

Mental budgeting in consumer practice

The role of product typicality in the mental budgeting process

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Abstract

Previous research on mental budgeting has shown the existence of certain mental budgets. Up until now, it remained unclear how exactly consumers allocate expenses to certain spending categories in practice, and what role product typicality might play in it (Question 1). To improve our understanding of the mechanisms that might underly the mental budgeting process, 17 in-depth interviews were conducted in which participants were given the task to allocate 20 different expenses to spending categories they used in real life. Via this approach, the logic and reasoning behind several allocation decisions was assessed. Interesting motivations for using budgets were discovered, as well as the reasoning behind the formation of certain budgets. Different types of judgments and considerations were discovered as well, providing insight into how these might influence consumer allocation decisions. Overall, the results indicate that product typicality played an important role in the allocation of expenses.

Marketers are often capable of framing their offerings in a way that could make them more or less typical of a spending category. Typical expenses often require less effort to be allocated to a spending category compared to less typical expenses. Via certain product cues, marketers could suggest alternative ways to post an expense, potentially increasing perceived product typicality and even buying probability. To discover whether the concepts of product typicality, effort during allocation, and buying probability were related to one another (Question 2), a mixed within- and between-subjects experiment was created, and data was collected via a survey. Results indicate that a product cue was indeed capable of impacting product typicality assessments and increasing buying probability ratings. However, the usefulness of these cues depended on the type of expense being judged. Results also indicate that the relatedness of these concepts was especially relevant for expenses occurring relatively infrequently.

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1. Introduction

The Dutch Rabobank has recently introduced a new feature to their Mobile App called “Where does my money go?” (Rabobank, 2020). This feature fictionally allocates users’ expenses to corresponding categories, providing them with an overview of where their money is going. It is a recent technological development that facilitates a process better known as “mental budgeting.” But why would it be interesting to know where your money is going? A majority of consumers will find there are more ways to spend their money than they have available resources. This means that making decisions on how to handle one’s money when being exposed to a wide variety of buying decisions and competing products can be difficult. To simplify these spending decisions, some people utilize “mental accounts” to oversee and manage their income and expenses (Cheema & Soman, 2006).

The concept of mental accounting is about the psychological separation of economic categories (Thaler, 1985; 1999). Contrary to the economic assumption that money is fungible, literature on mental accounting shows that the way people organize, label, and value funds impacts their preferences for spending. Mental budgeting can be seen as a specific form of mental accounting and is mainly concerned with how people categorize their funds into distinct spending categories. When people engage in mental budgeting they tend to treat these budgets as separate and resist further spending in a category after the budget is depleted (Heath & Soll, 1996; Thaler, 1985). Additionally, using separate budgets for different types of expenses, for example, by maintaining a monthly food budget, can give people a clear direction when making day-to-day decisions. For example, if I decide to budget \$150 per month for eating out, I do not only aid myself to stay within this fictional spending limit, but I also know exactly how much margin remains in this budget when I am halfway through the month. This way, mental budgeting can function as self-control device (Thaler, 1985).

Mental budgeting processes have been primarily investigated in laboratory settings by conducting experiments (see e.g., Tversky & Kahneman, 1981). And to this point, literature on mental budgeting has been mostly focused on whether or not individuals make use of mental budgets and what type of mental budgets they use in practice (i.e. to capture engagement). Additionally, the literature that exists on the reasons why individuals would engage in the process of setting mental budgets takes the existence of certain mental budgets (e.g., an entertainment or food budget) as given (Zhang & Sussman, 2018a). And while Antonides, de Groot, and Van Raaij (2011) show that around 25–53% of the Dutch population engage in the process of mental budgeting, little is known about how consumers—who use mental

budgeting—actually form certain spending categories, allocate expenses to these categories, and keep their expenses within limits in each category.

Knowing what kind of budgets consumers use in practice and how they allocate certain expenses to categories can provide marketers with useful insights. Imagine, for example, a consumer purchasing something like a new suit. Marketers could wonder if this expense will be allocated to a work-related budget or to a hobby/pleasure budget, and if this expense is competing with other expenses (to be) allocated to this spending category. Understanding the budgeting process is important because it can influence whether or not a particular budget category will be considered as depleted after certain expenditures have been made (Antonides et al., 2011; Heath & Soll, 1996). Wertenbroch (2003) even argues that the budgeting process influences how firms decide to promote their products, as they will try to avoid their products to fall into a similar spending category as the products of their competitors. As a result, existing mental budgets or spending rules can shape and influence the demand for certain products and services, showing it is important for marketers to understand this kind of behavior. For that reason, this research aims to improve our understanding of the mechanisms that might underly the mental budgeting process.

One of the mechanisms that may underly this process is that of expense typicality. When people track their ongoing expenses against certain pre-set spending categories, some expenses will be seen as being more representative of a category than others. These typical expenses often require less effort to be allocated to a spending category compared to less typical expenses (Blijlevens, Carbon, Mugge, & Schoormans, 2012). However, besides the research of Heath and Soll (1996), little is known about the role of expense typicality in consumer budgeting behavior. Since marketers are often capable of framing their offerings in a way that could make them more or less typical of a certain spending category, they may suggest alternative ways to post an expense, potentially leading to increased buying probability. A central question will be whether marketers can impact the expense allocation process prior to making actual expenses—specifically for atypical expenses—by using certain product cues.

Overall, this research aims to contribute to the literature on mental budgeting by exploring the logic behind the mental budgeting process and to see whether the concepts of product typicality, (cognitive) effort experienced during allocation, and buying probability are related to one another.

Therefore, the following research questions have been defined:

Question 1: How do consumers allocate their expenses in practice and what role does product typicality play in the mental budgeting process?

Question 2: Are atypical expenses (vs. typical) less easy to allocate to a spending category, and if so, can product cues simplify this process, potentially leading to increased buying probability?

In this research, a deeper understanding of the mental budgeting process is obtained by investigating the decisions consumers make when allocating a selection of expenditures to, in their eyes, corresponding spending categories. The core concepts that play an important part in this allocation process are assessed (Question 1) and the potential impact of product cues on the allocation of expenses is examined (Question 2). Throughout this research, a coherent structure will be followed, consisting of two distinct parts: part 1, which is focused on question 1, and part 2, which is focused on question 2.

Chapter 2 reviews the literature on mental budgeting, discussing several functions of mental budgeting, graphically visualizing the budgeting process, and highlighting the expected relatedness between typicality, effort, and buying probability. In Chapter 3, the methods for answering question 1 and 2 are explained, and both the sample and research ethics are discussed. In Chapter 4, the results of both part 1 and part 2 of this research are highlighted. Chapter 5 contains a further interpretation of these results and several conclusions are drawn. Chapter 5 also contains the implications for practice of the results, as well as several research limitations and future research suggestions.

2. Literature review

First, mental budgeting is related to the more general concept of mental accounting. Next, a graphic visualization is made to clarify the concept of mental budgeting and its core functions are explained. The role of product typicality and broad or narrow categorization is highlighted and finally, the ease of tracking ongoing expenses and the impact of product cues are discussed.

2.1 Mental budgeting as part of mental accounting

Before explaining the concept of mental budgeting, we first need to understand how it is part of the bigger picture (see Appendix 1.1). Mental budgeting is a specific form of mental accounting. Mental accounting, also known as psychological accounting, by definition, is about how people psychologically separate certain economic categories. It is a collective term that is used in the field of Behavioral Economics and is mainly concerned with the psychology behind financial decision making in which researchers try to gain a better understanding of how consumers and households manage their finances (Pompian, 2006). Mental accounting is often defined as “the set of cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities” (Thaler, 1999, p. 183). The research on mental accounting shows that individuals organize, label, and value their funds in different subjective ways, consequently influencing their preferences for spending. This, so-called, “mental accounting bias” violates the economic assumption of fungibility: the notion that all money is the same, regardless of its origin or destination (Shefrin & Thaler, 1988; Thaler, 1985, 1990, 1999). Apparently, people value their money differently, depending on where it comes from, how it is categorized, or where it is going. So, contrary to the economic assumption of fungibility, people do not treat their money as mutually interchangeable in every situation, depending on how purchases are made from different mental budgets (Hastings & Shapiro, 2013).

2.2 Mental budgeting

As early as the 1900s, people used envelopes or boxes to separate different expenses from one another, better known as “tin can accounting” (Zelizer, 1994). In a well-known theater-ticket study, Tversky and Kahneman (1981) found evidence for the concept we now know as mental accounting. They showed that people are more likely to buy a \$10 theater ticket if they had just lost a \$10 bill, than if they had just lost a \$10 ticket. They were the first to suggest that certain mental frames could affect consumer spending behavior. A couple of years later, Thaler (1985) further developed the concept of mental accounting into a theory of consumer choice. The idea of mental budgeting, already referred to by Thaler (1985) as “the budgeting process,” was further

developed by Heath and Soll (1996) who provided empirical evidence for the concept of mental budgeting.

Mental budgeting can be described as a process in which people categorize and label their money for particular spending or saving categories, accompanied with the use of “budgets” to limit spending out of these categories (Heath & Soll, 1996; Soman & Cheema, 2011). They categorize and label their money for a specific destination (e.g., “entertainment” or “groceries”) and track their expenses against certain pre-set personalized spending limits or budgets (Galperti, 2019; Heath, 1995). Put differently, it is a process that is used to segregate and track the allocation of funds against different categories with pre-set spending or budget restrictions (Heath, 1995; Zhang & Sussman, 2018b).

A noteworthy part of mental budgeting is the concept of earmarking. The term “earmarking” is used to describe the labeling of money for a particular purpose or task (Soman & Cheema, 2011). In this context, it is not very different from the budgeting previously described by Heath and Soll (1996). However, according to Soman and Cheema (2011), earmarking tends to take on a more specific form compared to mental budgeting. A portion of money is kept separate from the rest by earmarking it for a specific purpose. This is done either by physically separating it (e.g., by using a small savings jar or a separate bank account), or by using a form of mental categorization (e.g., by having different budgets in mind for different types of expenses) (Soman & Cheema, 2011). Having earmarked an account for specific uses increases commitment to that account (Sussman & O’Brien, 2016). In this sense, earmarking acts as a budgeting mechanism and can increase savings (Soman & Cheema, 2011; Sussman & O’Brien, 2016).

In multiple ways, the process of mental budgeting has been shown to influence consumer spending behavior. For example, Heath and Soll (1996) showed that when a particular budget was considered depleted, people would spend less within that spending category—thereby adhering to a self-imposed spending limit. Individuals seem to attach value to these made-up expenditure accounts, respecting and adhering to the implicit or explicit restrictions imposed by each of these accounts (Thaler, 1999). In a sense, individuals act as if they are spending-constrained, even though they are not (Goenka, 2003). However, the economic assumption of fungibility implies that money should be freely transferable between these budgets (Arkes et al., 1994). Similar to mental accounting, mental budgeting results in behavior that deviates from this rational economic model (Abeler & Marklein, 2017). Put differently, mental budgeting can cause non-rational behavior in which individuals treat money as non-fungible, or non-exchangeable between spending categories. However, in reality this may not be that straightforward.

Depending on someone's personal preference, some individuals will strictly adhere to their made-up spending categories, whereas others are more flexible in terms of money-flow between these budgets. And even though these reserved budgets—set for spending or saving purposes—are to function as non-transferable portions, Wertenbroch (2003) discerningly notes that violating this intention does not automatically result in the imposition of a penalty. Hence, these budgets are not necessarily binding, even though they are often intended to function in this way (Wertenbroch, 2003).

2.3 Functions of mental budgeting

Referring back to Chapter 1, mental budgeting processes have been primarily investigated in laboratory settings by conducting experiments. Additionally, literature on mental budgeting mostly deals with its core functions, presenting reasons for why people tend to engage in the process of categorizing their funds for a specific destination. It is largely concerned with how the use of mental accounts, in this case by formulating specific categories for spending, aids people in their financial actions. By looking into these functions and the motivations for people to engage in mental budgeting, we can get a better understanding of the category formation process itself and how it might take place in practice.

When consumers engage in the process of mental budgeting, they often do so to better track their financial activities and expenses. It provides them with a helpful tool to limit their expenses and stay on track (Heath & Soll, 1996; Thaler, 1999). Additionally, it assists people in managing their financial constraints and helps them avoid dysfunctional behavior (Ferbach, Kan, & Lynch, 2015). The use of mental budgets can also improve a household's overview of their expenses and their overall financial management (Antonides et al., 2011). Prelec and Loewenstein (1998) argue that with mental budgeting people mentally pre-pay for certain expenses, thereby reducing experienced mental costs at the time of purchase. These budgets, set in advance of consumption, can also assist consumers to resist the temptation of overspending, thus functioning as a self-control device (Heath & Soll, 1996; Zhang & Sussman, 2018b).

However, the usefulness of mental budgeting has its limits. On the one hand, and for budgeting to be successful, one must not only create a certain budget, but also accurately track that budget when spending money (Ferbach et al., 2015; Heath & Soll, 1996). On the other hand, a certain level of flexibility is required between budgets, as spending preferences could change over time. Similar criticism as mentioned in the previous section is expressed by Cheema and Soman (2006), stating that in practice these budgets can be rather malleable—which is likely due to the personal nature of the mental budgeting process. And while mental budgeting can be

beneficial for individuals when used correctly, one may experience exerting self-control as psychologically costly (Cheema & Soman, 2006; Kőszegi & Matějka, 2020). This could especially be the case if too many, too narrowly formulated spending categories are used. After all, this could make the tracking of expenses against these budgets very complicated and demanding, ultimately undermining the reasons to engage in mental budgeting in the first place.

Additionally, Heath and Soll (1996) show that mental budgeting can result in underconsumption when too little funds are allocated to a particular spending category. The idea of underconsumption is related to the pain-of-paying literature, which is essentially about individual differences in the tendency to experience “pain of paying” when thinking about spending (Rick, 2018; Rick, Cryder, & Loewenstein, 2007; Zellermayer, 1996). While this experience is known to us all, some people (“tightwads”) will experience more of this pain than others (“spendthrifts”). Similar to what happens in underconsumption, tightwads consequently spend less than they would ideally like to (Rick, 2018). Mental budgeting not only functions as a mechanism that helps consumers create certain spending rules or financial goals, it simultaneously increases the pain of paying (Kan, Lynch, & Fernbach, 2015; Prelec & Loewenstein, 1998; Rick et al., 2007). And while Rick et al. (2007) show that the tendency to experience pain of payment is primarily the result of individual differences, they also acknowledge the fact that most payments nowadays are becoming less and less painful. This considerably impacted their results and explains why their sample showed widespread undersaving behavior, despite these individual differences. Recent technological advances in payment methods like “contactless” payments by card or mobile phone may not instantly change consumer spending behavior, but they can reduce the pain people associate with spending, ultimately resulting in more spending over time (Rick, 2018). This development partly explains why many researchers nowadays argue that mental budgeting can (and should) be used to limit spending behavior and increase savings.

The above overview shows that mental budgeting can have a big impact on a consumer’s day-to-day life. And even though there is little evidence on how people actually form mental budgets, the concept of mental budgeting can be further explained by looking at the functions of mental accounting in general. One of the core functions of mental accounting is that it simplifies our day-to-day life. It can be difficult to make the right decisions when contemplating how to allocate one’s money among numerous competing uses or products. In this manner, mental accounting serves as a simplifying heuristic that is used to systematically make sense of the complex economic environment around us (Antonides & Ranyard, 2017; Kőszegi & Matějka, 2020; Thaler, 1999). Relating this heuristic to the use of mental budgets, people tend to find it

easier to manage their expenses by making use of multiple smaller budgets instead of using one big budget. These motivations or reasons to utilize mental budgets could possibly explain by themselves how these budgets or spending categories are formed. If mental budgeting is used to simplify our day-to-day financial decisions, it would suggest that the spending categories themselves will also be formed in a way that simplifies the future tracking of expenses. Before going into depth on how categorization might take place in practice, a two-sided visualization of mental budgeting will be discussed.

2.4 Mental budgeting visualized

The mental budgeting process can be visualized by graphically distinguishing two different but related processes (Figure 1). According to Heath and Soll (1996), both processes are needed for mental budgeting to be successful. First, the setting or creation of a budget must take place, which will be referred to as “the category formation process.” Depending on the total funds available, a certain amount of money will be allocated to differently labeled spending categories (A,...,D). Next, people engage in tracking their ongoing expenses (x) against these budgets by allocating them to a corresponding category. This “expense allocation process” can either happen before or after making an actual expense and will likely be influenced by the amount of money still in the budget at that time. The usefulness of the mental budgeting process will ultimately be influenced by both processes.

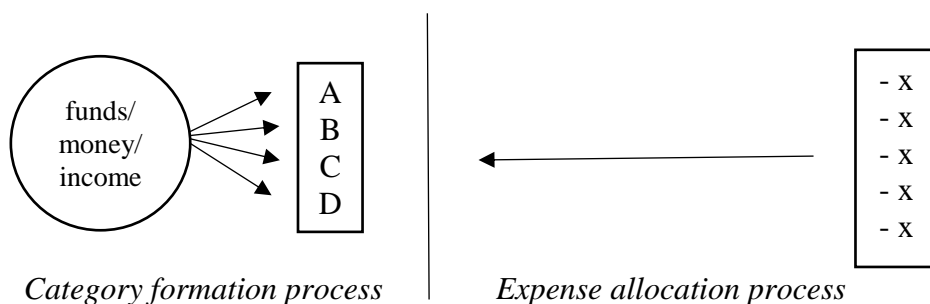


Figure 1: Two-fold mental budgeting process

Realistically speaking and similar to the assumption of Heath and Soll (1996), the category formation process takes place in advance of consumption. After all, mental budgeting is mainly used to regulate one’s (future) spending behavior. But how are these categories formed? Literature suggests that these pre-set expense accounts are formed by grouping together similar classes of (expected) expenses. For example, Henderson and Peterson (1992) argue that similarity and categorization principles are consistent with the underlying principles of mental accounting. Similarly, Heath and Soll (1996) argue that the allocation of money is based on the perceived relevance of a certain class of goods. Soman (2001) argues differently and suggests it

to be based on a backward-looking evaluation of similar expenses made in the past. Following these considerations, we assume the category formation process to be based on an evaluation of past expenses combined with an estimation of future expenses (Heath & Soll, 1996; Soman, 2001).

Even though consumers will most likely form their mental budgets prior to consumption, these budgets are prone to change over time. Things like fluctuations in someone's income, changing personal interests or different consumption opportunities can arise, all potentially impacting these categories in terms of available money and their formulation. So, even though some individuals might treat their money as being non-fungible when using mental budgeting, the process in itself will always be rather malleable.

Adding to what was stated in Section 2.4, the usefulness of mental budgeting will not only depend on one's accuracy in predicting future expenses, but also on the expense allocation process. For a spending category to function as a budget, expenses have to be allocated to a corresponding spending category, followed by periodically recomputing the money still available in that budget. This process requires an expense to be noticed (e.g., small expenses can be overlooked) and then to be correctly allocated to a spending category. After all, if expenses are not accurately tracked, they cannot deplete a budget and might even lead to errors such as under- or overconsumption (Heath & Soll, 1996). However, the previously mentioned individual differences and the effort someone is willing to put into tracking their ongoing expenses will impact the effectiveness of these mental budgets. Despite the fact that individual differences can make it difficult to figure out how expenses are allocated in practice, some general predictions are made in the next section.

2.5 Product typicality

The concept of product typicality was first linked to mental budgeting by Heath and Soll (1996) and could be an explanation of the mechanism underlying the mental budgeting process. Multiple theories on categorization behavior already existed back then, relating categorization behavior to the formation of certain product categories (see, e.g., Rosch, 1978). Literature on human categorization behavior often refers to Categorization Theory, which is mainly concerned with how consumers process information about products (Loken, Barsalou, & Joiner, 2008). Despite the fact that people can categorize items based on many different dimensions, it seems to be inherent to human categorization behavior to group expenses based on similar attributes or category features (Rosch & Mervis, 1975). In a similar fashion, the mental budgeting literature discusses a concept called "product typicality." Generally speaking, product typicality can be

defined as the extent to which certain goods are perceived to accurately represent a category (Loken & Ward, 1990). Research shows that typical examples of a category are quicker and more easily judged than less typical examples (see e.g., McCloskey & Glucksburg, 1978; Rosch, 1975). Additionally, typical objects are generally preferred over atypical ones, since consumers have a tendency to appreciate what matches their current knowledge (Veryzer & Hutchinson, 1998). This implies that categorization probability of an item is closely related to the concept of typicality. Hampton (1998) argues that categorization takes place when a category prototype and the item being assessed show enough similarity, passing through some (personal) threshold value. What this comes down to, is that some expenses will be perceived as being more typical examples of a category, consequently increasing the probability of allocation to that category (Hampton, 1998; Hampton, Dubois, & Yeh, 2006; Heath & Soll, 1996). As an example, someone could perceive a night out to the theater as a more typical expense of the “entertainment” category than something like a bottle of red wine. Heath and Soll (1996) specifically related this concept to the expense allocation process by showing that typical expenses sequencing each other are especially subject to budgeting constraints. However, the concept of product typicality may also be related to the way in which these spending categories are formulated (i.e. labeled) in the first place.

As mentioned in the previous section, mental budgeting generally starts with the setting or creation of a budget. Some of these budgets will be narrowly formulated (specific), whereas others will be broader (general). Either way, every budget will receive a category label which, in itself, can guide or constrain the mental retrieval process of category members (Kahneman & Miller, 1986). In a similar fashion, Abeler and Marklein (2017) showed that when a label was attached to a budget, subjects changed consumption according to the label. This implies that the way in which these spending categories (A,...,D) are formulated will impact how ongoing expenses are to be allocated to these categories. Assuming mental budgeting is led by a typicality judgement, a more broadly formulated category is therefore expected to contain a wide(r) variety of expenses. Moreover, because mental budgeting is primarily used as a simplifying heuristic, the use of very narrowly formulated spending categories seems unlikely.

2.6 Ease of tracking ongoing expenses

As mentioned before, people tend to find it easier to manage their expenses by making use of several smaller budgets instead of using one big budget. By engaging in mental budgeting, individuals can lower the effort that is needed for tracking their ongoing expenses. Similar to Kőszegi and Matějka (2020), we argue that attention is costly, and that people therefore form

their spending categories and allocate their expenses to these categories based on choice simplification—essentially making decisions that are least attention costly. The previous section shows that if an expense is perceived as typical of a certain spending category, the allocation or categorization of that expense will be experienced as less difficult. In other words, typicality could increase the probability of allocation to a category because typical expenses are often easier to classify (see e.g., Blijlevens et al, 2012). This may also imply that atypical or ambiguous expenses are less easy to classify, which means that when allocation decisions have to be made, the allocation of ambiguous expenses will generally require additional effort compared to typical expenses (Fujihara, Nageishi, Koyama, & Nakajima, 1998). Similarly, Cheema and Soman (2006) discovered individuals to be more likely to exploit malleability between budgets when confronted with an expense whose classification was perceived as ambiguous. Since one may experience this effort as being too psychologically costly, we expect ambiguous expenses to be less likely to be considered for buying.

This, of course, will depend on whether or not enough money remains in a budget for an expense to be considered in the first place, as well as how strictly someone applies their pre-set budget constraint. Also, some hedonic posting between budgets might take place in practice, justifying short-term interests by posting expenses in a way that bypasses a budget constraint (see e.g., Heath & Soll, 1996). Nevertheless, within the boundaries of the mental budgeting process, we expect the ease of tracking ongoing expenses to be related to buying probability.

Marketers often attempt to influence the expense allocation process by exposing consumers to certain product cues. Via a cue, they provide the consumer with a suggestion on how to (alternatively) allocate an expense. Two examples could be: “Cup-a-Soup, more than your average soup,” or “Don’t think of this game console as simple electronics, think of it as long-lasting entertainment.” Both examples try to convince the consumer to think of an expense differently, consequently impacting allocation. In a similar fashion, product cues can be used to influence the perceptual appearance of an item (see e.g., Hampton, 1998). However, it remains unclear whether or not a cue could simplify the allocation of ambiguous expenses to certain spending categories. When primed with a product cue, less effort is needed to allocate the ambiguous expense, potentially generating a higher buying probability. By increasing perceived typicality, marketers could improve their chances of being included in the consumer’s consideration set—adding to the literature on product categorization. And even though the mental budgeting process will largely remain personally dependent, this research tries to make some general predictions on the impact of certain cues on the perceived typicality of an expense.

2.7 Graphical model

Because no comparable work exists on how the concepts discussed above relate to one another, we present a rather basic graphical model. And despite the conceptual (i.e. abstract) nature of this thesis, this initial setup can be used for future research purposes. Based on the theoretical considerations made in Chapter 2, the second research question can be visualized as follows:

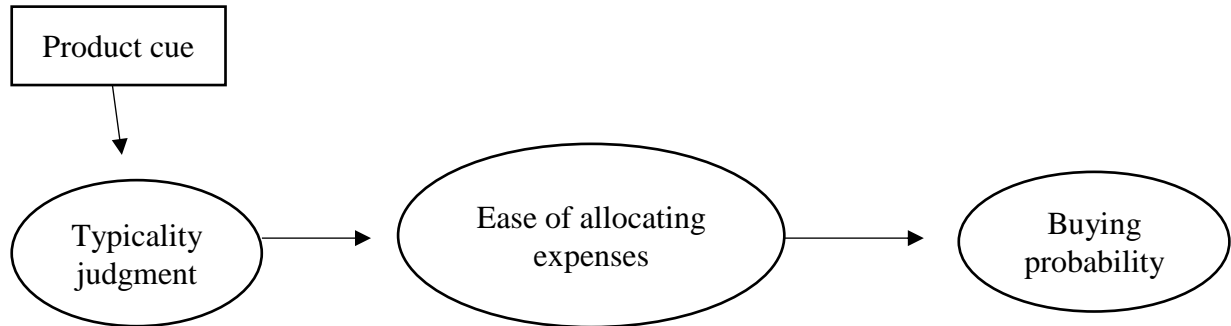


Figure 2: Graphical model

Propositions

Based on the considerations made in Section 2, typical expenses are expected to be more easily classified than a-typical expenses. The product cues are expected to cause a difference between groups in perceived typicality of a-typical expenses, the amount of effort needed to allocate these expenses, and their level of buying probability.

3. Methods

This chapter describes the methods used for conducting the research. First, the expense allocation task and its research procedure are discussed. A similar structure is then followed for the between-subjects experimental design. Finally, the sample and research ethics are discussed.

3.1 Allocation task

For part 1 of this research, an allocation task was developed to investigate the way in which consumers allocate their expenses in practice and to see what role typicality might play in the mental budgeting process—which is somewhat similar to the Multiple Sorting Procedure (MSP) (Kneebone, Fielding, & Smith, 2018). A total of 20 different expenses were carefully selected by the researcher, making sure they varied in terms of similarity, value, and type of expense (Appendix 1.6). Participants were then given the task to allocate each expense to a mental budget they used themselves. This way, an overview was obtained of the spending categories these participants used in practice. More importantly, the allocation task was used to replicate day-to-day decision making of consumers who engaged in a form of mental budgeting. By asking several questions during this allocation process, the logic or judgments these consumers made when allocating expenses could be discovered. Note that the focus was not necessarily on the expenses themselves—which *is* the case in the MSP—but more so on the process of mental budgeting and how this might take place in practice. The task was performed by participants in a semi-structured interview format (*35 minutes on average*) and through the snowballing sampling method, a total of 17 in-depth interviews were conducted via telephone (see Section 3.4).

Research procedure

After pre-screening via WhatsApp messaging (see Appendix 1.3), individual telephone appointments were made. To make sure the interview itself proceeded smoothly, an e-mail format was used to provide participants with further information on the study itself and on what was expected from them (Appendix 1.8). This gave participants the opportunity to look through the items and familiarize themselves with the different expenses. After permission was granted by participants, the audio recording was started. Participants were asked to think about how they would manage these expenses, thus replicating how they conducted mental budgeting in real life. Clear instructions were provided to participants to allocate the first seven expenses, one by one, to—in their eyes—corresponding categories or budgets they used themselves. After completing allocation of the first seven expenses, two follow-up questions were asked. This process was

repeated again at the 14th expense and the 20th expense, making sure participants still remembered their choices and the judgments on which these decisions were based.

The two questions were as follows:

1. *Looking at this selection of expenses, please describe and explain, in your own words, the reason(s) or logic behind your specific way of allocating these expenses. Put differently, how do you generally categorize different types of expenses?* Note: when deemed necessary by the researcher, further elaboration was prompted in between expenses to clarify the underlying rationale of their particular categorization approach.
2. *Was there one particular item that you found (more) difficult to allocate to a corresponding spending category (than others), and if so, why?* Note: when deemed necessary by the researcher, further elaboration was prompted in between expenses to clarify why participants struggled with some of the expenses during the task of allocation.

Question 1 was focused on eliciting participants' underlying rationale or logic behind their way of categorizing expenses. Question 2 was more specifically focused on discovering what role product typicality might play in a participant's budgeting approach when experiencing some difficulty during expense allocation.

Conversations were audio-recorded and summarized directly after each interview (Appendix 1.11). The most important elements were captured, including the spending categories used by all 17 participants. The spending categories were then visually mapped into a mind map-diagram to get a general idea of the most commonly used spending categories and how they were related to one another (see Figure 3). To create this mind map, the program SimpleMind Lite was used, which gave the researcher the ability to freely order and visualize these results. In order to create a more detailed analysis of the collected raw interview data, the interviews were manually transcribed (Appendix 1.12). For this process, the intelligent verbatim transcription approach was utilized, omitting irrelevant parts and pauses like "uhm." These transcriptions were then further explored by going through three steps of coding. The objective was to rearrange the data in a systematic way: grouping, regrouping, and relinking the data in order to generate meaning and explanation (Lincoln, 1985). In the first stage of coding, the transcriptions were openly coded without making use of pre-specified codes. In the second stage of coding, the focus was on identifying relationships between open codes and reorganizing the data. This was a cyclical process, moving between different coding stages (Williams & Moser, 2019). During both steps of coding, the qualitative analysis software program ATLAS.ti was utilized to see

whether any particular pattern arose. The third and final stage of coding focused specifically on identifying co-occurrences between codes, for which the *co-occurrence* functionality of ATLAS.ti was used. This enabled the researcher to identify and highlight potential relationships between frequently occurring and co-occurring codes (see Chapter 4.2.3).

Since little was known about how consumers allocate their expenses in practice, but some clear expectations were formulated in the theory section, the analysis was characterized by a deductive as well as an inductive approach. By giving participants the allocation task, which was primarily focused on the *expense allocation process*, insight was gained into how consumers allocated their expenses in practice and why participants chose to allocate the expenses in the way they did. Following the theoretical concepts of Chapter 2, this categorization was assumed to take place based on overall expense-category similarities. This behavior was expected to be mainly driven by the reasons to engage in mental budgeting in the first place: to simplify the complex economic environment.

3.2 Between-subjects design

For part 2 of this research, a between-subjects experiment was developed. A between-subjects design is often used to test whether any differences exist between groups. In this method, participants were assigned randomly to one of the two experimental conditions (*product cue or no product cue*) after which the behavior of both groups was compared (Oeldorf-Hirsch, 2017). If a difference was found, it could be concluded that this effect was caused by the only variable that was different between the groups (Charness, Gneezy, & Kuhn, 2012). For all three variables being measured in this research—*typicality*, *effort*, and *buying probability*—a 7-point Likert-type rating scale was used to increase accuracy of the measures, while keeping it comprehensible for all participants (see Appendix 1.5). All 17 interviewed participants that participated in part 1 of this research also conducted the survey of part 2. In order to maintain similar group sizes and reach the total of 20 participants required for the between-subjects experiment, three additional participants were approached.

Research procedure

After concluding the allocation task of part one, individual participants were asked to click on the link provided to them at the bottom of the e-mail (Appendix 1.8). Participants were then redirected to a short Qualtrics survey where they needed to answer several questions regarding four different expenses. Qualtrics is a well-known software program that is often utilized to collect quantitative data. Before answering these questions, the procedure itself was explained

to individual participants (Appendix 1.5). Based on careful selection and after reviewing existing literature, a pre-selection was made of four different expenses: two of which were expected to be generally perceived as being *typical* examples of commonly used spending categories, whereas the other two were more *a-typical* examples. To make sure these expenses were perceived this way, their typicality was assessed during a pilot conducted in the researcher's own social circle (see Appendix 1.7). Similar to the allocation task in part 1, participants were given the task to allocate each expense to a particular spending category they used themselves, and to type this into the Qualtrics format. For each expense, and before being redirected to the next one, participants were asked three single-item Likert-type rating questions.

For measuring typicality (a), better known as category representativeness, or goodness-of-example, the scale from Hampton et al. (2006) was adapted. For measuring difficulty in allocating each expense to a corresponding spending category (b), the scale from Vagias (2006) was adapted. Participants were asked to report:

- a. on a scale from 1 (*very a-typical*) to 7 (*very typical*), how typical they found the expense for the chosen spending category.
- b. on a scale from 1 (*very easy*) to 7 (*very difficult*), whether they found the allocation to be easy or difficult.
- c. on a scale from 1 (*extremely unlikely*) to 7 (*extremely likely*), the probability of them making such an expense.

Note: not a single participant indicated to have “*no idea*” (8), which means no zeros or missing values were present. The four different expenses were shown to all participants in a fixed order—*a-typical, typical, typical, a-typical* (Appendix 1.7). For the *a-typical* expenses, an experimental condition was added, either including or excluding the provision of product cues aimed at helping the participant to allocate the expense. The product cues were formed by the researcher based on careful selection and consideration of the expenses themselves, and with the intention to facilitate the allocation process by nudging or aiding participants when making an allocation judgment. The total group of 20 participants was split into two groups. 10 participants were exposed to the *a-typical* expenses *with* a product cue, the other 10 were exposed to the same *a-typical* expenses *without* a product cue. To ensure random assignment of the fixed number of participants among conditions (either with or without a cue), a random-number table was used to assign participants to different groups (Appendix 1.9). Group 1—with a cue—was considered odd, Group 2—without a cue—was considered even. So, if an odd number came up, the participant would be placed in Group 1. After one of the groups reached the limit of 10, the

remainder of participants were placed in the other group. And although this might seem partially non-random, it was the result of a random process (McBurney & White, 2009).

The variables *typicality*, *effort*, and *buying probability* were repeatedly measured across the four different expenses and further analysis was performed using the program SPSS. First, the variable *effort* was reverse coded and mirrored for all four expenses to simplify interpretation of the data. Next, for expenses 1 and 4, a treatment condition variable (CUE) was created. Ones were given to row numbers 1–10, representing the group of participants who received a cue (CUE), zeros were given to row numbers 11–20, representing the group of participants who did not receive a cue (NCUE) (Appendix 1.15).

Since multiple expenses were judged by the same people, a repeated-measures ANOVA was conducted. Additionally, because the measures of *typicality*, *effort*, and *buying probability* are all single-item Likert-type rating scales (treated as interval), no further scale measurement analysis technique was performed. After assumptions were checked, a repeated-measures ANOVA was performed using SPSS, including all four expenses as factors. This was done three times—for each of the measures *typicality*, *effort*, and *buying probability*—to see whether any differences between expenses would emerge. For expenses 2 and 3 no difference in treatment was applied between groups, meaning all 20 participants judged those expenses without a cue. Therefore, a separate mixed-design ANOVA was performed for expenses 1 and 4, with the variable *CUE* as the between-subjects factor. Finally, potential correlations between the measures of *typicality*, *effort*, and *buying probability* were explored per repeated measure.

The objective of part 2 of this research was to explore whether there might be a difference in the expense allocation process of a-typical expenses vs. typical expenses. More specifically, what the impact of product typicality would be on the ease of allocating expenses. Based on the considerations made in Chapter 2, typical expenses were expected to be more easily classified than a-typical expenses. The product cues were expected to simplify the expense allocation process for a-typical expenses, by making them *more* typical. In terms of managerial relevance, the ease of tracking ongoing expenses was expected to impact buying probability.

3.3 Sample

In this study, the researcher sought to understand the given research problem from the perspective of the average Dutch consumer that utilized a form of mental budgeting in day-to-day spending. Therefore, their behavior took on a central role in this study. Even though sample size requirements in qualitative research often depend on multiple factors such as the point of saturation, recourses, and time available, a fixed number of participants was selected (Vasileiou,

Barnett, Thorpe, & Young, 2018). Based on the objective of this research—to explore the logic behind the mental budgeting process and discover whether causal relationships exist between constructs—the sample size was fixed at 20 participants prior to data collection. During part 1 of the research, a point of saturation seemed to appear. At the 14/15 interview mark almost no new codes were emerging, and already existing codes were mostly being applied. Therefore, a point of theoretical saturation was getting closer. Consequently, the sample size for part one of this research was scaled down from 20 to 17 participants.

To recruit the participants, the snowballing sampling method was used, which is considered to be a type of purposive sampling (Subudhi & Mishra, 2019). Since part 1 of the research demanded a fair amount of time and concentration from participants with pilots pointing towards 40 minutes on average, participants were initially approached through the researcher's own social circle. The social network of these participants was then utilized to reach other potential participants. To ensure relevancy for this research, the recruitment strategy focused specifically on potential participants who utilized mental budgets in their day-to-day spending (Appendix 1.3). Additionally, participants were only selected if they had control over their own finances and expense behavior. In order to minimize limitations of this sampling approach, participant profiles were documented to capture both genders, a range of different ages, and different educational backgrounds.

3.4 Research ethics

Because participants were at the very center of this study, their well-being was top priority. Therefore, all actions that could potentially disrupt the lives of participants were avoided. This also meant that, due to the recent developments concerning Covid-19, several elements of this research had to be altered (see Appendix 1.2).

The decision was made to develop a non-physical approach in which participants were contacted via telephone. First, participants were informed via WhatsApp (Appendix 1.3) of both the duration of the interview and that an e-mail would be sent to them. This e-mail aided participants in answering the questions asked during the telephone conversation and provided them with some sense of oversight (Appendix 1.8). The e-mail was structured in a specific way: first, the concept of mental budgeting was thoroughly explained to participants, providing them with some additional context of this research. Next, the purpose of the research and its procedures were briefly highlighted. A separate section was shown to participants in which multiple research ethics were considered.

First, participants were asked for their permission to process their input in this research, assuring them that their input and personal information would be handled responsibly and anonymously. Additionally, permission to record the interview (part 1) by means of a voice-recorder was obtained, ensuring participants of full confidentiality and deletion after processing their recordings. Participants were explicitly given the choice to either accept or decline the audio-recording and processing of their input. Similarly, participants were made aware of their voluntary participation and their right to withdraw from the research at any time. Instead of recording their oral consent, participants were asked to provide their written consent by replying to the e-mail that was sent to them beforehand (Appendix 1.8). This way, a more conscious consideration was made by the participants. All 17 participants that conducted part 1 of the research, e-mailed back their permission. The three final participants that were required for part 2 of the research were sent the same information and permission e-mail, excluding the section intended for part 1. All collected data was thoroughly handled by the researcher and saved on a secure offline SSD-card, making sure any confidential information was protected and anonymized. After analysis, audio recordings were deleted.

Throughout the study, participants were made aware that they could ask questions at any possible moment. After the allocation task and before moving on to the second part of the research, participants were asked whether they needed a break. After finishing part 2 of the research, participants were given the opportunity to express any additional thoughts. Finally, the researcher expressed appreciation for their participation and participants were given the opportunity to indicate whether they would be interested in receiving the results of the research after completion.

4. Results

This chapter describes the results of the allocation task and the between-subjects experiment. For part 1, the spending categories used by all 17 participants were collected (Appendix 1.11) and visually mapped into a MindMap to highlight related categories (Figure 3). Next, the results of the thematic analysis are discussed, going through several steps of coding. Finally, the results of the between-subjects experiment are discussed.

4.1 Spending categories: part 1

Out of the 17 participants that were interviewed, 8 were male (47%), and 9 were female (53%). In terms of age distribution, the average lies around 40 years, with two general age categories standing out: a younger generation, which represents all participants in the age range of 20 to 35, and an older generation, which represents all participants that are aged 50 or above. Out of 17 participants, 10 (58%) were between 23 and 33 years old, whereas the remaining 7 (42%) were 50 years or older. Different educational backgrounds were captured as well. Out of 17 participants, 6 indicated their highest level of education to be WO (35%), which is a form of higher education from a university. Out of 17 participants, 9 indicated their highest level of education to be HBO (53%), which is a form of higher education from a university of applied sciences. The final two participants indicated their level of education to be MBO and VWO respectively (12%), which represents Intermediate vocational education and pre-university education.

	M/F	Age	Education
1	M	25	WO
2	M	23	WO
3	M	58	HBO/zzp
4	F	62	HBO
5	F	26	WO
6	F	30	MBO/zzp
7	M	29	HBO
8	M	28	HBO
9	F	25	HBO
10	F	54	VWO
11	F	52	HBO
12	F	52	HBO/zzp
13	F	56	HBO+
14	M	66	WO
15	F	31	HBO
16	M	32	WO
17	M	33	WO

Table 1: Demographic information of participants in part 1

After each interview, short summaries (Dutch) were made to capture both the spending categories used by individual participants and their explanations regarding their preferences or logic when budgeting (see Appendix 1.11). Based on these summaries, it became apparent that all participants used their own type of budgeting system, with different rules, and different preferences in terms of using budgets in their day-to-day lives. Especially the extent to which they engaged in mental budgeting seemed to vary largely. This often depended on the situation or the circumstances someone was in and the associated necessity of using a budgeting system. Some engaged in mental budgeting on a more detailed level, using a variety of budgets accompanied with their own rules and reasoning. Others had a more simplistic approach and utilized a relatively small selection of spending categories and personal budgeting rules. Surprisingly, all participants allowed for some form of flexibility between budgets, meaning money could be moved around between budgets when needed. This finding is quite similar to what was discussed in Chapter 2 on hedonic posting. Furthermore, some participants intentionally reduced the pain of payment by allocating expenses to budgets that were substantially larger. Participants who made use of a wide variety of spending categories, also tended to be extremely thorough in tracking their expenses by categorizing every single expense after it had been made. Often based on habit, little effort was needed to continue this approach, giving them a sense of control and overview.

While budgeting was expected to be utilized to simplify something complex, most participants actually used a relatively small selection of spending categories for this exact reason: they wanted to keep it simple. Thus, a non-detailed budgeting system seemed to be the preferred approach, as too many rules or different budgets only seemed to make things more complex. Some participants even switched from budgeting on a detailed level to a more simplistic approach when using many different budgets was not needed anymore. Situational changes, enough spending room (salary), age, and relationship status seemed to contribute to these changes. Participants that tracked their expenses elaborately often used supporting budgeting programs like Excel, Nibut, Davilex, or the Rabobank App. The participants that used a less elaborate budgeting system—with only a handful of budgets—limited themselves differently by utilizing additional personalized spending rules. This often involved making judgments or considerations before buying a product, such as whether they really needed it or not (its necessity) and how often they would use it (its usefulness). Another element that stood out is the fact that participants did not necessarily categorize expenses based on expense-category similarities. Instead, the allocation of an expense was frequently led by its intended use or even the time of use. When an expense did not fit any particular budget, it was often placed in a

“other” or “unforeseen” category. Not surprisingly, expenses were often separated based on whether they were fixed, predictable, and necessary vs. flexible, unpredictable, and not necessarily needed. Furthermore, savings accounts were often utilized for expenses that were perceived as an investment, as something unexpected, or when they were necessary with no choice. Current accounts on the other hand were generally utilized for the recurring expenses, smaller amounts, or daily spending. Finally, participants seemed to experience difficulty in allocating expenses to spending categories when expenses were not bought regularly or when expenses were not bought before. This suggests that the spending categories used by these participants are formed based on expenditures made in the past, more specifically, recurring expenses.

Based on the summarized versions of the transcripts (Appendix 1.11), the budgets used by these 17 participants were visually mapped into a mind map diagram to get a general idea of the most commonly used spending categories and how they related to one another (Figure 3). During the allocation task, several expenses were shown to participants. Based on these expenses, multiple budgets were put forth by participants: the tags used in this diagram represent these budgets. For this visualization, the program SimpleMind Lite was utilized. This gave the researcher the ability to freely order and visualize these results.

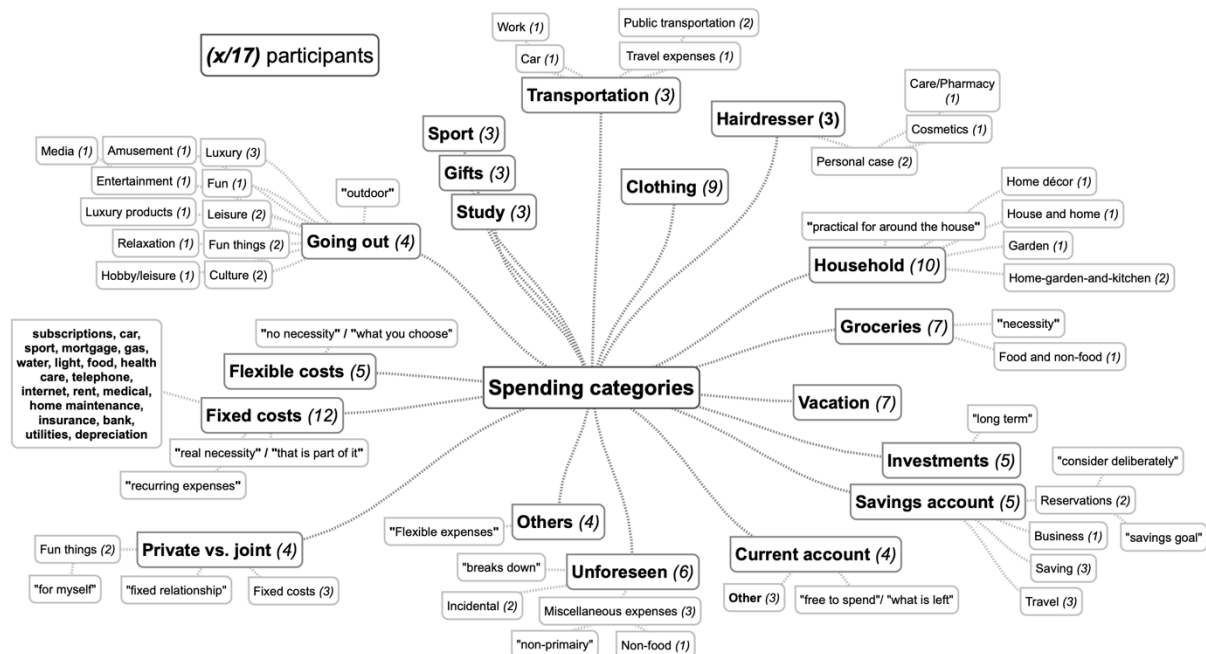


Figure 3: Budgets by type and frequency (number of classifications between parentheses; phrases between quotation marks are quotes added for clarification)

Based on the explanations of participants and the researcher's own interpretation, related categories were placed together. Several interesting counterparts surfaced after reviewing the

summarized versions of the interviews. For example, private vs. joint expenses were mainly used as a budgeting system by participants of the younger generation. Not surprisingly, the older generation—generally being more experienced in dealing with funds—often indicated not needing a detailed budgeting system anymore. Two budgets that also seemed to be counterparts of one another were fixed vs. flexible costs, with necessity often functioning as the distinguishing factor. Additionally, the current- and savings account were regularly mentioned together, with the latter often being utilized for larger expenses, such as investments. Expenses being used in and around the house also seemed to be placed together, with “*household*” being mentioned most frequently. Furthermore, the budget “*going out*” was often mentioned as being part of someone’s budgeting system, but under multiple different names.

4.2 Thematic analysis

As mentioned in the methods section, the transcripts of the interviews (Appendix 1.12) were focused on the sections in which participants explained their reasoning or logic behind their budgeting approach. By analyzing these transcripts through three steps of coding, we attempted to link the raw data to the first research question on how consumers allocate their expenses and what role typicality might play in the budgeting process.

4.2.1 Open coding

In the first step of the coding process, initial concepts (or codes) were generated and attached to the observed data, describing or capturing a phenomenon under consideration. In total, 137 different codes were generated (Appendix 1.13). As highlighted in the previous section, participants often utilized a budgeting system that was highly associated with their personal preferences. Therefore, a detailed codification approach was chosen to capture the complex reasoning behind their budgeting approach; any line of data that seemed relevant to their underlying logic was coded (see Appendix 1.14). Sentences were read line by line and were often given multiple codes, ensuring co-occurrences between codes could be captured in a later stage. Some of the codes, like “*explicit consideration*,” were further specified by providing them with a comment, giving further nuance to somewhat similar codes.

While some researchers are firmly against capturing frequencies (counting codes), we argue that it serves as a useful first indicator of the relative importance of a given code—especially in the first stages of the coding process. It also provides the researcher with insights on how to approach the second stage of coding. Some codes will need renaming, while others need to be merged, split, or categorized. The high-frequency codes like “*amount of money*” (49)

4.2.2 Further refinement

[illegible]

Note: we did not translate into English in order to stay close to the literal respondents' expressions.

4.2.3 Related codes

While the second stage of coding provided some initial insight, it did not tell us anything about the potential relationships between frequently occurring codes. Therefore, text segments tagged with the same codes were compared to one another to identify a pattern in co-occurring codes. To see whether a particular pattern arose in the segments containing multiple codes, the *co-occurrence* functionality of ATLAS.ti was used. Codes co-occurring with a category as a whole or with multiple sub-codes of a category and individual codes co-occurring with other codes are highlighted and discussed below. Note: the sequencing is based on Figure 4: codes serving as a category (capitalized) are discussed first. Next, frequently occurring individual codes that deserve additional attention are discussed. Finally, individual codes that did not occur frequently but are worth mentioning are discussed. Due to the many different co-occurrences discovered, the deliberate decision was made not to include a similar figure as Figure 3 of co-occurrences between the codes, as this would have made things more confusing.

Categories

Starting with the most versatile category • CONSIDERATION, which received the following description during coding: *when an explicit consideration is made that impacts allocation. Conscious consideration before making an expense.* An explicit consideration was made in 15 out of 17 interviews that were conducted, and participants often made use of multiple considerations at once. The most frequently occurring explicit considerations were: “*what do I use it for*” (18), “*how long you can use it*” (12), “*do I need it*” (7), and “*what am I willing to pay*” (6) (Figure 4). Looking at the co-occurrences for the sub-code “*how long you can use it*,” a strong co-occurrence was found with “*investment*” (6), “*savings- or current account*” (3), and “*savings account*” (2). How long one can use something seemed to be a consideration that impacts 1) whether or not something is seen as an investment, and 2) from what account the item is going to be paid. Adding to the expectations that were formulated in Chapter 2, the intended use of a product and how long one can use it also impacts expense categorization, instead of expense categorization being solely based on expense-category similarities. A more detailed analysis on the logic behind an investment, and the savings- and current account can be found below. Surprisingly, the sub-code “*what do I use it for*” did not strongly co-occur with any codes, despite the fact that this consideration was mentioned most frequently. Looking at the CONSIDERATION category as a whole, a strong co-occurrence was found with the code “*personal spending rule*” (11): *personal rules used to limit themselves in spending, often instead of using spending categories. Personalized system being followed.* Half of the explicit

considerations used by participants also functioned as a personal spending rule, with *“do I need it”* co-occurring most frequently (4). When looking at *“personal spending rule”* more specifically, *“non-detailed budgeting system”* (5), *“non-strict”* (4), and the sub-code *“FLEX: assessed flexibly”* (4) also seemed to be related. Instead of using a detailed budgeting system and strictly following or applying certain budgets, a more flexible approach was chosen in which several participants utilized personalized spending rules to limit themselves in spending.

Also important is the category • *FREQ: about frequency of expenses*. Looking at the category FREQ as a whole, several co-occurrences were found with the code *“no budget needed”* (7), with *“one-off”* co-occurring most frequently (4). Similar to what was mentioned in Section 4.1, the frequency with which expenses occur seems to impact the need for a budget. Expenses occurring only once did not require a specific budget to track them by. Not surprisingly, this finding was also in line with the co-occurrence found between FREQ and the sub-code *“EFFORT: does not happen often”* (5). Additionally, the FREQ sub-code *“once in a while”* co-occurred with *“others”* (4), and FREQ: *“one-off”* co-occurred with *“various expenses”* (2) and *“unforeseen”* (2). Hence, expenses that only occur once or once in a while often require additional effort because they are not given a separate budget to track them by and are, therefore, allocated to budgets like *“others,” “various expenses,”* or *“unforeseen.”* More detailed analysis of effort in allocating expenses can be found below, under the category EFFORT. FREQ was also strongly related to *“amount of money”* (14), with the sub-code *“one-off”* co-occurring most frequently (5). This could be an indication that expenses occurring once are generally more expensive. Since *“amount of money”* was the most frequently occurring code of all 120 codes documented (Figure 4), this code was separately discussed below. Furthermore, FREQ co-occurred with *“investment”* (8), *“savings- or current account”* (5), and *“save for deliberately”* (5). Hence, besides *“how long you can use it,”* frequency with which an expense occurs also seems to impact 1) whether or not something is seen as an investment, 2) from what account the item is going to be paid, and 3) whether or not money is deliberately saved in advance. Not surprisingly, FREQ was also related to *“fixed costs”* (7), with the FREQ sub-code *“recurrent”* co-occurring most frequently (5). Looking at the quotations linked to these codes, recurring expenses were often perceived as fixed costs, even though they were not necessarily fixed. A subtle difference must be pointed out here, as the code *“recurrent”* was applied when a participant thought of an expense as being recurring at a certain moment. This could be daily or monthly, like most fixed costs, but also at another moment somewhere in the future. For example, vacation in the summer or needing new clothes when your jeans are worn out. These expenses are foreseen in the sense that there is a level of certainty to them recurring at a certain

moment in the future, without them being necessarily fixed. Looking at the results documented above, the category **FREQ** is an important impactor of consumer budgeting behavior. Expense frequency seems to impact the way in which certain expenses are perceived and consequently allocated to existing spending categories. More specifically, the usefulness of budgeting seems to be limited to those expenses that occur relatively frequent.

Next is the category • **CHANGED SYSTEM**: *a change in the budgeting system being used, often from a detailed to more simplified approach*. Multiple interesting reasons for changing budgeting system were mentioned, with the sub-code “*not needed anymore*” occurring multiple times (6). Not surprisingly, “*non-detailed budgeting system*” had some co-occurrence (3) with this sub-code, suggesting that when budgeting in detail was not needed anymore, a more simplistic approach was chosen. Similarly, “*personal situation*” (2) was related to this sub-code, indicating that a change in someone’s personal situation could be an underlying reason for changing budgeting system—which is in line with what was mentioned in Section 4.1. Looking at the quotations linked to the **CHANGED SYSTEM** sub-codes, most participants seemed to prefer a relatively simple approach in which only a few broadly formulated spending categories were used. When budgeting on a more detailed level—by using a wider variety of spending categories—was deemed no longer necessary, several participants indicated changing to a simpler approach. Note that the level of detail of someone’s budgeting system will (also) depend on their personal preference, as can be seen below under the category **WHY**.

Equally important was the category • **EFFORT**: *when someone experiences difficulty in allocating expenses*. The most frequently mentioned sub-code of **EFFORT** was “*does not happen often*” (21). Surprisingly, no particular co-occurrences stood out for this category. Only when looking at **EFFORT** as a whole, some co-occurrences were found with “*various expenses*” (5), “*unforeseen*” (3), and “*others*” (3). This indicates that when some form of effort was experienced when allocating expenses, these budgets were being utilized to allocate infrequent expenses—which is similar to what was mentioned above and in Section 4.1. This seems to indicate a vicious circle: several participants indicated that expenses occurring only once or once in a while did not need a specific budget to track them by. However, when such an expense occurred, difficulty was experienced during allocation. To then bypass this situation, participants utilized a broadly formulated budget which could account for such infrequent expenses. This suggests that budgets are formed based on a combination of 1) expenditures made in the past, more specifically, those that are in some form recurring, and 2) expenses expected to be made in the future, more specifically, expenses that are foreseen and thus in need of a separate budget or reservation of funds.

Looking at the category • WHY: *why do people use budgets. Reasons for utilizing a budgeting system*. As expected, the most frequently mentioned reasons to use budgets in day-to-day spending were: “*keeping an overview*” (11) and “*to know what goes where*” (7) (Figure 4). Surprisingly, however, is the fact that the category WHY co-occurred with “*FLEX: flexibility between budgets*” (6), with “*keeping an overview*” and “*to know what goes where*” both co-occurring twice. Even though budgets were mainly used to keep an overview of expenses and to know what goes where, flexibility between those budgets seemed to be allowed. In line with this finding is the co-occurrence found between WHY and “*non-strict*” (6), again with the sub-codes “*keeping an overview*” (3), and “*to know what goes where*” (2) co-occurring. Taking a closer look at the category WHY, it becomes apparent that this category is related to both extremes of budgeting styles, namely a “*detailed budgeting system*” (4) with a multitude of budgets, or a “*non-detailed budgeting system*” (3) where only a handful of budgets was being used. This indicates that budgets are being used for similar reasons, regardless of the level of detail and strictness of someone’s budgeting system. So, even though most participants seemed to prefer a relatively simple approach—by using only a few relatively broadly formulated spending categories—similar motivations underlie their budget usage.

Taking a closer look at the category • FLEX: *flexibility in dealing with expenses*. The most frequently occurring sub-codes of FLEX were: “*assessed flexibly*” (21): *when something is approached in a flexible way, differing from case to case*, and “*flexibility between budgets*” (24): *when transferring funds or switching between budgets is possible* (Figure 4). The latter sub-code was leading in this aspect, co-occurring with the FLEX sub-codes “*assessed flexibly*” (4), “*ease*” (2), and “*practical*” (2). When someone had a flexible way of dealing with expenses, for example when ease or practicality was their preferred approach, flexibility seemed to be allowed between budgets when dealing with expenses. Not surprisingly, FLEX was also strongly related to “*non-strict*” (16), with “*assessed flexibly*” (7) and “*flexibility between budgets*” (6) co-occurring most frequently. Hence, not being strict in tracking expenses or following budgets and merely utilizing budgets as an indication or aid in dealing with expenses is generally characterized by a flexible approach in which switching between budgets is allowed. However, as mentioned earlier, the sub-code “*assessed flexibly*” was related to “*personalized spending rule*” (4), indicating that such a flexible approach was accompanied with personalized spending rules to limit spending. Additionally, FLEX was strongly related to “*spending room*” (7), with “*assessed flexibly*” and “*flexibility between budgets*” both co-occurring three times. Looking at the quotations linked to these co-occurrences, the amount of spending room that was left seems to impact whether or not a flexible approach and switching between budgets was needed.

Furthermore, “*spending room*” co-occurred with “*savings- or current account*” (4), “*how far into the month*” (4) and “*non-strict*” (3). When spending room was low, for example when approaching the end of the month, the savings account was often utilized to fill this gap. In line with this finding was the co-occurrence found between FLEX and “*savings- or current account*” (4), indicating flexibility between these accounts was allowed when needed. Not surprisingly, FLEX also co-occurred with “*what remains*” (5) and “*others*” (4), and the category sub-code “*assessed flexibly*” showed some co-occurrence with the code “*unforeseen*” (4). After the fixed costs were accounted for, the budget “*others*” was often utilized for the flexible or fluctuating day-to-day expenses. And because these expenses can be rather unpredictable, some form of flexibility was often needed.

Other important individual codes

An important individual code that occurred frequently was “*amount of money.*” This code was related to multiple codes and strongly co-occurred with “*investment*” (9), “*savings-or current account*” (8), “*save for deliberately*” (6), “*others*” (6), “*luxury*” (5), “*unforeseen*” (5), and “*savings account*” (5). Adding to what was mentioned earlier, this indicates that the amount of money surrounding an expense impacts 1) whether something is seen as luxury or as an investment, and 2) from what account the item is going to be paid. Similar to what was mentioned in Section 4.1, a co-occurrence was found between “*investment*” and “*savings-or current account*” (6). Looking at the quotations, items being perceived as investments or as luxury generally presented larger expenses. Additionally, the current account was often used for smaller day-to-day expenses, whereas the savings account was used for larger expenses. Looking at the code “*savings account*” more specifically, co-occurrences were found with “*save for deliberately*” (6), “*off-limits*” (6), and “*back-up*” (4). Not surprisingly, the savings account seemed to be intended for more expensive items for which money had been deliberately saved. However, it also functioned as a back-up when needed, which was confirmed when looking at the category FLEX above. For example, when something suddenly broke down; the code “*suddenly broken*” strongly co-occurred with “*unforeseen*” (4). Thus, this budget seems to be intended for relatively expensive items that suddenly break down. These ‘contingencies’ were often taken into account by participants, as “*unforeseen*” showed some co-occurrence with “*save for deliberately*” (3). Adding to what was mentioned earlier, the budget “*others*” also strongly co-occurred with “*what remains*” (3), which itself was linked to “*free to spend*” (3) and “*non-strict*” (3). Hence, the budget was often used flexibly, with freedom to spend what remained after (mostly) the fixed costs were accounted for.

Another frequently occurring code was “*non-strict*,” which strongly co-occurred with “*detailed budgeting system*” (7), and “*non-detailed budgeting system*” (5). Surprisingly, and similar to what was mentioned earlier, even when using a detailed budgeting system in which expenditures are clearly categorized into multiple differing spending categories, budgets were not followed that strictly. Not being strict in tracking expenses or following budgets was also related to “*no spending limit*” (4), “*widely formulated*” (2), “*situationally dependent*” (2), and “*on intuition*” (2). Hence, when someone was not strict, relatively large budgets were utilized, often without any spending limit and based on intuition instead of following a strict budgeting system. However, looking at the quotations more specifically this may depend on the situation, implying that strictness could be upheld when needed. Looking at “*non-detailed budgeting system*” more specifically, co-occurrences were found with “*what remains*” (4), “*widely formulated*” (3), and “*keep it simple*” (3). Similar to what was mentioned earlier and in Section 4.1, instead of using a wide variety of spending categories to track expenses by, only a few larger budgets were being used, often with the intention to keep things simple or practical. Additionally, “*non-detailed budgeting system*” co-occurred with “*private vs. joint*” (3). So, instead of utilizing a detailed budgeting system, some participants utilized the separation between private or joint expenses to guide their day-to-day spending behavior. Strongly related to “*private vs. joint*” are the codes “*for whom*” (9), “*what remains*” (5), and “*divide by income*” (2). “*For whom*” was often the consideration being made that impacted whether something was seen as a private or a joint expense. Similar to what was mentioned earlier, participants using this type of system could freely spend what remained after joint expenses had been accounted for.

Noteworthy is the difference in perception between necessary and non-necessary expenses, with the codes “*necessary*” and “*non-necessary*” co-occurring with each other three times. Looking at the quotations, some participants explicitly considered these opposites when thinking about making an expense. “*Non-necessary*” was also related to “*luxury*” (3) and “*a choice*” (2), with “*luxury*” co-occurring with “*personal spending rule*” (2). Hence, besides necessity, the element of luxury also seemed to be considered by some participants when thinking about making an expense. Not surprisingly, a strong co-occurrence was found between “*necessary*” and “*fixed costs*” (7), as fixed costs were often perceived as expenses that someone could not live without. Additionally, “*necessary*” co-occurred with “*no choice*” (4), “*household*” (4), “*situationally dependent*” (3), and “*necessities of life*” (3). So, depending on the situation and whether or not someone had a choice, some expenses were perceived as necessities whereas others were not. Especially those expenses that were needed for survival or for maintaining the household were perceived as necessities.

Codes worth mentioning

Finally, some codes that did not occur frequently are worth mentioning. For example, the code *“takes no effort”* (6), which captured all instances in which participants explicitly mentioned that no effort was experienced during allocation of expenses or when budgeting in general took little to no effort. Looking at the co-occurrences, the codes *“direct connection”* (2), *“widely formulated”* (1), *“fixed system”* (1), and *“FLEX: recurrent”* (1) were given as reasons why little effort was experienced. Not surprisingly, when expenses were perceived as being directly related to a category, less effort was needed to allocate such an expense, which essentially highlights the role of expense typicality. Another form of typicality was discovered in the quotations of codes like *“vitality”* (1), *“personal care”* (3) or even *“household”* (13), with multiple participants mentioning certain expenses “belonging there.” More on typicality can be found in the discussion section.

Similar to what was mentioned earlier on the category FLEX, almost half of the participants indicated their budgeting decisions to depend on the situation. The code *“situationally dependent”* (13) is related to several items that were discussed earlier, such as the category CHANGED SYSTEM or the code *“necessary.”* Similar to what was mentioned in Section 4.1, this code indicates that certain major life events, such as moving, marriage, divorce, temporarily jobless, or economic crisis, can influence someone’s budgeting approach towards dealing with expenses. Additionally, while only occurring once, the code *“mood”* also stood out, with this particular participant indicating that allocation of expenses also depended on the mood he or she was in. Finally, five participants indicated using software in their budgeting system, such as the Rabobank App, Davilex Cash Personal, Excel, or Nibut.

4.3 Between-subjects design

The 17 participants that took part in part 1 of this research, also completed the survey of part 2. Three additional participants were approached to make sure equal group sizes were maintained. Out of the 20 participants that conducted the survey, 10 were male and 10 were female, with the average age around 38 years old. Out of 20 participants, 11 (55%) were between 20 and 35 years old, whereas the remaining 9 (45%) were 50 years or older. Out of 20 participants, 7 indicated their highest level of education to be university (35%) and 11 indicated their highest level of education to be university of applied sciences (55%). The final two participants indicated their level of education to be Intermediate vocational education and pre-university (10%).

Nr.	CUE y/n	M/F	Age	Education
1	yes	M	25	WO
2	yes	M	23	WO
3	yes	M	58	HBO/zzp
4	no	F	62	HBO
5	no	F	26	WO
6	yes	F	30	MBO/zzp
7	no	M	29	HBO
8	no	M	28	HBO
9	yes	F	25	HBO
10	yes	F	54	VWO
11	yes	F	52	HBO
12	no	F	52	HBO/zzp
13	yes	F	56	HBO+
14	no	M	66	WO
15	yes	F	31	HBO
16	no	M	32	WO
17	no	M	33	WO
18	no	F	58	HBO
19	no	M	23	WO
20	yes	M	50	HBO

Table 2: Demographic information for participants in part 2

4.3.1 Spending categories: part 2

Similar to the allocation task in part 1, participants were given the task to allocate each expense to a budget they used themselves (Appendix 1.5). Several spending categories were distinguished by participants when allocating the four selected expenses (Table 3). The expenses were visually placed together based on their expected typicality, with numbers 2 and 3 representing the typical expenses (see Appendix 1.7). Additionally, based on the researcher's own judgment, similar spending categories were placed together, with colors indicating small groupings of similar budgets being used per expense.

Looking at expenses 2 and 3, relatively few differing spending categories were used to categorize these two expenses. A bottle of red wine was mostly allocated to the “*groceries*” or household related budget, with only a few participants perceiving this type of expense as a luxury. Similarly, theater ticket was generally allocated to a budget intended for “*outings*” or free time activities, with luxury also occurring twice. Surprisingly, the budget “*entertainment*” was only used once. Compared to expense number 2, the allocation of expense number 3 seems to be more activity-related instead of being based on what the expense can bring about. Additionally, when a participant indicated not buying this expense regularly, the budget “*incidental*” was used. Both “*incidental*” and “*the current account*” were used twice by the

same participants, indicating these particular participants had a relatively non-detailed budgeting approach.

2) Bottle of red wine	<i>x</i>	3) Theater ticket	<i>x</i>	1) Costume	<i>x</i>	4) Cookbook	<i>x</i>
Groceries	7	Outings	4	Clothing	13	Others	3
Food and drinks	1	Going out	2	Clothing and shoes	1	Contingencies: books and magazines	1
Nutrition	1	Cultural outings	1	Clothing: clothing <i>x</i>	1	Unforeseen/flexible costs	1
Household money	2	Culture and subscriptions	1	Investment	2	Incidental	1
Household budget	1	Leisure	3	Savings	1	Hobby/leisure	2
Household	1	Hobby/leisure	1	Others, free to spend	1	Leisure	2
Household costs: groceries	1	Free time: going out	1	Unforeseen	1	Outings	1
Luxury	2	Entertainment	1			Entertainment: indoors	1
Luxury: food	1	Indulgence	1			Media	1
Booze (whiskey collector)	1	Relaxation	1			Investment	1
Incidental	1	Luxury expense	1			Luxury expense	1
Current account	1	Luxury: fun	1			Private extra	1
		Incidental	1			Home-garden-kitchen	1
		Current account	1			Household	1
						Current account	1
						Gifts	1

Table 3: Used budgets

While expecting a wide(r) variety of spending categories to be used for the more a-typical expenses 1 and 4, surprisingly, only expense number 4 showed such results. Expense number 1 even contained the most frequently occurring budget, with 15 out of 20 participants indicating using a clothing budget for this expense. Apparently, regardless of amount, expenses being perceived as a form of clothing were allocated to this type of spending category. This could be an indication that even when an expense was not made frequently, which, according to participants was often the case with this expense, it could still be perceived as a typical example of someone's spending category. Looking at expense number 4 more specifically, participants mostly perceived this expense differently, which could be a confirmation of its (expected) a-typical nature. The analysis below will determine whether this was actually the case.

4.3.2 Tests of within- and between subjects

Prior to conducting the ANOVA, several descriptive statistics were explored in Table 4 and normality was checked for each measure separately. Because of the small sample size of $N=20$, some deviation from normality was expected. Technically, extreme cases were not possible in this data, since consumer opinions on typicality, effort, and buying probability were captured on a limited 7-point scale. When looking at the descriptive statistics for all four products— $Q1$ representing the measure of *typicality*, $Q2$ that of *effort*, and $Q3$ of *buying probability* (Appendix 1.15)—some deviating cases seemed to be present (Table 4). Requested boxplots also confirmed that some participants deviated from the average. However, this was not necessarily a reason to remove these points from the data in advance. When looking at the skewness and kurtosis in Table 4 more specifically, most measures were somewhat normally distributed, with four measures (in bold) showing extreme z-scores ($-1.96 > z$, or $z > 1.96$) after calculation—by dividing skewness and kurtosis by their standard error. Additionally, when looking at the tests of normality (Table 5), these results showed significant deviations for (almost) all dependent measures. However, since ANOVA is not extremely sensitive to moderate deviations from normality, the decision was made to proceed with further analysis.

First, in order to identify whether any differences existed between the four products, a repeated measures ANOVA was performed for all three measures of *typicality*, *effort*, and *buying probability*, and can be found below. Despite the small sample size ($N=20$), the Bonferroni correction was applied to counter the build-up of error. Starting with *typicality*, Mauchly's Test of Sphericity was significant with a value of .045 ($P < 0.05$), violating the assumption of

Descriptive statistics

	<i>M</i>	<i>SD</i>	<i>Skewness</i>	<i>Kurtosis</i>
P1Q1	5.50	1.504	-1.494	1.542
P1Q2	5.45	1.317	-.802	-.261
P1Q3	5.55	1.741	-1.108	-.017
P2Q1	5.65	1.348	-.712	-.535
P2Q2	5.50	1.638	-.758	-.689
P2Q3	5.85	1.424	-1.529	1.943
P3Q1	6.10	.968	-.991	.335
P3Q2	6.00	1.026	-.975	.112
P3Q3	5.55	1.638	-1.417	1.933
P4Q1	4.40	1.667	-.488	-.783
P4Q2	4.25	1.860	-.078	-1.350
P4Q3	4.80	1.795	-.335	-1.306

Table 4: Descriptive statistics

Table 5: Tests of normality (right)

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
P1Q1	,330	20	,000	,760	20	,000
P1Q2	,262	20	,001	,853	20	,006
P1Q3	,253	20	,002	,791	20	,001
P2Q1	,202	20	,031	,860	20	,008
P2Q2	,220	20	,012	,842	20	,004
P2Q3	,292	20	,000	,779	20	,000
P3Q1	,259	20	,001	,806	20	,001
P3Q2	,300	20	,000	,789	20	,001
P3Q3	,218	20	,013	,815	20	,001
P4Q1	,241	20	,004	,916	20	,084
P4Q2	,199	20	,037	,915	20	,080
P4Q3	,198	20	,038	,890	20	,027

a. Lilliefors Significance Correction

sphericity. Looking at the Greenhouse-Geisser estimate (Field, 2013), a significant difference was found between the four products on typicality (Table 6). Post-hoc tests showed that only products 3 and 4 significantly differed from each other (Table 7), indicating product 3 scored 1.7 point higher (on average) compared to product 4 on typicality.

Tests of Within-Subjects Effects

Measure: *Typicality*

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Product	Sphericity Assumed	31,238	3	10,413	5,572	,002
	Greenhouse-Geisser	31,238	2,254	13,860	5,572	,005

Table 6: Within-subjects effects: typicality

Pairwise Comparisons

Measure: *Typicality*

(I) Product	(J) Product	Mean Difference (I-J)	Std. Error	Sig. ^b
3	1	,600	,294	,332
	2	,450	,328	1,000
	4	1,700*	,436	,006

Based on estimated marginal means

*. The mean difference is significant at the ,05 level.

b. Adjustment for multiple comparisons: Bonferroni.

Table 7: Pairwise comparisons: typicality

Moving on to *effort*, Mauchly's Test of Sphericity was not significant with a value of .402 ($P < 0.05$), meeting the assumption of sphericity. Looking at Sphericity Assumed, a significant difference was also found between the 4 products on effort (Table 8). Post-hoc tests showed that only product 3 and 4 significantly differed from each other (Table 9), indicating product 3 scored 1.75 point higher (on average) compared to product 4 on effort. Note that effort was reverse-coded, which means that an increase on the measure effort refers to a decrease of experienced difficulty during allocation.

Tests of Within-Subjects Effects

Measure: *Effort*

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Product	Sphericity Assumed	33,100	3	11,033	4,544	,006

Table 8: Within-subjects effects: effort

Pairwise Comparisons

Measure: *Effort*

(I) Product	(J) Product	Mean Difference (I-J)	Std. Error	Sig. ^b
3	1	,550	,387	1,000
	2	,500	,420	1,000
	4	1,750*	,486	,011

Based on estimated marginal means

*. The mean difference is significant at the ,05 level.

b. Adjustment for multiple comparisons: Bonferroni.

Table 9: Pairwise comparisons: effort

Moving on to *buying probability*, Mauchly's Test of Sphericity was not significant with a value of .959 ($P < 0.05$), meeting the assumption of sphericity. Looking at Sphericity Assumed, no significant difference was found between the four products on buying probability (Table 10). Post-hoc test showed that none of the products significantly differed from each other, even though the plot profile seems to suggest otherwise, with a difference of around 1 point between product 2 and 4 on the buying probability scale (Figure 5). This result might be due to the relatively small sample size (see Chapter 5.2).

Tests of Within-Subjects Effects

Measure: *Buying probability*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Product Sphericity Assumed	12,038	3	4,013	1,450	,238

Table 10: Within-subjects effects: buying probability

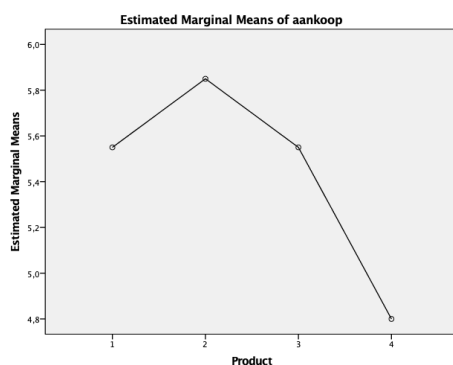


Figure 5: Profile plots: buying probability (right)

Next, a mixed-design ANOVA was performed for products 1 and 4 on all three measures of *typicality*, *effort*, and *buying probability*, with the variable *CUE* as the between-subjects factor.

Starting with *typicality*, only product 1 initially showed some numeric differences between groups (Table 11). The Box's M Test was not significant with a value of .013 ($P < 0.01$), meeting the assumption of homogeneity of covariance matrices. Sphericity was not an

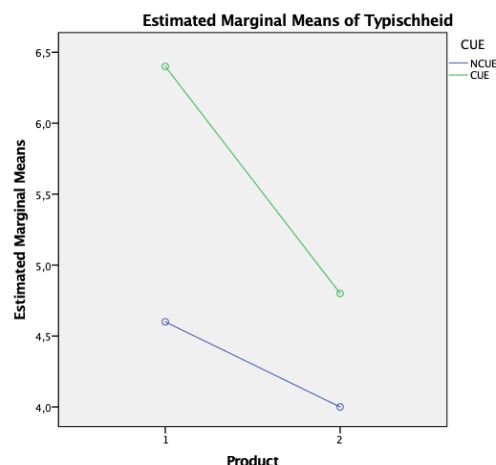
issue here, since the within-subject measure only had two levels. Looking at Sphericity Assumed, a significant difference was found between product 1 and 4 in terms of typicality for both groups (Table 12). However, this result was not significantly different between the two groups, even though the plot profile would suggest otherwise (Figure 6). Since group sizes were equal between the CUE and NCUE condition, the Levene's test was ignored (Field, 2013, p. 194). Looking at the between-subjects results, based on the averages of both products, a significant difference was found between groups on typicality (Table 13). Looking at Table 11, this result was mainly caused by product 1. Post-hoc tests confirm the difference spotted in the descriptive statistics between products 1 and 4 (total), indicating a significant difference with product 1 scoring 1.1 point higher (on average) compared to product 4 on typicality (Table 14).

Descriptive Statistics

	CUE	Mean	Std. Deviation	N
P1Q1	NCUE	4,60	1,647	10
	CUE	6,40	,516	10
	Total	5,50	1,504	20
P4Q1	NCUE	4,00	2,000	10
	CUE	4,80	1,229	10
	Total	4,40	1,667	20

Table 11: Descriptive statistics: typicality

Figure 6: Profile plots: typicality (right)



Tests of Within-Subjects Effects

Measure: <i>Typicality</i>		Type III Sum of Squares	df	Mean Square	F	Sig.
Source						
Product	Sphericity Assumed	12,100	1	12,100	5,137	,036
Product * CUE	Sphericity Assumed	2,500	1	2,500	1,061	,317

Table 12: Within subjects-mixed: typicality

Tests of Between-Subjects Effects

Measure: <i>Typicality</i>		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Source	Transformed Variable: Average						
CUE		16,900	1	16,900	8,947	,008	,332

Table 13: Between subjects-mixed: typicality

Pairwise Comparisons

Measure: *Typicality*

(I) Product	(J) Product	Mean Difference (I-J)	Std. Error	Sig. ^b
1	4	1,100*	,485	,036

Based on estimated marginal means

*. The mean difference is significant at the ,05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Table 14: Pairwise comparisons: typicality

Moving on to *effort*, again, only product 1 initially showed some numeric differences between groups (Table 15). The Box's M Test was not significant with a value of .393 ($P < 0.01$), meeting the assumption of homogeneity of covariance matrices. Looking at Sphericity Assumed, a significant difference was found between product 1 and 4 in terms of effort for both groups (Table 16). However, this result was not significantly different between the two groups. Looking at the between-subjects results, an almost significant difference was found between groups on effort (Table 17), despite the fact that product 1 showed a between group difference similar to the measure of *typicality* above (Table 15, 11). Post-hoc tests confirm the difference spotted in the descriptive statistics between product 1 and 4 (total), indicating a significant difference with product 1 scored 1.2 point higher (on average) compared to product 4 on effort (Table 18).

Descriptive Statistics				
	CUE	Mean	Std. Deviation	N
P1Q2	NCUE	4,60	1,265	10
	CUE	6,30	,675	10
	Total	5,45	1,317	20
P4Q2	NCUE	4,20	1,989	10
	CUE	4,30	1,829	10
	Total	4,25	1,860	20

Table 15: Descriptive statistics: effort

Tests of Within-Subjects Effects					
Measure: <i>Effort</i>		Type III Sum of Squares	df	Mean Square	F
Source					Sig.
Product	Sphericity Assumed	14,400	1	14,400	5,268
Product * CUE	Sphericity Assumed	6,400	1	6,400	2,341

Table 16: Within subjects-mixed: effort

Tests of Between-Subjects Effects						
Measure: <i>Effort</i>						
Transformed Variable: Average						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
CUE	8,100	1	8,100	4,166	,056	,188

Table 17: Between subjects-mixed: effort

Pairwise Comparisons				
Measure: <i>Effort</i>				
(I) Product	(J) Product	Mean Difference (I-J)	Std. Error	Sig. ^b
1	4	1,200*	,523	,034

Based on estimated marginal means

*. The mean difference is significant at the ,05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

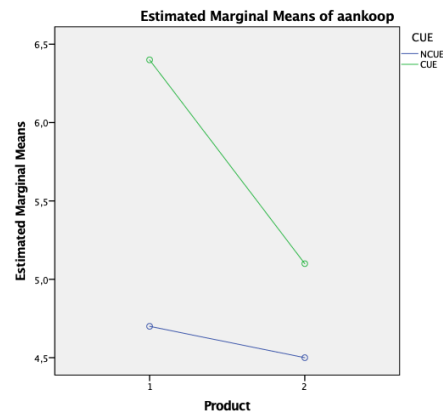
Table 18: Pairwise comparisons: effort

Moving on to *buying probability*, again, only product 1 initially showed some numeric differences between groups (Table 19). The Box's M Test was not significant with a value of .035 ($P < 0.01$), meeting the assumption of homogeneity of covariance matrices. Looking at Sphericity Assumed, no significant difference was found between product 1 and 4 in terms of buying probability for both groups (Table 20). This result was also not significant between the two groups, even though the plot profile would suggest otherwise (Figure 7). Looking at the between-subjects results, based on the averages of both products, a borderline significant difference was found between groups on buying probability (Table 21). Post-hoc tests confirm the difference spotted in the descriptive statistics between product 1 and 4 (total), indicating product 1 scored 1.2 point higher (on average) compared to product 4 on buying probability (Table 22).

Descriptive Statistics				
	CUE	Mean	Std. Deviation	N
P1Q3	NCUE	4,70	2,058	10
	CUE	6,40	,699	10
	Total	5,55	1,731	20
P4Q3	NCUE	4,50	1,780	10
	CUE	5,10	1,853	10
	Total	4,80	1,795	20

Table 19: Descriptive statistics: buying probability

Figure 7: Profile plots: buying probability (right)



Tests of Within-Subjects Effects

Measure: <i>Buying probability</i>		Type III Sum of Squares	df	Mean Square	F	Sig.
Source						
Product	Sphericity Assumed	5,625	1	5,625	2,116	,163
Product * CUE	Sphericity Assumed	3,025	1	3,025	1,138	,300

Table 20: Within subjects-mixed: buying probability

Tests of Between-Subjects Effects

Measure: <i>Buying probability</i>		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Source	Transformed Variable: Average						
CUE		13,225	1	13,225	4,404	,050	,197

Table 21: Between subjects-mixed: buying probability

Pairwise Comparisons

Measure: <i>Buying probability</i>		Mean Difference (I-J)	Std. Error	Sig. ^b
(I) Product	(J) Product			
1	4	1,200*	,523	,034

Based on estimated marginal means

*. The mean difference is significant at the ,05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Table 22: Pairwise comparisons: buying probability

Overall, looking at the results above, product 4 scored lower on all 3 measures compared to product 1 and the between groups effects were also limited for this expense.

Finally, correlations were explored to see whether the concepts of *typicality*, *effort*, and *buying probability* were related to one another (Table 23). Since the sample was relatively small ($N=20$), the non-parametric equivalent of Spearman Correlation (Spearman's rho) was checked and showed similar results. For product 1, typicality strongly correlated with both effort and buying probability, and effort strongly correlated with buying probability. For both product 2 and 3, typicality strongly correlated with effort. Surprisingly, no significant correlation was found between typicality and buying probability for these products, nor between effort and buying probability. Finally, and quite similar to product 1, typicality of product 4 strongly correlated with both effort and buying probability, and effort significantly correlated with buying probability. Further interpretation of the results above can be found in Chapter 5.

Correlations^c

		P1Q1	P1Q2	P1Q3	P2Q1	P2Q2	P2Q3	P3Q1	P3Q2	P3Q3	P4Q1	P4Q2	P4Q3
P1Q1	Pearson Correlation	1	,810**	,596**	,065	-,149	-,307	,506*	-,034	,075	,063	-,122	,195
	Sig. (2-tailed)		,000	,006	,786	,529	,188	,023	,887	,754	,792	,608	,410
P1Q2	Pearson Correlation	,810**	1	,832**	-,203	-,403	-,271	,458*	-,078	,026	,153	-,134	,085
	Sig. (2-tailed)	,000		,000	,391	,079	,248	,042	,744	,915	,518	,572	,723
P1Q3	Pearson Correlation	,596**	,832**	1	-,116	-,139	-,178	,499*	,000	-,205	,157	-,159	,139
	Sig. (2-tailed)	,006	,000		,626	,558	,452	,025	1,000	,386	,509	,502	,559
P2Q1	Pearson Correlation	,065	-,203	-,116	1	,679**	-,221	,230	,076	-,242	-,356	-,341	-,161
	Sig. (2-tailed)	,786	,391	,626		,001	,350	,330	,750	,304	,124	,141	,498
P2Q2	Pearson Correlation	-,149	-,403	-,139	,679**	1	,034	,100	,063	-,481*	-,116	,043	-,054
	Sig. (2-tailed)	,529	,079	,558	,001		,887	,676	,793	,032	,627	,857	,822
P2Q3	Pearson Correlation	-,307	-,271	-,178	-,221	,034	1	-,218	,108	-,098	,071	,194	,173
	Sig. (2-tailed)	,188	,248	,452	,350	,887		,357	,650	,681	,766	,413	,466
P3Q1	Pearson Correlation	,506*	,458*	,499*	,230	,100	-,218	1	,583**	,130	-,026	-,395	,042
	Sig. (2-tailed)	,023	,042	,025	,330	,676	,357		,007	,586	,913	,085	,859
P3Q2	Pearson Correlation	-,034	-,078	,000	,076	,063	,108	,583**	1	,313	,092	-,055	,200
	Sig. (2-tailed)	,887	,744	1,000	,750	,793	,650	,007		,179	,699	,817	,398
P3Q3	Pearson Correlation	,075	,026	-,205	-,242	-,481*	-,098	,130	,313	1	-,085	-,117	,057
	Sig. (2-tailed)	,754	,915	,386	,304	,032	,681	,586	,179		,722	,624	,810
P4Q1	Pearson Correlation	,063	,153	,157	-,356	-,116	,071	-,026	,092	-,085	1	,730**	,749**
	Sig. (2-tailed)	,792	,518	,509	,124	,627	,766	,913	,699	,722		,000	,000
P4Q2	Pearson Correlation	-,122	-,134	-,159	-,341	,043	,194	-,395	-,055	-,117	,730**	1	,489*
	Sig. (2-tailed)	,608	,572	,502	,141	,857	,413	,085	,817	,624	,000		,029
P4Q3	Pearson Correlation	,195	,085	,139	-,161	-,054	,173	,042	,200	,057	,749**	,489*	1
	Sig. (2-tailed)	,410	,723	,559	,498	,822	,466	,859	,398	,810	,000	,029	

**_c. Correlation is significant at the 0.01 level (2-tailed).

*_c. Correlation is significant at the 0.05 level (2-tailed).

c. Listwise N=20

Table 23: Correlations: spearman

5. General discussion

Part 1: the interviews

The research question formulated for part 1 of this research was focused on discovering how consumers allocate their expenses in practice. Adding to the literature on consumer budgeting behavior, the interviews conducted for this endeavor do not only shed light on this *how*-question, they also provide insight on the relatedness of several concepts and the logic behind personalized budgeting systems. Since the results of part 1 of this research were largely discussed in the results section—which is often the case with qualitative research—only the most important elements are discussed here by relating them to Chapter 2. Further discussion on the between-subjects experiment and the role of product cues when allocating expenses can be found below.

Applying mental budgeting in day-to-day spending bears the risk of leading to non-rational behavior, violating the rational economic model of fungibility of money. While some participants interviewed for part 1 of this research did intend their money to be non-interchangeable between budgets, close to all participants indicate that some form of flexibility between budgets is allowed. The allowance of certain flexibility between budgets often depends on the situation and whether or not switching between budgets is deemed necessary at a certain moment. Additionally, budgeting preferences can change over time, which is often caused by certain situational changes. And while some may prefer an approach towards budgeting that is relatively strict, limited flexibility between budgets can become a limitation on itself. In contrast, allowing too much flexibility between budgets can undermine the usefulness of these budgets themselves. To solve this issue, and instead of using a wide variety of spending categories and strictly adhering to these made-up expense accounts, almost all participants utilized a combination of both explicit considerations and personalized spending rules to keep spending within bounds. Hence, when budgets are used to track ongoing expenses, they are often accompanied with the application of very rational and deliberate considerations, with some participants utilizing limiting monetary rules specifically created to fit their spending preferences or behavior. Adding to the critique expressed by Wertenbroch (2003) on non-fungibility of budgets, this makes me wonder whether this potentially non-rational behavior is really that problematic in practice, since most participants appear to be rational when it comes to making spending decisions or allowing flexibility between budgets. Apparently, the budgets being used by participants are not necessarily the leading factor in limiting spending, despite the fact that some intended them to function in this way. Instead, several personalized spending rules are applied by 10 out of 17 participants to further limit spending, with all participants making one or more explicit considerations when thinking about spending. This indicates that for most

participants the categorization of funds into different spending categories merely functions as a monetary tool and is characterized by both a practical and flexible approach, even for those participants budgeting on a highly detailed level by using a wide variety of spending categories. Therefore, and similar to the research of Cheema and Soman (2006), these results indicate that budgeting is indeed a rather malleable process or, in our case, “*non-strict*.”

Zooming in on effort, some participants clearly experience the use of multiple smaller budgets and tracking day-to-day expenditures accordingly as too psychologically costly. Others consider this to be worth the effort, since it provides them with a sense of overview or a feeling of control. Interestingly, participants budgeting on a more detailed level also use software programs to simplify their allocation decisions and decrease effort during allocation. Looking at the results more specifically, when some form of effort is experienced during the allocating of expenses, broad(er) budgets like “*others*” or “*various expenses*” serve as a useful addition. Also, 11 out of 17 participants indicate the EFFORT sub-code “*does not happen often*” to be the main cause of experiencing effort during allocation. Adding to the results section, this indicates that forming spending categories or budgets is limited to those expenses that are in need of categorization. Hence, those expenses that occur relatively infrequent are generally tracked without having to use a budget. Furthermore, experiencing effort during allocation and experiencing pain of payment when making an expense seem to be related, as these broader budgets mentioned above are used by several participants to intentionally reduce the pain of payment. Similarly, the savings account and the budget “*unforeseen*” are used as a back-up, reducing any (potential) pain experienced when making expenses from more limited accounts. These findings add to those of Cheema and Soman (2006), highlighting that individuals are more likely to allow flexibility between budgets when effort during allocation is experienced.

Similar to what was mentioned on the concept of earmarking in Chapter 2, 11 out of 17 participants indicate to deliberately set aside money for specific purposes or expected expenses to be made in the future. These reservations are often made for larger expenses and are linked to the frequency with which an expense occurs. Especially when expenses are both foreseen and deemed important enough, they are given a separate budget. So, in contrast to Soman (2001), the creation of budgets is not necessarily based on a backward-looking evaluation of expenses made in the past. Similar to what is conceptualized in Chapter 2, expected (future) expenses also impact the category formation process.

Surprisingly, only 6 out of 17 participants explicitly indicate “*typicality*” of an expense to be a leading factor during the allocation of expenses. Adding to what was mentioned in the results section on typicality, this needs to be put into further perspective. For example, 13 out of

17 participants indicate using the explicit consideration “*what do I use it for*” to (partially) base their categorization decisions on. While not explicitly argued by participants, this can also be seen as a form of typicality since the allocation decision is based on the usage properties of an expense relative to a corresponding category. The grouping of expenses based on similar attributes is also reflected in the formulation of several spending categories themselves, such as “*inside the house*” and “*outside the house,*” “*work,*” or “*investment.*” These spending categories represent specific category features on which allocation will (and should) be based. In fact, those allocation decisions that are based on a judgment of the goodness-of-fit between an expense and a spending category all involve some form of typicality. However, looking at the results, while typicality does play an important role in the allocation process, not every expense will similarly represent a category in terms of accuracy, nor will it be allocated solely based on this consideration.

Part 2: tests of within- and between-subjects

Despite the relatively small sample size, the results of the repeated measures ANOVA indicate a significant difference between the four products on both typicality and effort. However, post-hoc results only show significant differences on these measures between products 3 and 4, despite the fact that additional differences were expected between expense types, especially in terms of typicality. Surprisingly, none of the products seem to significantly differ from each other on buying probability, which might be due to the relatively small sample size and limited measurement scale (see Section 5.2). Taking a closer look at the results, high scores on typicality are often followed by high scores on effort (reverse coded). Additionally, all four products show strong positive correlations between typicality and effort, indicating expense typicality assessments are indeed related to experienced effort during allocation. Furthermore, only products 1 and 4—which were both conceptualized as being atypical expenses—show correlations between all three measures of typicality, effort, and buying probability. Comparing this to what was mentioned earlier on typicality and effort, this could be an indication that the relatedness of these concepts is especially relevant for expenses occurring relatively infrequently.

Looking at the mixed design results, products 1 and 4 significantly differed from each other on both measures of typicality and effort. However, these results are not significantly different between the two groups (CUE vs. NCUE). This indicates that the difference between products 1 and 4 on these measures is not exclusively due to the CUE vs. NCUE factor. More on this can be found below. Perhaps more interesting are the between-groups results, which are

based on the averages of both products 1 and 4. A significant difference is found between groups on typicality, which, when looking at the descriptive statistics, is mainly caused by product 1 (Table 11). Effort on the other hand is not significantly different between groups, which is likely due to the fact that the between-subjects test is based on the averages of products 1 and 4. When looking at the descriptive statistics, product 1 clearly shows a higher score on effort between groups compared to product 4 (Table 15). Note that effort was reverse-coded, which means that an increase on the measure effort refers to a decrease of experienced difficulty during allocation. Buying probability is also significantly different between groups, which, when looking at the descriptive statistics, is now the case for both products (Table 19). However, again, product 1 clearly shows a higher score on buying probability between groups compared to product 4. Nonetheless, this indicates that a cue is indeed capable of impacting buying probability, which offers some interesting material for future research endeavors.

Apparently, products 1 and 4 are perceived differently by participants, despite the fact that they were both conceptualized as a-typical—and thus somewhat similar—expenses. Looking at the results above, product 4 scored lower on all 3 measures compared to product 1 and the between groups effects were also limited for this expense. Overall, for product 1, the treatment group (CUE) scored higher on all three measures, indicating that the usefulness of these cues depends on the type of expense being judged, and that this is not necessarily predetermined based on an expected level of typicality. So, while these concepts are clearly related, the (future research) question remains: what type of products are more sensitive to cue influences that are focused on increasing levels of typicality, decreasing effort during allocation and consequently increasing buying probability?

5.1 Managerial implications

Referring back to the objectives formulated at the start of this research, several interesting and useful findings emerged during this study. By capturing the logic and reasoning behind several allocation decisions made by Dutch consumers, this research adds to our general understanding of how mental budgeting takes place in practice. Several motivations for utilizing budgets in day-to-day spending were captured, as well as the reasoning behind the formation of certain budgets. Additionally, different types of judgements and considerations were discovered, providing marketers with useful insights on how these might influence consumer allocation decisions in practice. Furthermore, several frequently occurring spending categories were mapped based on their relatedness, functioning as a useful starting point for future research (Section 5.2). While several complex processes might underly the expense allocation process

and subsequent spending decisions, part 1 of this research demonstrates that the mental budgeting process can be rather malleable. Therefore, these findings are especially relevant for marketers who are attempting to promote their products and influence how certain expenses are (to be) allocated to different spending categories. In addition, part 2 of this research demonstrates that the concepts of typicality, effort, and buying probability are indeed related to one another and, thus, worthwhile for marketers to understand. Looking at the results, this might be especially relevant for those expenses that occur relatively infrequently. And while certain cues—focused on increasing levels of typicality—seem to be capable of impacting buying probability ratings, additional research on the relatedness of these concepts is required (Section 5.2). Overall, this research serves as a useful first attempt at discovering the logic behind Dutch consumer budgeting behavior, providing marketers with some initial insights and directions to focus their efforts on.

5.2 Limitations and future research suggestions

Several limitations of this research can be pointed out, putting the abovementioned results into further perspective. One of the most important limitations for part 1 of this research is the overall limited generalizability of qualitative empirical evidence, which often cannot be easily extended to a wider population (Ochieng, 2009). Despite the fact that a point of theoretical saturation was approached during the interviews, other budgeting systems, spending rules, or allocation judgements could exist besides those that were captured. In the future, a larger scaled study could be conducted among Dutch consumers to further extend our knowledge, not only on frequently occurring spending categories, but also on the logic and thought processes that hide behind 1) the formation of those budgets and 2) the (subsequent) expense allocation decisions being made.

Even though several theory-based steps were followed for analyzing the data, some decisions made by the researcher during analysis will remain—to some extent—biased. When replicating the analysis this could result in differing coding hierarchies or interpretations, especially in terms of the summaries on which Chapter 4.1 is based. Similarly, the interview protocol that was followed, and questions asked during the interview may have impacted the accuracy of data collection. For example, to discover the role of product typicality in the expense allocation process, participants were asked to indicate whether they experienced any difficulty during allocation, often followed by several follow-up questions. Perhaps, this approach was not the most suitable one to capture potential typicality assessments, seeing how some of those assessments were rather hidden. Additionally, since no measure exists that objectively captures the level of detail of someone's budgeting system, the codes "*non-detailed budgeting system*"

and “*detailed budgeting system*” were formed and assigned to different text sections based on the researcher’s own interpretation. And while most consumers seem to prefer a relatively simple approach towards budgeting, it might be interesting for future researchers to develop a scale that accurately measures and portrays the level of detail of someone’s budgeting system. Looking at the results above and the quotations linked to these codes, attention should be paid to elements like: the number of different spending categories being used (a wide variety or only a few) and the formulation of these budgets (either a broad or a narrow formulation).

While serving as a useful addition to the interviews, several limitations can be brought forth for part 2 of this research. One of the most important limitations for part 2 is the limited sample size, which seemingly impacted some of the results (see Chapter 4.3.2). It would have been useful to determine a minimum sample size in the design stage of the experiment, since results are now lacking power. Additionally, since typicality, effort, and buying probability were all captured based on single-item measures, test-retests on reliability could not be performed. Future research on the relatedness of these measures could be conducted among a larger sample to generate more accurate and powerful results. Furthermore, the buying probability judgements made by participants may be prone to biases, since personal product preferences could strongly influence and skew these ratings.

Taking a closer look at the experimental design, several design flaws emerged. Only product 1 and 4 were manipulated between groups, whereas product 2 and 3 were not. So, while the repeated measures ANOVA highlights some interesting differences between the 4 products, these differences might be caused by the treatment condition that was given to half of the participants (10) for product 1 and 4. This separation between groups should have been implemented into products 2 and 3 as well, as this would have made analysis less complicated and more accurate. Additionally, the results clearly show that both the typical and a-typical expenses were assessed differently than expected. A more thorough pre-test could have been conducted to capture these expected typicality assessments, as this would have made the potential impact of product cues on a-typical expenses clearer.

Finally, while previous research on consumer budgeting behavior does exist, the contents discussed in this research remain relatively novel and unexplored. Additionally, one should take into account the fact that this research was conducted by a relatively inexperienced scholar compared to the works of more experienced researchers in the field of Marketing.

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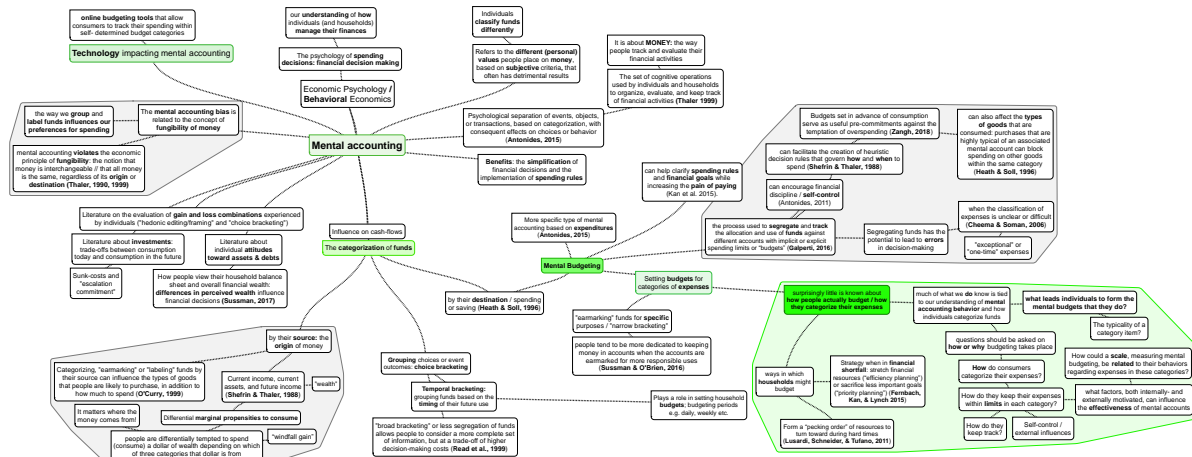
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Appendices

1.1 Explorative MindMap

Because little is known about this specific area of research, a MindMap was developed to provide the reader with an overview of the existing literature on mental accounting in general and how mental budgeting is part of it. Note: this MindMap is non-conclusive and merely indicative.

**Programme: SimpleMind Lite**

1.2 Research adjustments

After receiving the proposal feedback and reconsidering the purpose of this research, multiple adjustments were made to the methods section and the overall design of the study. Additionally, due to the recent developments concerning Covid-19, multiple aspects of this thesis had to be altered.

The Multiple Sorting Procedure (old)

In this research the Multiple Sorting Procedure (MSP) was used. This procedure was also used in other research to explore consumer preferences or perceptions of similarity of food products (see e.g., Chollet, Lelièvre, Abdi, & Valentin, 2011). The MSP allows participants to freely organize presented expenses and explain their categorization decisions (Kneebone, Fielding, & Smith, 2017). In this process, participants develop their own rationale for creating and allocating expenses to categories (Barnett, 2004). The MSP allows the researcher to investigate individual perceptions of a certain topic while simultaneously providing a structured interview format and statistical analysis procedure (Morrison & Bauer, 1993). More specifically, the MSP enables investigation of expense categorization by capturing perceived similarities or dissimilarities between expenses (Dobbie, 2009).

Research procedure (old)

First the research and the purpose of the expense allocation task were explained to individual participants. Once the research procedure was explained, the items, representing 20 different expenses were placed before individual participants (randomized). The different expenses were carefully selected by the researcher, making sure they varied in terms of similarity. Participants first looked through the items to familiarize themselves with the different expenses. Next, participants carried out a “free” sort using their own judgement to place similar expenses together, forming multiple categories (Barnett, 2004). Participants were free to label the categories according to their preference and to come up with additional expenses of which they felt were typical of a category. After completion, participants described and explained their

categorization behavior. Conversations were audio recorded and transcribed to explore why certain expenses were placed together. Formed categories and allocated expenses were cross tabulated into a co-occurrence matrix, and Multidimensional Scaling Analysis was used to visualize and identify similar behaviors through spatial representation (Lattin, Green, & Carroll, 2003).

By giving participants the MSP task, which is primarily focused on the expense allocation process, insight will be provided into how consumers categorize their expenses when given freedom in both the category formulation and the expense allocation process. The focus was on figuring out why participants chose to allocate these expenses in the way they did. Following the theoretical concepts of Chapter 2, this categorization is assumed to take place based on overall expense similarities. This behavior is mainly driven by the reasons to engage in mental budgeting in the first place: to simplify the complex economic environment.

Adjusted procedure

The Multiple Sorting Procedure can be used to investigate expense *categorization* by capturing perceived similarities or dissimilarities between expenses (Dobbie, 2009). I deemed this method useful to investigate how mental budgeting actually took place in practice. However, looking at the scope of this study, this was not necessarily the right approach. After all, giving participants the task to sort the 35 selected expenses into similar groups and mapping these results into a co-occurrence matrix, would only show me how *these* expenses relate to one another in terms of similarities or dissimilarities. Furthermore, I needed to somehow assess perceived expense typicality here. Therefore, the decision was made to move from the MSP to the more suitable method explained in section 3.1.

Additionally, after conducting multiple pilots, the initial amount of 35 expenditures was scaled down to 20. As mentioned before, these expenditures are essentially used to replicate the way in which participants allocate or budget their expenses in real life. A total of 20 items was deemed sufficient to capture their way of mental budgeting and their logic behind it. Furthermore, 35 separate items resulted in +45 min interviews, which would negatively impact concentration levels and overall willingness to participate.

Due to the recent developments concerning Covid-19, multiple changes were made to the way in which the items were presented to participants, moving away from physically presenting participants with cards. An online approach was developed, first contacting potential participants via WhatsApp, followed by an e-mail providing participants with further information (Appendix 1.8). Via telephone, the elements mentioned in the e-mail were discussed and all calls were audio recorded. The e-mail ended with a link, redirecting participants to the second part of the study (Appendix 1.5). The telephone conversation continued until both parts were successfully completed. Finally, consumer demographics were obtained, and participants were asked whether or not they were interested in receiving the results of the study.

Finally, after conducting 17 interviews the consideration was made whether or not a point of saturation was reached for part one of this study (see Chapter 7). Additionally, due to the selected time period available for conducting this study, the decision was made to scale down the number of planned interviews from 20 to 17. Part two of the study, in which the survey was conducted, remained at the 20 mark.

1.3 WhatsApp pre-selection protocol

The moment data collection started it became apparent that not every Dutch consumer actually used mental budgeting in their day-to-day spending activities. Similar to the findings of Antonides et al. (2011), less than half of the contacted participants actually met the pre-formulated requirements. To make sure the right consumers participated in this study, the following pre-selection was made (Dutch).

“Dag ...

Mijn onderzoek gaat over mentaal budgetteren. Dit is het verdelen van inkomen in kleinere fictieve uitgavepotjes die bestemd zijn voor verschillende categorieën van uitgaven. Denk bijvoorbeeld aan een budget van €70 per maand bedoeld voor kleding, wat afneemt wanneer men uitgaven doet m.b.t. deze bestedingscategorie.

Gebruikt u zelf verschillende potjes voor het doen van alledaagse uitgaven? Zo ja, dan ga ik hier graag met u over in gesprek (via telefoon, circa 30 minuten). Hiermee zou u mij ontzettend helpen om mijn onderzoek, en daarmee mijn studie, succesvol af te ronden.

Groeten David”

After it became apparent whether or not the contacted consumer utilized several budgets in day-to-day spending, the following message was send.

“Oké, om ... zal ik telefonisch contact met u opnemen. Om het interview soepel te laten verlopen ontvangt u ongeveer 10 minuten vóór ons gesprek een e-mail. In deze mail leest u waar het onderzoek over gaat en wat ik van u vraag. Ook vindt u hierin een link die u naar een korte vragenlijst brengt. Ik ontvang daarom graag nu vast uw e-mailadres. Tip: het is handig om een laptop, PC of iPad te gebruiken voor het bekijken van de mail. Tot dan, Groeten David”

1.4 Expense allocation protocol

Old protocol

Welcome, my name is David Jansen and I am currently in the Master of Marketing at the Radboud University in Nijmegen. This thesis is about mental budgeting, a phenomenon in which people create specific spending categories (or budgets) by cutting up their funds into smaller pieces. These spending categories are then used as reference points when making or thinking of making an expense (*gives example*). Expenditures will be assigned to a category (or budget) and over time the funds in that budget will therefore deplete.

I am carrying out a study on how mental budgeting might take place in practice. In this study, I will start with what is known as the Multiple Sorting Procedure, before moving on to an experiment. In the MSP I am asking you to look at different expenses (*gives example*) and to then sort them into groups (or categories). You are free to create as many categories as you like, but make sure that the expenses in any group are similar to each other in some important way and different from those in the other groups. Each expense can only be placed into one category. Feel free to ask me any questions during this process.

When you have carried out the sorting, I would like you to tell me the reasons for your choices and what *other* expenses you feel are typical for the formed categories. It is your view that counts. The MSP will take around ...(*pilot*) minutes and you are always free to withdraw from this research at any time.

Please feel free to ask questions and to speak up whenever something pops up as you are sorting the expenses. Before we start I would like to ask for your permission to record the audio of our conversation.

When you are ready.

Start

Adjusted protocol

Similar to what is mentioned in Appendix 1.2, multiple adjustments had to be made to the expense allocation start-protocol. Around 30 minutes before the scheduled telephone conversation took place, participants were sent an e-mail containing all the necessary information (Appendix 1.8)—also functioning as a protocol for the researcher. In this e-mail, the study is briefly explained to participants and an example is given of the mental budgeting process. Research ethics and recording permission are discussed with the participant, making sure he or she fully understood my intentions. The first part of the study (the allocation task) is then thoroughly explained to the participant. After they indicate they understand the task at hand, the interview started.

Expenses were discussed one-by-one and, when deemed necessary, follow-up questions were asked; for example: “so, if I understand correctly...” or “I notice you find this expense rather difficult to allocate; please explain to me why.” After the 7-mark, two follow-up questions were asked (Chapter 3.2). This continued until all 20 expenses were allocated. To make sure participants mentioned most of the spending categories they use in real life, the closing question would often be: “are there other spending categories that you think are worth mentioning?” Next, instructions were given to click on the link at the bottom of the e-mail.

1.5 Experiment protocol

Old protocol

Next, I am going to present you with 4 different products. After showing you a product, I will give you the task to allocate the product to a particular spending category you formulated yourself. For each product I will then present 3 rating questions for you to answer, with a scale ranging from 1 to 5 (*shows example*). Similar to the allocation task before, these questions will be focused on your view and reasoning. In this process, the products themselves are of less importance; it is about your view of the products relative to the questions I ask about them. The experiment will take around ...(*pilot*) minutes and you are always free to withdraw from this research at any time. And again, feel free to ask questions at any time again.

I would like you

- a. to report, on a scale from 1 (*very a-typical*) to 5 (*very typical*), how typical you find this expense for the chosen category;
- b. to report, on a scale from 1 (*not easy at all*) to 5 (*very easy*), whether you found this to be easy or difficult (if less than 5, to tell me why);
- c. to report, on a scale from 1 (*not likely at all*) to 5 (*very likely*), the probability of you buying that product.

Adjusted protocol

Similar to what is mentioned in Appendix 1.2, multiple adjustments had to be made to the protocol of the experiment. After ending part 1 of the study, participants were instructed to click on the provided link at the bottom of the e-mail (Appendix 1.8). They were then redirected to a Qualtrics page where the following information was provided to them (Dutch):

Onderdeel 2

“Er komen zo 4 verschillende uitgaven voorbij. Bij elke uitgave vraag ik u, net als met de potjestaak, deze te plaatsen in een door uzelf gebruikt potje (typ dit in). Per uitgave krijgt u 3 korte beoordelingsvragen (schaal van 1 tot 7). We lopen hier samen doorheen zodat ik verduidelijking kan geven wanneer u dit nodig acht. Wederom, uw beoordeling staat hierin centraal en er is geen goed of fout antwoord.”

During this process telephone contact was maintained, assuring participants that they could ask questions when needed. Furthermore, after some reflection, the initial 5-point scale was changed to a 7-point scale; the relatively small sample size called for a more detailed and accurate measurement scale. A 9- or even 10-point scale was considered, however, deemed too extensive. An additional 8th option was provided to participants, giving them the freedom to select “I do not know.”

The initial pilots showed that some participants experienced difficulty understanding the typicality rating scale. Therefore, the following explanation was provided to participants before asking them to rate this scale (Dutch).

“De vraag hieronder gaat over de 'typischheid' van een uitgave. Een uitgave is typisch voor een bestedingscategorie of uitgavenpotje wanneer deze als representatief, kenmerkend, of goed passend wordt ervaren ten opzichte van het uitgavenpotje. Zo zal een bezoek aan de bioscoop over het algemeen gezien worden als een vorm van entertainment of vrijetijdsbesteding. Deze uitgave past daarom goed in het potje "luxe" of "entertainment" (wanneer iemand een dergelijk potje heeft).”

After the fourth expense had been allocated and rated, participants were informed this to be the end of the survey. The audio recording was stopped, and participants were asked what they thought about the process. Finally, consumer demographics were obtained, and participants were asked whether or not they were interested in receiving the results of the study. They were thanked greatly for their participation.

The survey itself was made up of 4 “blocks” representing the 4 different expenses. After answering the three rating questions, the participant was guided to the next block.



1.6 Part one expenditures

Old list of expenditures

Nr.	Expenses (EN)	Uitgaven (NL)
1	Books (paperback)	Boeken (papier)
2	Netflix account	Netflix account
3	Detergents	Schoonmaakmiddelen
4	Headset	Koptelefoon (muziek)
5	Public transportation	OV-kosten
6	A movie ticket	Bioscoopkaartje
7	Bath towel	Badhanddoek
8	Gym subscription	Sportschool abonnement
9	Dinner	Uiteten restaurant
10	Reusable water bottle	Herbruikbare waterfles
11	A bag of chips	Zak chips
12	A costume	Een kostuum
13	Furniture	Meubelstuk
14	New glasses	Nieuwe bril (op sterkte)
15	New shoes	Nieuwe schoenen
16	Medicine	Medicijnen
17	Stereo speaker set	Stereo-installatie
18	Backpack	Rugzak
19	Gasoline	Benzine/tanken
20	Knife set	Messenset
21	Garden chairs	Tuinstoelen
22	Bouquet of flowers	Bos bloemen
23	Phone	Mobieltje
24	Bottle of red wine	Fles rode wijn
25	A day out	Dagje uit
26	A theater ticket	Theater kaartje
27	Gift voucher	Cadeaubon
28	Tennis racket	Tennisracket
29	New TV	Nieuwe TV
30	Fresh butcher's meat	Stuk vlees van de slager
31	Umbrella	Paraplu
32	Can of paint	Pot verf
33	Watch	Horloge
34	Haircut	Kapper
35	Charging cable	Oplaadkabel

Adjusted list of expenditures

Nr.	Uitgaven
1	Boeken (papier)
2	Netflix account
3	Messenset
4	Koptelefoon (muziek)
5	OV-kosten
6	Bioscoopkaartje
7	Badhanddoek
8	Sportschool abo.
9	Uiteten restaurant
10	Rugzak
11	Zak chips
12	Tuinstoelen
13	Nieuwe schoenen
14	Meubelstuk
15	Bos bloemen
16	Vlees van de slager
17	Kapper
18	Cadeaubon
19	Herbruikbare waterfles
20	Paraplu

Note: these expenses were carefully selected by the researcher, making sure they varied in terms of similarity, value, and type. Also, 2 pilots were conducted in the researcher's own social circle to confirm the variability of these expenses and to get a general idea of the duration of the interviews. After initial testing, this list was scaled down to a selection of 20 expenses (Appendix 1.2).

1.7 Part two expenditures

Selection of 4 products representing a-typical or typical expenses shown to participants in the survey, including the cues used to guide or assist participants in making allocation judgements.

	<i>uitgave</i>	<i>expense</i>	<i>typicality</i>	<i>cue</i>
1)	Een kostuum	A costume	<i>a-typical</i>	<i>“een goede kledingkeuze werkt, zowel zakelijk als privé” (NL)</i> <i>“a good choice in clothing works, both for business and in your private life” (EN)</i>
2)	Fles rode wijn	Bottle of red wine	<i>typical</i>	
3)	Kaartje theater	Theater ticket	<i>typical</i>	
4)	Kookboek	Cookery book	<i>a-typical</i>	<i>“heerlijke vrijetijdsbesteding en een luxe toevoeging aan uw keuken” (NL)</i> <i>“lovely leisure-activity and a luxurious addition to your kitchen” (EN)</i>

Table: Selection of 4 products representing a-typical or typical expenses

Note: these expenses were selected based on existing literature and the researcher's own judgement of the level of typicality linked to these expenses. Also, a pilot was conducted in the researcher's own social circle to confirm the expected levels of typicality of these expenses. After explaining the concept of typicality to several test subjects (who did not participate in the research), the expenses were judged on typicality, and follow-up questions were asked to verify whether these expenses were indeed perceived as expected. Eventually, the expenses above were selected to be used in this research.

1.8 The e-mail

Dag x,

Hieronder ziet u een uitgeschreven tekst die wij samen telefonisch doornemen. U kunt dit eventueel voorafgaand zelf doorlezen. Indien u vragen heeft beantwoord ik die graag.

Dit onderzoek gaat over mentaal budgetteren: een verschijnsel waarin men zijn of haar besteedbaar inkomen onderverdeelt in kleinere, specifieke bestedingscategorieën (ook wel *uitgavepotjes* of *budgets* genoemd) – zoals bijvoorbeeld “boodschappen” of “kleding”. Met andere woorden: het is het reserveren van geld voor verschillende soorten verwachte en/of geplande uitgaven. Deze uitgavepotjes fungeren vaak als ijkpunt en geven de gebruiker een indicatie hoeveel bestedingsruimte er nog over is voor het doen van dat type uitgaven. Denk bijvoorbeeld aan een budget van €50 per maand voor kleding, wat vervolgens afneemt wanneer men uitgaven doet die vallen onder deze bestedingscategorie.

Dit onderzoek bestaat uit twee onderdelen: een potjestaak en een experiment. Met de potjestaak wordt in kaart gebracht welke uitgavepotjes u in het dagelijks leven gebruikt. Het experiment bekijkt vervolgens of dit proces van invloed is op uw bestedingsgedrag (*verdere toelichting volgt*).

Voordat we beginnen ontvang ik graag uw toestemming voor

1. het verwerken van de uitkomsten van dit interview in een verslag of wetenschappelijke publicatie,
2. het opnemen van dit interview door middel van een voice-recorder (*audio*).

Ik geef toestemming voor beide punten: **ja/nee** of

Ik geef alleen toestemming voor punt 1: **ja/nee**

Ook wijs ik u graag op het volgende:

1. Instemming tot deelname aan dit onderzoek is vrijwillig en kan zonder opgave van redenen op ieder moment worden ingetrokken;
2. Gegevens worden anoniem verwerkt zonder enige herleidbaarheid tot persoon;
3. Audio opnamen worden na verwerking van gegevens vernietigd.

Ik begrijp deze punten: **ja/nee**

Onderdeel 1: potjestaak (*lees eerst onderstaande instructies*)

Met de potjestaak wil ik in kaart brengen welke uitgavepotjes of bestedingscategorieën u zelf in het dagelijks leven gebruikt. Hieronder ziet u een lijst van 20 verschillende uitgaven. Bedenk per uitgave in welk potje deze uitgave thuishoort. Anders gezegd, vanuit welk potje u deze uitgave zou bekostigen. Het is belangrijk dat u een uitgavepotje kiest die u zelf in het dagelijks leven gebruikt. Er zijn geen goede of foute antwoorden, dus kies voor het eerste wat in u opkomt: uw wijze van budgetteren staat tenslotte centraal. Om de 7 uitgaven staan we samen kort stil bij de door u gemaakte keuzes en stel ik 2 vragen. Heeft u tijdens dit proces vragen of heeft u ergens moeite mee dan hoor ik het graag.

Start

Geef hieronder nu per uitgave aan (*mondeling*) vanuit welk potje u deze uitgaven zou bekostigen.

Nr.	Uitgaven	Uitgavepotje
1	Boeken (papier)	
2	Netflix account	
3	Messenset	
4	Koptelefoon (muziek)	
5	OV-kosten	
6	Bioscoop kaartje	
7	Badhanddoek	
8	Sportschool abonnement	
9	Uiteten restaurant	
10	Rugzak	
11	Zak chips	
12	Tuinstoelen	
13	Nieuwe schoenen	
14	Meubelstuk	
15	Bos bloemen	
16	Vlees van de slager	
17	Kapper	
18	Cadeaubon	

19	Herbruikbare waterfles	
20	Paraplu	

Einde onderdeel 1

Onderdeel 2

Voor dit onderdeel maak ik gebruik van een korte online enquête. De toelichting van dit onderdeel vindt u ook op die pagina. Online survey link:

https://fmru.az1.qualtrics.com/jfe/form/SV_4ZxmiRPNcoEOZuZ

or

https://fmru.az1.qualtrics.com/jfe/form/SV_8HpEr6zP5rcJ6tf

1.9 Randomization

Two different e-mails were used: both led to a short Qualtrics survey, one with a cue, the other without a cue (the links are no longer active). A random-number table was used to ensure randomization (McBurney & White, 2009, page 233). Table 9.1 “*Portion of a Random-Number Table*” is copyrighted (2012) by Cengage Learning. The table was accessible via Radboud login (electronic rights). Using the third column as the reference point, this resulted in the following distribution:

Group 1 (CUE): participant NR. 1, 2, 3, 6, 9, 10, 11, 13, 15, 20: Qualtrics link 1: https://fmru.az1.qualtrics.com/jfe/form/SV_4ZxmiRPNcoEOZuZ

Group 2 (NoCUE): participant NR. 4, 5, 7, 8, 12, 14, 16, 17, 18, 19: Qualtrics link 2: https://fmru.az1.qualtrics.com/jfe/form/SV_8HpEr6zP5rcJ6tf

1.10 Initial project plan

Due to the recent developments concerning Covid-19, the project plan remains preliminary. The milestones refer to important points in time regarding the progress of the project.

Week	Objective	Milestone
14 – 30/03 – 05/04	Select product expenses	
15 – 06/04 – 12/04	(online) pilot testing	
16 – 13/04 – 19/04	2 participants each day	Start data gathering
17 – 20/04 – 26/04		
18 – 27/04 – 03/05		
19 – 04/05 – 10/05		Preliminary results
20 – 11/05 – 17/05	Transcribe	
21 – 18/05 – 24/05	MSP	Start analysis
22 – 25/05 – 31/05	Between-subjects design	
23 – 01/06 – 07/06	Finalize	
24 – 08/06 – 14/06		Finalize
25 – 15/06 – 21/06	Prepare defence	
26 – 22/06 – 28/06		Defence

Considering the additional time that was needed to gather the data, this project plan was adjusted along the way. The original deadline (15th of July) was considered not reachable, after which I aimed for the second deadline (10th of August).

1.11 Spending categories

In total, 17 interviews were conducted. After each interview, short summaries (Dutch) were made to capture the **most important elements**: the spending categories used by individual participants and their explanations regarding their preferences or logic when budgeting. The following consumer demographics were collected (sequential order).

	M/F	Age	Education
1	M	25	WO
2	M	23	WO
3	M	58	HBO/zzp
4	F	62	HBO
5	F	26	WO
6	F	30	MBO/zzp
7	M	29	HBO
8	M	28	HBO
9	F	25	HBO
10	F	54	VWO
11	F	52	HBO
12	F	52	HBO/zzp
13	F	56	HBO+
14	M	66	WO
15	F	31	HBO
16	M	32	WO
17	M	33	WO

Interview 1

Respondent maakt **niet** gebruik van een **strikt** potjessysteem en staat bij het maken van uitgaven niet elke keer stil bij welk potje hierbij hoort. Hij heeft wel een persoonlijke voorkeur en duidelijke visie over wat voor **soort uitgaven** **vaste lasten** zijn vs. **eenmalige uitgaven**. Hij heeft **moeite met het plaatsen van producten die hij niet geregeld aanschaft**. Noodzakelijke dingen vallen onder **vaste lasten** vs. “de dingen waar je echt voor kiest.” Hij heeft potje voor **studie** (samenvattingen, boeken, lab-jas), **cadeautjes** (giften) en **vitaliteit** wordt genoemd (sportschool; leesbril). Respondent maakt een onderscheid tussen **plezier in het algemeen en luxe-plezier**. Meer specifiek een onderscheid tussen **luxe plezier** (als activiteiten, zoals uit eten) en **luxeproducten**, in bijzonder afgestemd op het **gevoel** wat participant krijgt bij het doen van bepaalde uitgaven. Uitgaven van respondent zijn **situationeel afhankelijk**; dit speelt een grote rol bij zijn **budgetteringsgedrag**. “**Investeren in jezelf**” heeft ook **invloed op zijn budgettering**. Kookboek levert je plezier op, maar wordt eerder als een investering gezien: “je leert koken en je smaak ontwikkelen.” “Investering is meer een tafel; die kan je daarna weer verkopen.”

Interview 2

Heeft het gesprek voorbereid en de mail duidelijk gelezen en weet kort en bondig te vertellen van welke potjes hij gebruik maakt in het dagelijks leven. Net als respondent 1 plaatst respondent boeken in het potje **studie**: “in mijn vrije tijd lees in geen boeken.” **Hobby, vrije tijd; huishouden; boodschappen; overig; vaste lasten** komen voorbij als potjes. Met rugzak heeft respondent moeite: hij twijfelt tussen **kleding, reizen** en vrije tijd. “**Afhankelijk van waar ik het voor ga gebruiken**.” Bos bloemen; paraplu en waterfles vallen voor respondent onder **huishouden**; geeft aan dat dit **relatief ruimte categorie** is. **Overig** wordt gebruikt **voor zaken** die

respondent niet gemakkelijk in een van de andere potjes kan plaatsen. Respondent budgetteert op praktische en logische wijze (in zijn ogen). Flexibiliteit is toegestaan en wanneer hij iets graag wil hebben “koop ik het gewoon.”

Interview 3

Ontzettend uitgebreid verhaal, veel detail en maakt explicieter gebruik van bepaalde uitgavepotjes dan vorige respondenten. Hierin is er duidelijk ruimte voor het schuiven met geld wanneer de zakelijke rekening dit toelaat (flexibiliteit). Er wordt dus gebruikt gemaakt van potjes in een soepele en situationeel afhankelijke wijze, waarbij het moraal kompas wat betreft bestedingen van participant een grote rol speelt. “Wat heb ik ervoor over”, “mezelf trakteren”, “alsof een ander ervoor betaalt,” “wat goed voelt”. De zakelijke rekening fungeert als een soort overige categorie waarvanuit geld overgeheveld kan worden wanneer dit nodig is. Potjes: zakelijke uitgaven; huishouden (“voor gezamenlijke gebruik” en “eten”); huis-tuin-keuken (“rondom en in huis, niet zijnde eten”); luxe (“elektronische apparaten”, bioscoop, uit eten); overig (flexibele ruimte lopende rekening); persoonlijke verzorging (kapper, vitaminen, tandarts). De “behebbare en kleine bedragen” worden niet strikt bijgehouden vanuit vooraf vastgestelde budgetten; niet alle uitgaven bijgehouden aan de hand van een bestedingslimiet.

Interview 4

Vroeger, toen de noodzaak hiervoor aanwezig was, maakte ze ontzettend gedetailleerd gebruik van uitgavepotjes (spreadsheets). Huishouden, huur, verzekeringen, kleding, auto, onvoorziene uitgaven, sparen en zelfs toiletpullen waren toen potjes die ze gebruikte. Tegenwoordig is de noodzaak voor het gebruiken van deze potjes niet meer aanwezig. Beide zijn 60+, nog werkzaam, maar in mindere mate, en hebben voldoende aan een ander systeem: hierin staat de lopende rekening en de spaarrekening centraal als aparte potjes. Besluiten worden genomen op een meer impliciet niveau, gebaseerd op gevoel en overleg en in hoeverre ze een uitgave zien als een investering. Aan het einde van de opname komt naar voren dat er een systeem in zit: wekelijks, periodiek, jaarlijks of 5-10-jaarlijkse uitgaven; vaak terugkerende uitgaven van kleinere omvang horen bij de lopende rekening tegenover investeringen die het waard zijn om van spaarrekening te financieren).

Interview 5

Er wordt kort een onderscheid gemaakt tussen vaste lasten/maandelijks terugkerende uitgaven vs. de dingen “die je af en toe koopt”. Ze geeft aan geld opzij te zetten voor grotere ongeplande uitgaven of “onvoorziene uitgaven” (apparaat wat stuk gaat bijvoorbeeld) – van spaarrekening. Praktische dingen in en rondom het huis vallen onder huishouden en de ietwat uniekere uitgaven worden van geval tot geval bekeken. Potjes: entertainment (thuis, boeken, Netflix, Disney etc.); (medische) studieboeken worden tegenwoordig onder werk geschaard; huishouden (“wat je nodig hebt”); vervoer (OV en auto); uitjes (buitenshuis, zoals uit eten); abonnementen; sport; onvoorziene uitgaven; boodschappen; kleding; persoonlijke verzorging (kapper, shampoo); cadeautjes heeft ook een apart potje.

Interview 6

Relatief veel potjes, praktisch ingesteld. Respondent maakt gebruik van een overzicht waarin er een onderscheid wordt gemaakt tussen vaste lasten en variabele lasten. Een begroting wordt bijgehouden via Excel en alle uitgaven worden uiteindelijk in een potje geplaatst. Respondent maakt de overweging waar ze het product voor gaat gebruiken; dit bepaalt vaak “in welk hokje het terecht komt.” Spullen die nodig zijn voor het nieuwe huis (respondent woont net samen) worden nu van de spaarrekening gehaald; hier is een aparte begroting voor gemaakt en specifiek geld voor opzij gezet op de spaarrekening. Potjes: (vaste) abonnementskosten zijn

gesorteerd (Videoland, Netflix, sportschool bijvoorbeeld maandelijks, bibliotheek jaarlijks). Vaste lasten zijn onderverdeeld in auto, verzekering, abonnementen en het huis. Andere potjes zijn: huishoudelijke zaken; leuke dingen; reiskosten; uitstapjes (“iets wat ik ga doen,” wekelijks, cadeaubon valt hier ook onder); kleding (“dingen die ik echt nodig heb”); boodschappen (per week en valt onder grotere kopje van huishoudelijke uitgaven); onvoorziene uitgaven (“in huis iets kapotgaat”); cosmetica. Respondent gebruikt een apart spaarpotje voor “leuke dingen,” bijvoorbeeld voor een koptelefoon.

Interview 7

Maakt gebruik van een duidelijk systeem met meerdere aparte potjes, sommige expliciet gescheiden van de rest. Zo kent vaste lasten wat betreft maandelijks terugkerende uitgaven een aparte rekening specifiek bedoeld voor automatische incasso's. Hij geeft aan dit erg handig en fijn te vinden. Hetgeen wat overblijft, genaamd “overig”, is waar de meeste dagelijkse uitgaven van bekostigd worden. “Kleine bedragen” (bioscoop) en “koop ik nooit” valt gewoon onder overig. Boodschappen wordt ook voor opzij gezet. Grotere uitgaven (geeft aan ongeveer >€150) komen van de spaarrekening. Spaarrekening kent wel een minimum wat hier te allen tijde op moet blijven staan. Uitgaan wordt expliciet geld voor gereserveerd, afhankelijk van het aantal weekenden in opkomende maand. Uitgaan is niet strikt; uit eten, cadeautjes of verjaardagen vallen hier ook onder. Andere ‘leuke activiteiten’ worden vanuit overig betaald. Vakantie wordt ook geld voor gereserveerd; hij geeft aan dat geld van de spaarrekening daar niet voor bedoeld is. Zorg en auto worden tenslotte nog genoemd als afsluitende vaste lasten.

Interview 8

Onderscheid tussen “noodzaak en niet noodzaak”. Vaste lasten (eten thuis, huur, water en elektra en media; zoals Netflix, Spotify en internet) zijn noodzakelijk. Hij begroot eerder impliciet en weet waar wat ongeveer naartoe mag gaan. Hij maakt gebruik van een redelijk los systeem, waarbij flexibiliteit tussen spaar en lopende rekening is toegestaan. Enkele impliciete regels: “luxe en vrije tijd” is alles wat buitenshuis plaatsvindt; dingen voor in huis, “vaste dingen” of zaken die je dagelijks veel gebruikt komen van de spaar. Kleding komt langs (spaar). Luxere zaken, vrije tijd, uitgaan of andere zaken buitenshuis komen eerder van de lopende rekening (bioscoop, dagje weg “komt dan daaruit” en “is niet meer dan 150€ per maand.” Dingen die van de spaar komen staat hij goed bij stil: “ik kijk hoe vaak ik hem dan ga gebruiken en waarvoor.” Geeft aan moeite te hebben met uitgaven plaatsen in potjes die hij zelf nooit eerder heeft gekocht. Eenmalige uitgave (“4 jaar”) is een apart potje niet voor nodig (spaar).

Interview 9

Erg uitgebreid verhaal. In essentie 2 strikte potjes; spaar en lopende rekening. Erg bewust van haar bestedingsruimte en houdt meer impliciete potjes bij. Vaste lasten (“echt noodzakelijke dingen”) zoals huur, sportabonnement, zorgverzekering, telefoonabonnement, Netflix account en spaargeld is wat maandelijks direct wordt afgeschreven, ofwel apart wordt gelegd. Ze kent 2 kernregels: 1) spaar is i.b. off-limits voor dagelijkse of vaak terugkerende uitgaven en 2) max. 3 items per maand echt voor haarzelf te kopen met de afweging “heb ik het echt nodig”). Spaar is bedoeld voor zaken als vakantie, investeringen, verhuizing, woning of onvoorziene grotere uitgaven. Uitjes, cadeaus of uit eten hoort bijeen, maar kent geen vast budget (“ook een beetje op gevoel”). Ze gebruikt een flexibel systeem (lopende rekening) en bekijkt “van geval tot geval”, met “gezond verstand” en haar gevoel naar “hoe nuttig, nodig of noodzakelijk” een uitgave is. Afhankelijk van waar haar prioriteiten op dat moment liggen en hoeveel bestedingsruimte er op dat moment nog is (voor die maand). Echt noodzakelijke investeringen

van hogere bedragen worden gemaakt vanuit spaar. Vakantie is soms een apart spaardoel. Doorlopende rekening voor dagelijkse uitgaven, huishouden of kleding.

Interview 10

Werkt met een ontzettend uitgebreid en divers systeem van potjes (eerste participant die dit op zo'n niveau doet). Voor bijna elke 'groep' van uitgaven die er te bedenken is hebben zij een aparte subcategorie gemaakt en elke uitgave wordt uiteindelijk geplaatst in een potje. Reden voor deze toewijding is het willen hebben van "controle en overzicht". Ze maken gebruik van een programma (software) genaamd Davilex (Cash Personal) en doen bijna al hun uitgaven digitaal (pinnen). Via Exel worden deze uitgaven maandelijks verder in kaart gebracht. Deze uitgaven worden door deze software automatisch gecategoriseerd op basis van hun opgegeven voorkeuren. Deze 'lijst' van verschillende potjes en subpotjes gebruiken ze al erg lang en is voor hen een gewoonte geworden. Uiteindelijk wordt zo "precies duidelijk waar wat naartoe gaat". 'Diverse uitgaven' fungeert als een hoofdcategorie (naast vaste lasten) en kent meerdere subcategorieën. Elke maand kijken ze beide waar hun budget aan is opgegaan, wat hiervan over is en welk deel daarvan naar incidentele uitgaven (spaar) of de algemene spaarrekening gaat. Vakantie is onderdeel van het budget en wordt maandelijks ruim rekening mee gehouden. Flexibiliteit in het gebruik van de potjes is aanwezig, afhankelijk van wanneer een situatie hierom vraagt (Corona is 'vakantie' ongebruikt); overhevelen van geld is mogelijk en "normaal". "Vroeger vaak geld uit de muur, nu doen wij alles met pin en is het dus digitaal perfect te herleiden en bij te houden". Potjes: auto, bankkosten, diverse uitgaven (boeken en tijdschriften, huis en inrichting, tuin, cadeaus, kapper, lenzen, computer, audio, OV), huishoudelijke kosten: boodschappen (alle boodschappen, maar ook bloemen voor haarzelf), kleding (voor hem of haar), vrije tijd/uitgaan (bioscoop, uit eten), vaste lasten (hypotheek, gas, water, licht en verzekeringen (met meerdere potjes)) of overige vast lasten (abonnementen, telefoon, mobiel, internet, onderhoud apparatuur). Medische kosten houden ze ook bij.

Interview 11

Heeft voorbereid en weet snel te antwoorden. Gebruikt een uitgebreid systeem van potjes waarbij "food/non-food" de meeste alledaagse klein huishouden uitgaven dekt; simplistische benadering. Daarnaast noemt ze media (koptelefoon en krant/tijdschriften), huis/woning (verbouwing) en tuin (tuinstoelen). Food "zoals AH" en non-food "meer zoals HEMA". Ook kleding, vakantie, verzorging/drogisterij, sport en vervoer (OV) komt langs. Ontspanning omvat alle "leuke dingen" (uit eten/bioscoop). Ze geeft aan dit al ontzettend lang zo te doen en heeft eigenlijk nooit (meer) moeite met het categoriseren van uitgaven. Ze merkt op dat de uitgaven verschillen op één belangrijk punt: "bepaalde uitgaven doe je niet ieder jaar – anderen doe je maandelijks". "2 grote: food/non-food, daar gaat vaak het grootste deel van ons budget naartoe" (5 kinderen). Respondent merkt op niet strikt te budgetteren en dit systeem eerder achteraf bij te houden, nadat de uitgaven zijn gemaakt. Er zijn "over het algemeen geen strikte bedragen gekoppeld aan deze potjes" en "het is meer voor het overzicht". Kleding voor de kinderen kent daarentegen wel een budget.

Interview 12

Respondent maakt tegenwoordig niet meer gebruik van het ruime systeem van vroeger. Na scheiding was gedetailleerd budgetteren noodzakelijk, nu is dit niet meer nodig. Die periode heeft haar wel "een stuk bewuster gemaakt" en is volgens haar ook de reden voor het simpele systeem wat ze nu gebruikt. Haar partner regelt de vaste lasten, zij de variabele lasten. Gemak is nu belangrijker; zolang er onderaan de streep "genoeg" over blijft is het gedetailleerd bijhouden niet meer nodig ("klopt het"). Ze maakt gebruik van enkele grote potjes, waarbij "vermaak" vaak genoemd wordt. Onvoorziene uitgaven (boven bepaald bedrag),

huis/tuin/keuken (onder bepaald bedrag), auto (vaste lasten onderdeel) en kleding worden genoemd. Ze werkt met bepaalde limieten: spaardoelen worden gebruikt voor bedragen die verwacht worden hoger uit te vallen dan €500. Correct met haar geld omgaan gaat “vanzelf”.

Interview 13

Respondent (en haar partner) maken niet strikt gebruik van potjes bij het maken van dagelijkse uitgaven; wel gebruiken zij een duidelijke en vaste begroting die al enige tijd hetzelfde is. Ze maakt een duidelijke tweedeling tussen enerzijds vaste lasten en anderzijds flexibele lasten. Gezamenlijke vaste lasten, zoals zakgeld voor de kinderen, energie, onderhoud/huis (tuinstoelen), keuken, vakantie, verzekeringen, schoonmaak, cadeaus kids, hypotheek, voeding en abonnementen (krant en Netflix) komen langs. Een relatief groot potje in hun begroting is “onvoorziene uitgaven/flexibele uitgaven.” Het gaat hier om materiële zaken (cadeautjes, hebbedingetjes) “voor de leuk,” die “echt onvoorzien zijn” en “niet dagelijks terugkeren.” De afweging die respondent maakt die bepaalt vanuit welk potje het komt en of hier ruimte voor is: “is het noodzakelijk of niet?” / “waar heb ik wel of niet grip op,” “waar gebruik ik het voor?” en “is het dagelijks of maandelijks.” Schuiven tussen potjes is mogelijk, afhankelijk van “wat ik op dat moment leuk vind” en hoeveel ruimte er nog over is (op lopende rekening). Van dag tot dag worden potjes niet strikt in de gaten gehouden; “als er aan het eind van de maand maar quitte gespeeld wordt.” Culturele uitjes, sport, kleding (nieuwe schoenen), kapper en OV-kosten komen nog langs. Wat betreft grotere bedragen of investeringen benoemt respondent dat deze “uitgaven voor de lange termijn” van de spaarrekening komen; de lopende rekening betreft daarom terugkerende uitgaven. Wanneer een uitgave in meerdere potjes past lost respondent dit op door te kijken naar “waar geld over is.” Lopende rekening is hierin leidend.

Interview 14

Vroeger (werkende leven) gebruikte respondent “rijen en kolommen” en budgetteerde hij maandelijks volgens een relatief strikt systeem. Tegenwoordig houdt hij het niet meer zo gedetailleerd bij, maar het systeem van toentertijd is nog altijd aanwezig in zijn hoofd. Hij noemt meerdere potjes, zoals cultuur/abonnementen, nutsuitgaven, diversen, vaste lasten (vaste contracten en maandelijks terugkerende uitgaven, maar ook afschrijving apparatuur zoals de wasmachine), vakanties, kleding, huishouden (messenset; “kleinere uitgaven” die je doet “in het dorp”, “noodzaak”, “hoort erbij”) en het huis (onderhoud). Diversen (inboedel en overige zaken) is bedoeld voor de “niet primaire” zaken of “dingen die niet vaak voorkomen”; deze post wordt gebruikt voor uitgaven die hij niet gemakkelijk kan rubriceren en hij merkt op dat het voor deze uitgaven ook “niet echt belangrijk waar het geplaatst wordt.” Respondent werkt nu nog met potjes, maar laat zijn keuzes voornamelijk afhangen van wat hij het “keuzemoment” noemt. Hierbij wordt er een beoordeling gemaakt “hoe graag wil ik het?”, “kan het?” (bestedingsruimte) en “is het noodzakelijk” of niet? Het gaat hier vaak om ietwat hogere bedragen. Zaken gerelateerd aan levensonderhoud heeft respondent veel voor over. Tijdens de potjestaak geeft respondent aan dat “moment van gebruik” en “waarvoor ik het gebruik” een belangrijke indicatie is voor een bijpassend potje. Hij benoemt nogmaals manier van omgaan met geld: “waar koop ik het voor?”, “heb ik het hard nodig?” en “is er noodzaak?”.

Interview 15

Respondent maakte tot voor kort (2018) gebruik van meerdere potjes. Tegenwoordig is dit niet meer zo noodzakelijk. Haar systeem bestaat nu hoofdzakelijk uit twee potjes: gezamenlijk en extra privé. Enige flexibiliteit tussen deze potjes is aanwezig, afhankelijk van het moment en wat ze hebben uitgegeven in het verleden. Ze woont samen met haar vriend en regelt veel (80% van haar salaris) gezamenlijk. Regel is: wat ze samendoen komt van de gezamenlijke rekening.

Vaste lasten, huishouden en sparen vallen hieronder. Privé let respondent goed op haar geld; “privé gaat nooit leeg” en “groeit altijd iets zodat ik af en toe iets groots kan kopen.” Dit fungeert als een rem waarbij de afweging “heb ik het echt nodig” vaak wordt gemaakt. Voorheen was haar potjessysteem uitgebreider, waarbij ze een onderscheid maakte tussen “weggezet/vast” en “flexibel.” Een groot deel van “vast” was ook toen de huishoudpot. Verder noemt ze: telefoonkosten, jaarclub, zorg, krant, brandstof voor werk/privé, auto, verzekeringen, abonnementen en studieschuld (“weggezet”). Flexibel kosten noemt ze boodschappen, eten, werk spulletjes, cadeaus, kapper, sport, het OV. Ook gebruikte ze toen nog aparte spaardoelen (“reservering/sparen”) voor kleding, vakantie, extra zorgkosten en afschrijving telefoon.

Interview 16

Het dagelijks specifiek bijhouden van uitgaven is voor respondent en zijn vriendin beide niet meer nodig; leuke dingen of spullen “kan gewoon.” Goede baan en salaris draagt hieraan bij; wel zijn ze beide scherp en bewust over wat realistisch is. Enige tijd terug een uitgebreide begroting gemaakt m.b.v. Nibud (“her en der gepersonaliseerd”: modellen in Excel), voornamelijk omdat ze op zoek zijn naar een huis en over kids nadenken. Het systeem wat respondent gebruikt: uitgaven zijn of gezamenlijk, of privé (persoonlijke rekening). Boeken vindt hij lastig omdat deze uitgaven “niet vaak voorkomen.” Bovendien geeft hij aan “meerdere functionele posten” te hebben waar dit onder zou kunnen vallen. Dagelijkse uitgaven zoals boodschappen of huishoudelijke dingen worden wekelijks bijgehouden. Aparte potjes voor onder meer interieur huis, onderhoud huis, vervoer, vakantie, verzekeringen, abonnementen. Voor de persoonlijke kant (privé) noemt hij “luke/voor mijzelf” als voornaamste post. Dingen als telefoon of een nieuwe tv gaan op goed gevoel. Begroting is gebaseerd op: “wat is echt nodig” (eten, drinken enz. vaste dingen), tot “wat is handig voor gebruik” (huishouden, badhanddoek enz.), tot “overige zaken” (abonnementen, luke, gemak enz.). Afweging dagelijks leven bij duurdere zaken of vaak terugkerende zaken: “is het wel echt nodig,” “gevoel: nu is het even genoeg”

Interview 17

Respondent (en vriendin) maken samen een duidelijk onderscheid tussen gezamenlijk vs. privé. De regel is hier over het algemeen: dat wat ze samendoen komt uit dat potje. Recent een eigen huis gekocht wat maakt dat er nu relatief veel vanuit dat potje komt. Respondent deelt zijn salaris op in vaste lasten (vooral gezamenlijke zaken) en “wat dan nog over is.” Dat wat over blijft fungeert als pot voor alle “incidentele uitgaven.” In zijn privérekening (spaar) gebruikt hij voor maar enkele dingen werkelijk aparte spaarpotjes of “reserveringen.” Sport, telefoon, kleding en zorg komen voorbij. Wat er hierna overblijft is flexibel en “vrij te besteden.” De logica voor respondent achter de meeste potjes: “de grootte van het bedrag” en “is het incidenteel of niet.” Kleding bijvoorbeeld koopt hij maandelijks en is gewoon nodig, daarom heeft hij hier wél een “klein spaarpotje voor.” Voor zijn gevoel maakt het ook nog uit of iets “bezit of meer lopende zaken” is. Voorheen hield hij dit gedetailleerder bij; nu met het nieuwe huis, gaan de grotere bedragen soms erg gemakkelijk. Respondent heeft voldoende bestedingsvrijheid om de lopende rekening om “flexibel met zijn uitgaven om te gaan,” “reëel bedrag,” “o.b.v. prioriteit te kijken wat belangrijk is” en “wat uitkomt, wanneer.” Op de spaarrekening is wel alles onderverdeeld in potjes (“allemaal losse spaardoelen”).

1.12 Transcripts

As mentioned before, the interviews were not transcribed word for word. Intelligent verbatim transcripts were made (Dutch), only including the sections in which participants explained their reasoning or logic behind their mental budgeting approach. The researcher specifically focused on the two questions mentioned in Chapter 3.2, capturing the underlying rationale of their particular categorization approach and the potential role that typicality might play.

Dots (...) are used when moving from one subject to another. Text written in *italics* are the participant's words (vs. the words of the researcher).

Full transcript can be found in a separate file, named: JansenTranscripts.

1.13 List of codes

[illegible]

Generated codes in first stage

1.14 ATLAS.ti open coding process

The screenshot illustrates the ATLAS.ti open coding process. On the left, a project structure shows documents (Interview 1.docx to Interview 17.docx) and codes (Codes (137), Memos (0), Networks (0), Document Groups (0), Code Groups (0), Memo Groups (0), Network Groups (0), and Multimedia Transcripts (0)). The main text area shows a transcript with several codes applied to specific segments. The right pane shows a comment field and a list of coded quotations.

Color ☐ No Color

Comment

een expliciete beoordeling of afweging die de participant maakt wat bepaalt in welk potje de uitgave terecht komt.

Coded Quotations

- 2:7 Ik maak eigenlijk een afweging...
- 3:11 Ik kijk: dit is sport, wat heb ik hi...
- 4:10 minder gebruik van aparte best...
- 4:11 onderzoek doen naar kwaliteit,...
- 4:22 De spaarrekening is dus echt b...

Status

Created: 16 July 2020
David Luciën Jansen
Changed: 17 July 2020
David Luciën Jansen

Open coding process using ATLAS.ti

1.15 Collected data

1 : P1Q1		6															Visible: 17 of 17 Variables		
	CUE	P1	P1Q1	P1Q2	P1Q3	P2	P2Q1	P2Q2	P2Q3	P3	P3Q1	P3Q2	P3Q3	P4	P4Q1	P4Q2	P4Q3		
1	1,00	Kleding	6	6	6	Luxe	6	4	6	Vrije tijd	6	6	6	Overig	4	1	5		
2	1,00	investering	6	6	7	luxe	7	7	7	luxe plezier	6	6	1	investering	6	6	5		
3	1,00	Kleding	6	6	6	Boodschappen	7	7	5	Hobby/vrije tijd	7	7	6	Hobby/vrije tijd	5	3	7		
4	1,00	kleding	6	7	6	huishoudgeld	5	3	3	luxe uitgave	7	6	7	luxe uitgave	5	3	3		
5	1,00	kleding	6	5	5	boodschappen	7	7	2	uitjes	6	6	6	uitje	3	5	3		
6	1,00	investering	6	6	6	Huishoudpot	6	6	6	Vrije tijd	6	6	5	vrijtijdsbestedi...	5	6	6		
7	1,00	kleding: kleding x	7	7	7	Huishoudelijke ...	3	3	7	vrije tijd: uitgaan	7	7	7	diverse uitgaven...	7	7	7		
8	1,00	kleding	7	6	7	eten en drinken	7	7	7	ontspanning	7	7	7	media	5	5	7		
9	1,00	kleding	7	7	7	voeding	5	5	6	culturele uitjes	7	7	7	onvoorzien / fle...	3	3	2		
10	1,00	kleding	7	7	7	Boodschappen	5	5	6	Vrije tijd	7	6	6	Prive extra	5	4	6		
11	,00	spaar	5	4	2	lopende rekening	6	6	7	lopende rekening	4	4	7	lopende rekening	3	5	3		
12	,00	Kleding (echter ...	5	3	2	boodschappen	7	7	7	uitjes	7	7	6	entertainment (...)	3	3	5		
13	,00	Overig/ vrij best...	2	3	3	Of bij uitgaan (b...	5	7	7	Uitgaan/feestjes	6	7	5	Overig/ vrij best...	6	6	4		
14	,00	kleding	3	5	7	luxe eten	6	6	7	uitgaan	6	5	5	cadeau	2	2	2		
15	,00	onvoorzien	2	3	3	boodschappen	4	4	7	vermaak	4	7	7	huis tuin en keu...	6	7	7		
16	,00	Kleding	6	6	6	huishouden	4	2	6	Cultuur & Abonn...	6	6	7	Huishouden	2	2	4		
17	,00	Kleding	6	5	7	Boodschappen	7	7	4	Uitje	7	6	5	(Luxe) vrijetijdsb...	5	3	6		
18	,00	kleding	6	6	7	incidenteel	3	6	6	incidenteel	5	4	3	incidenteel	6	6	6		
19	,00	Kleding	5	5	5	Drank (ik verza...	7	7	6	Uitjes	6	6	3	Overig	1	2	2		
20	,00	Kleding en scho...	6	6	5	Huishoudgeld	6	4	5	Verwennerij	5	4	5	Hobby (voor het...	6	6	6		