becoming over-indebted short-term rather than long-term planning seems to have increased but there was at best sparse evidence that this was internalized into the mental accounting system. Both mental timelines and actual budgeting and planning horizon were short-term and rarely ranged beyond the time span of a month. In particular factual money management rhythms were predetermined by external variables (e.g., receipt of pay check) and decreased in response to the reduction in financial resources (for similar findings see for example Webley & Nyhus, 2001). However, if the time cycle employed in actual money management practices was shortened, such a change was hardly ever reflected in the mental budgeting periods which were consistently shorter than the actual budgeting periods and had not changed in response to the financial situation. There was only one participant for whom factual and mental budgeting periods explicitly matched. Note that the general mismatch between mental and factual planning horizons could be due to an effect of demand characteristics. Questions on mental structures could be less prone for socially desirable answers than questions on actual behaviors.

Factual separation of money and mental budgets. The reported “one big pot” (except for fixed costs) mental accounting structure seemed to correspond well to the “make one amount last for all expenditures”-behavior exhibited by most participants. However, as soon as participants reported elaborate mental accounting structures (e.g. several mental budgets) or factual budgeting practices (e.g. different accounts) this match disappeared. For example, interviewee 3 reported to have six or seven mental categories which he felt unable to label while actually spending his money sequentially on three purposes (first fixed costs, next all expenses for the pet dogs, and lastly all remaining needs covered in one big shop).

Automation and flexibility. Probably due to the lack of structural rigidity, neither money management practices nor mental accounting structures had reached a large degree of automation. Self-set mental and factual rules rarely seemed to operate automatically. This lack of automation can be interpreted as another indicator for a mismatch between factual and mental money management. For example, if participants were keeping a household book, they did not group expenditures in this book according to their self-reported mental groupings. Both money management practices and mental accounting structures seemed highly flexible and many participants did not seem able or willing to keep up rigid practices for any period of time.

In part, the observed incongruence between mental and factual money management seems to be due to the specific and difficult situation participants were facing. Many of our participants had already been assisted by debt counselors (see table 1) and they tried to change their behavior. Participants reported that changing their behavior was difficult and they often did not succeed. In addition, those small changes made were often instigated by some externally provided guidelines which were hard to translate into the mental budgeting structure. As a consequence, two partly overlapping systems seem to exist for many participants. Instead of enhancing each other and facilitating control, mental and factual money management counteract each other preventing money management techniques becoming internalized and easy to follow.

2.3.4 Willpower Requirements

In line with the model, participants experienced substantial willpower requirements with regard to their spending behavior. Many participants (n = 11) considered themselves as impulse buyers (e.g., interviewee 1 said “I would say I’m a spontaneous buyer.”), and most reported self-control problems in the financial domain. Recurring themes were statements like “I tried but I simply can’t”. Also, some participants indicated that they were not capable of saving but that a loan would somehow make them save.

More importantly we got the impression that low self-control resources were closely linked to the adverse financial situation itself. The experience of over-indebtedness seemed to have aggravated difficulties involved in summing up the necessary will-power to control one’s spending. Several side comments and remarks suggest that at least one of two common experiences curbed participants’ willpower and their drive to manage financially. The first experience is an experience of helplessness in the face of bleak perspectives. For many participants previous levels of wealth would--if at all--only be attainable in several years time, in fact at a point in time that far outreaches any time horizon they used to plan for financially. The second and related experience is that of a strong psychological rather than financial debt burden. When asked about the extent to which their situation puts strains on them all but four participants stated to experience a substantial burden. When further queried about the nature of this burden, psychological strains that demand mental resources were mentioned every single time.

It follows that with regard to willpower resources participants were not well equipped in the first place. Any additional demand of will-power was hard to meet and yet the actual and mental money management strategies participants applied were costly in terms of this very resource.

Non-rigid money management practices and mental accounting structures, lack of correspondence in behavioral and mental money management, and the resulting lack of automation and internalization supposedly increase the demands on willpower needed to control spending. As such partly dysfunctional mental and factual money management practices likely contributed to the on-going situation of over-indebtedness faced by our participants. As one woman (interview 17) claimed „because if you simply have not slept enough one day and you buy and then you think about it – I mean it often happened to me – and you wonder where are those ten euros?”.

3. General Discussion and Conclusion

Over-indebtedness is a multi-faced phenomenon (e.g. Stone & Maury, 2006). It burdens those concerned in more than financial ways (Jenkins et al., 2008), and its adverse effects reach beyond the confines of the individual; out into society and economy (e.g. DeVaney & Lytton, 1995). To enhance the current understanding of the phenomenon of problem debt, this article approached the topic of over-indebtedness by focusing on money management and mental accounting; two variables that are presumably susceptible to intervention. Results support the choice of this focus and the proposed conceptual model. Actual mental and factual money management practices and structures seem to play a role in over-indebtedness. Despite considerable inter-individual variation, money management practices tend to be flexible and low tech, and they frequently seem to be incongruent with mental accounting structures which themselves tend to be malleable and non-elaborate. This is accompanied by a lack of automation and internalization which, in turn, supposedly leads to an excess demand for willpower necessary to control financial behavior.

Though we cannot provide a definitive answer to the question of whether inadequate money management practices lead to debt, keep people in debt, or result from debt (Lea et al., 1995; Webley & Nyhus, 2001), results suggest for money management to feature in all those roles. Unstructured, vaguely planned, and malleable mental and factual money management seemed to facilitate slipping into debt and to veil such a process from participants until it was too late. Further, it seemed to impede keeping a financial overview and to increase the willpower necessary to control spending in a time of financial hardship; making it harder to escape this situation. At the same time financial hardship in itself was prone to deteriorate money management practices. On the one hand, participants reported that over-indebtedness (in addition to the factors causing it) had put considerable strained them psychologically (cf. Brown et al., 2006); participants’ mental resources, which would have been needed to engage in controlled financial behavior, seemed to have been taxed substantially. On the other hand, participants seemed likely to respond to over-indebtedness with a perceived need to change their money management. This perceived need sometimes led to the temporary implementation of practices that further misaligned factual and mental money management. As a consequence of this mismatch participants had to invest substantial mental resources on practices that they struggled with and often gave up on; a struggle that seemed to further contribute to debtors’ confusion, frustration, and depletion of self-control resources

3.1. Limitations and Future Directions

Results lend further support to the relevance of (mental) money management in preventing and fighting over-indebtedness. Nevertheless, it is difficult to assess how important this aspect is overall; in particular since (mental) money management interacts with other aspects found to be relevant such as financial literacy (e.g. Hilgert et al., 2003) or time preferences (e.g. Lawrance, 1991). In particular quantitative future studies that allow controlling for these aspects would be an interesting way forward.

We investigated the phenomenon from the perspective of an individual although in many cases more than one individual will be involved. However, recent studies show that even for couples money management is increasingly becoming an individual issue (Burns, Burgoyne, & Clarke, 2008; Pahl, 2008) and mental accounts have rarely been considered in joint decision making. Hence, it seems justified to consider (mental) money management from an individual perspective. Nevertheless, future considerations of joint processes likely reveal more.

Another limitation relates to the fact we defined over-indebtedness as the factual inability to meet one's liabilities. Some authors use other definitions (e.g. Baum & Schwartz, 2005) which for example include persons who feel a debt burden while meeting all obligations (Betti, Dourmashkin, Rossi, Verma, & Yin, 2001). We have no means to ensure that our findings generalize to a sample defined by these more subjective definitions. Considering that our participants often realized their factual over-indebtedness rather late, it may well be that they differ from persons who feel a heavy debt burden while still being able to meet most obligations.

A further limitation of this study is that it, like most other studies in this area, relied upon self-reports about indebtedness alone. Yet, as participants were mostly recruited in a counseling office for problem debtors[3] and as the mean debt-to-income ratio in our sample was quite high (6.8)[4], we are confident that our sample consisted of actual problem debtors. To which degree our sample is representative for the whole population of over-indebted consumers in Austria is, however, questionable. As Walker (1996, p. 790) notes "debtors are a notoriously difficult population to sample". Not all over-indebted people go to debt-counseling institutions and previous studies show that in particular over-indebted people are less likely to (continuously) participate in surveys (e.g. Webley & Nyhus, 2001).

In addition, some limitations arise from the qualitative nature of our main study. This approach as well as the inherent difficulties in sampling problem debtors limited our sample size. It would be interesting to see replications using different samples and maybe even different methods; based on our analyses the development of a larger survey instrument is conceivable. Apart from influencing sample size the qualitative nature of our analyses might hamper the descriptive validity of our interpretations (cf. Ranyard & Craig, 1995). The rigorous methodological procedures we applied during the interviews and during the content analysis, the attention we paid to inter-coder agreement, and the support provided by some questionnaire data acted as some safeguard against descriptive inaccuracies. Nevertheless, cross-validation in future research is desirable. A related aspect concerns the assumption that mental accounting structures are accessible to participants. We share this assumption with previous studies on mental accounting (Kamleitner & Kirchler, 2006; Ranyard & Craig, 1995).

The retrospective nature of many of the participants' answers--in particular when requested to report on the situation

[3] Discussions with several debt advisors indicate that people not facing actual problem debt very rarely make use of the service.

[4] We based the estimate on the annual net income and the current debt. The annual net income was approximated by multiplying the monthly net income by 14 which is the amount of salaries typically paid in Austria. Due to different forms of employment the actual income is likely lower and the provided ratio likely underestimates the degree of indebtedness faced by participants.

prior to becoming over-indebted--provides another limitation. Recalled information has likely been distorted to at least some extent. The question is to which extent and in which direction distortions mostly occurred. Most participants seemed to feel that the past was very different from the present. This may have tainted their memory of the extent to which changes in their money management practices took place. Note, however, that reported differences in money management practices in the questionnaire study and in terms of concrete practices were not as pronounced as to indicate substantial biases. Further, we assume the existence of another distorting force. Participants often seemed to feel a necessity to convince the interviewer (and maybe also themselves) that their financial situation was not entirely their fault. While we do not doubt these claims as such, in some cases the actual degree of (mental) money management problems –which are under a person's direct control--could have been underestimated. Since indebtedness is a long-term process (e.g.., Kamleitner & Kirchler, 2007; Kirchler, Hoelzl, & Kamleitner, 2008) longitudinal approaches would of course be preferable to the self-reported present-past comparisons used here. Due to the difficulty to identify and sample participants that become over-indebted in the future--in particular via the means of qualitative research – this was not possible.

3.2. Practical and Theoretical Implications

Lack of (perceived) money management skills and rigid mental accounting structures is not limited to the population of over-indebted people. For example, data from the Surveys of Consumers show that although most people pay their bills regularly, fewer than half use a spending plan or budget (Hilgert et al., 2003). If financial resources are sufficient, simple money management practices and fuzzy mental accounting structures will often suffice and be adequate as for example suggested by Heath and Soll (1996). In case of sufficient income, it is hedonically reasonable to consume as if goods were free and it is economically reasonable to treat money as fungible. However, in case of restricted financial resources, the self-controlling aspects of mental accounting gain in importance. People who were used to high monetary resources or who have never had to care about financial issues (e.g., because the spouse manages the money) may hence be particularly vulnerable to sudden income drops.

Another prediction relates to the role of willpower. In line with the idea of ego-depletion (e.g. Baumeister, 2002; Baumeister, Bratslavsky, Muraven, & Tice, 1998), any personal and situational factor (e.g., adverse life-events, impulsivity) that either decreases mental resources or increases the need for them enhances the likelihood of losing financial control. Automated and internalized factual and mental money management probably acts as a safeguard and moderates the effect of mental resource status on financial behavior.

Apart from further exploring the role of mental resources in over-indebtedness it would be interesting to further analyze the cross-link between mental accounting, money management, and other factors related to over-indebtedness such as locus of control. Perceived control has frequently been shown to related successful money management (e.g. Perry & Morris, 2005). For example, several studies showed that the more people are in debt, the more they experience an external locus of control (e.g. Livingstone & Lunt, 1992)[5] and feel helpless (Lea et al.,

[5] No such relation was found by Lea et al. (1995).

1995). In fact, many of our participants said they were too depressed to care anymore or that now whatever they do will not suffice. Possibly this finding relates to a fuzzy, and thus, “uncontrollable” mental and actual budgeting structure.

Another aspect highlighted by the findings of the study is the marginal weight participants put on mental as opposed to factual money management. The idea that one key to successfully controlling expenditures might lie in mental budgeting--starting with mentally connecting costs and benefits (Kamleitner & Hölzl, 2009; Prelec & Loewenstein, 1998)--did not seem to have occurred to any participant.

Mental accounting structures and money management practices belong to the few prevention and counter measures of debt that can be influenced by training. In fact, debt counseling institutions advise their clients on how to improve at least some aspects of their factual money management. Considering our findings, education on money management alone might sometimes put additional (self-control) strain on over-indebted people and not yield the desired results. We suggest that intervention programs could concentrate on simultaneously influencing factual and mental money management and thus facilitating automation and internalization. Considering the seeming lack of awareness of the importance of mental accounting and the likely perception of lack of control, over-indebted people are likely hungry for tangible externalized measures and the need for mental accounting may only be communicated if mental accounting becomes to some extent embodied. Stepwise people could be taught to establish cost benefit associations (e.g., putting price stickers on everything bought) or to group expenditures into mental and factual budgets shown to influence propensity to spend (e.g. Shefrin & Thaler, 1992) including positions that need to be planned over long-time horizons (e.g. marking expenditures of different categories by different colors). Such embodiment of mental practices may help to overcome the inherent malleability frequently attested to mental accounts (e.g. Cheema & Soman, 2006)

Changing mental accounting structures and money management is doable, although it requires considerable support and time. Taking these efforts and developing intervention programs that enable successful mental money management seems a viable way in helping people on their way out of debt.

Appendix – an extract of the interview guideline

You are now advised by a debt counselor. How did you get in a situation that made it necessary to see a debt counselor?

What were the debts used for?

What comes to your mind when you think of the debts?

Do you still know which money was used to finance which purpose --- or is it all the same (put into one pot)?

How would you describe your money management?

Do you use any special practices that help you deal with your money? --- Something like only taking a certain amount from the bank and making that amount last for a particular time?

How do you budget your money?

Do you have something like different mental pots where each pot contains some amount of money and you know that this amount is to be spent for – let's say – food and another pot is devoted to entertainment and so on? What do they look like?

If you think about the debts do you also think about the goods you bought? How does that feel --- and when would you do it?

If you go shopping are you aware where the money you use comes from? ---Do you think about that? – Under which conditions (e.g. expensive good) do you think about that?

If you go shopping, which method of payment do you usually use? What is your favorite method of payment? Has it always been like that?

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