

# FEEDING YOUR PIGGY BANK WITH INTENTIONS: A STUDY ON SAVING BEHAVIOUR, SAVING STRATEGIES, AND HAPPINESS

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## ABSTRACT

The act of saving money can connect one's present state to a meaningful future state, especially if we consider money not as a direct source of happiness, but as a resource for engaging in meaningful activities. To explore how design can contribute to making the act of saving more meaningful, we conducted two studies. The first consisted of questionnaires and interviews about saving. The second was a study on the BILLEGAS piggy bank design case, in which we sought to determine success factors, and evaluate them among three groups in different levels, during a four-week period. The study indicated that design could stimulate empathy with the product, a meaningful saving experience with a relevant contribution to well-being, and an increase in the amount of money saved. The study culminated with new insights to enrich the meaningfulness of the saving experience in other contexts, and to increase the user's well-being.

KEY WORDS: *Positive Design, saving behaviour, happiness, ownership, attachment*

## INTRODUCTION

It's often said that 'money can't buy happiness', expressing the idea that rich people are not necessarily happier than those who are poor. Even though this is 'just a saying', it is supported by recent findings of researchers who study the relationship between happiness and financial resources (for an overview, see Biswas-Diener, 2008). Once people have sufficient financial resources to survive, their happiness does not rely on the amount of additional money, but rather on *how* they spend their money (Dunn & Norton, 2013). Some authors have proposed that 40% of people's happiness relies on the activities they do, and only 10% on circumstances like wealth, weather, or location (Lyubomirsky et al., 2005; Lyubomirsky, 2008). However, even if money may not be a direct source of happiness, it can still be considered a *resource* that enables people to engage in meaningful activities, therefore making a salient contribution to their happiness. We therefore propose that it is interesting to consider the well-being effects of saving. Saving is understood as an activity in which an individual accumulates money with the intent to spend it in the future. Given that saving can connect one's present state to a meaningful future

state, we became interested in exploring how this behaviour can be experienced as more meaningful, and in that sense contribute to well-being. We used the BILLEGAS piggy bank as a design case in order to distinguish and evaluate factors that could enhance the act of saving and make it meaningful. BILLEGAS is a collection of money boxes depicting cartoon characters that allows the users to choose a character, pick a name for it, and set a saving intention. In doing so, it adds a tangible quality to one's intangible saving intentions. Despite the fact that this product was not designed with the specific intent of making a contribution to happiness, it incorporates some basic ideas that make saving enjoyable as well as effective, and in this sense we found it interesting to explore regarding meaning and empathy.

## MONEY AND HAPPINESS

The degree to which economic matters influence quality of life, and therefore happiness, has been studied extensively (e.g. Veenhoven, 2000). Issues like income, GDP, and accumulated wealth are found to have little impact on individual happiness

(Hagerty & Veenhoven, 2003), unlike circumstances such as weather (Rehdanz & Maddison, 2005), or behaviours like cultivating positive relationships (Ryff & Singer, 2006; Lyubomirsky & Kurtz, 2011; Seligman, 2011). Dunn and Norton (2013) studied the increase of happiness through the spending of money in a meaningful way, and have identified five important strategies in which spending money can contribute to happiness. The strategies they identified were to buy experiences, to make it a treat, to pay now and consume later, to buy time, and to invest in others. There are two main hypotheses behind these strategies. The first is the contribution of social interaction and how people share and help others, and the second the contribution of positive expectation and the surprise effect. Even though Dunn and Norton focused on spending behaviour, we propose that their insights on social connections, on the power of intentions, and on experiential purchases, can be applied to saving. Indeed, these authors also acknowledged the importance of saving in relation to well-being, stating that saving makes a direct contribution to happiness.

Money is an enabler of personal and social activities that can contribute to our subjective well-being (Dunn & Norton, 2013), and saving can be seen as a preventive experience: saving prevents negative emotions by supporting the individual in building positive traits and having positive subjective experiences (Seligman & Csikszentmihalyi, 2000). This is accomplished by the act of defining intentions that let people commit to a goal. The motivation to save money is still rarely explored and so is its relation with happiness. Furthermore, the formats in which people can save money, like saving accounts, piggy banks, or other investing strategies, have been hitherto insufficiently explored in a design (and well-being) perspective. We aim to understand how design can motivate people to save money in a more meaningful way and contribute to their happiness.

## DESIGN AND HAPPINESS

Based on the knowledge gathered in the field of Positive Psychology, a Positive Design approach proposes that design can contribute to the happiness of individuals and society. Desmet and Pohlmeier (2013) describe the three basic ingredients to stimulate human flourishing through design. The first one is Design for Pleasure, related to the enjoyment of the moment; the second is Design for Personal Significance, related to a sense of personal meaning derived from the pursuit of meaningful goals; the third is Design for Virtue, related to the moral quality in one's interactions with the world.

The design case used in this study is a simple money box called BILLEGAS. The first step is to select a character (eight characters are available). Next, the user names the piggy bank and sets his or her intention for saving. This information is written on the bottom of each box, along with the starting date of the saving period. Once this is done, the user can start saving and can decide, according to the intention or the starting date when he or she wants to open it. By writing it on the box, the user makes the name and the saving intention more concrete and easier to revisit.

The BILLEGAS was designed to help people improve their saving experience. We used the Positive Design framework to evaluate characteristics of these piggy banks based on the three ingredients that compose it: the playfulness of interaction (Pleasure), the act of writing down an intention (Personal Significance), and the commitment to that intention (Virtue). The playfulness of interaction (including selecting a character, customizing, and naming the product) will help users to enjoy their saving activity. The act of writing down one's intentions and displaying the product in a visible place will help users to experience the meaningfulness of their saving activity, making the mental connection between the saving, and the meaningful activity which will be made possible with the saved money. Finally, it relates to virtue in the sense that users set intentions, which translate into commitments that nudge them into considering their spending and saving behaviours in a more careful and responsible way. In order to understand better the value of the characteristics of this product in terms of fostering well-being, it is interesting to evaluate it in a real context. For that we carried out a study to determine the impact of this particular piggy bank on people's happiness.

## 'HAPPY SAVINGS' STUDIES

The aim of this research was to explore if and how design can contribute to the meaningfulness of saving money. In order to do that, two studies were conducted based on the BILLEGAS. The aim of Study one (including two questionnaires and in-depth interviews) was to increase our general understanding of saving behaviour and identify the factors that enhance and give meaning to the saving experience used in the BILLEGAS piggy bank. The results were used in Study two, in which participants were instructed to save money for a period of four weeks. The aim of Study two was to validate design strategies that resulted from Study one, and identify new opportunities to enrich this experience. Participants were split into three groups: a control group with blank piggy bank boxes (1), a group that used the current version of the BILLEGAS (2), and a group that used a customized version of the BILLEGAS (3).

### *Study One: Questionnaires and interviews*

In Study one, two questionnaires were administered; one that focused on saving in general, and one that focused on the use of the BILLEGAS. The aim of the first questionnaire was to increase our understanding of how many people save money, the variety of saving methods, advantages and disadvantages of saving, and motivations for both long-term and short-term saving. The aim of the second questionnaire was to determine which elements of the BILLEGAS piggy bank were considered to have the biggest effect on meaningfulness. In addition to the two questionnaires, three in-depth interviews were done with BILLEGAS users. In those interviews, we inquired about the use, concept, look, and meaning of the product. Furthermore, we discussed the kind of relationships that users develop with their piggy banks.

The first questionnaire was distributed through social media networks. In total, 83 people responded, from 29 different countries (35 females and 48 males), with an age range between 21 and 46 years. Among this group 58% were students. The second questionnaire was distributed on the BILLEGAS Facebook fan page, and was sent to people who had recently acquired the product. In total 23 people responded (13 females and 10 males) from different regions of Colombia, the country where the product originated. From the respondents, 70% were employed or freelancers, while 27% were students. From the people that filled in the second questionnaire, three people were willing to participate in an in-depth interview about the use of the BILLEGAS. The interview was set up as a semi-structured interview with the main purpose of identifying the elements that motivated the users to resort to this piggy bank. The interview was structured in three main parts: previous saving experiences, experiences with the BILLEGAS piggy bank, and the relation between money, saving, and happiness.

## Results of Study One

### First Questionnaire

The majority of the respondents saved money (90%) and considered saving important, which is in line with findings from previous studies (e.g. Furnham, 1999; Xiao et al., 2008). Of these savers, 69% used saving accounts, and 10% used piggy banks. Most respondents (38%), reported to have undefined intentions (UI) for saving money ‘...to be certain that I have some money in case of an emergency’; 28% mentioned defined short-term intentions (DSTI) ‘...for a pair of sneakers or a concert’; 23% mentioned defined long-term intentions (DLTI) ‘...saving up for moving, for having a family, maybe getting a car, traveling, etc.’ Figure 1 presents a word cloud to give an impression of the most stated intentions. From these answers we defined three lists of intentions, which later were used as a reference in the second study (see Table 1).



Figure 1. Word cloud of intentions according to the questionnaire answers

SHORT TERM INTENTIONS	LONG TERM INTENTIONS	UNDEFINED INTENTIONS
Time with friends	House/real estate	Having money
Time with family	Traveling/big trip	Unexpected needs
Gifts for others	Transport (car, motorcycle, boat...)	Future
Pampering	Cosmetic surgery	Peace of mind
Clothes/shoes/ accessories	Study	Help friends/family
Domestic appliances	Loans/debts	Charity
Personal electronic devices	Get settled	Safety
Get away weekend/small trip	Building a business	Investment
Hobbies/sport	Pension	Build a life/family
Furniture/ decoration	Holiday house	Freedom
Fixing/renovations		Independence
Events		Stability
Buy stuff for others		Health/illness
Small investments		Maintenance
Special meals		Emergency
New experiences		Legal issues/ unemployment
Getting a pet		
Small transport (skate, bike...)		

Table 1. List of intentions resulting from the questionnaire answers

Out of the respondents, 67% affirmed it was important to have knowledge about saving strategies; 58% said it was important to learn about saving; and 43% claimed it was important to teach about saving. The statement that money makes people happy was deemed unimportant by 40% of the respondents; while 43% said it was important. Regarding money's ability to help people accomplish their goals, 69% agreed. And finally 64% of the respondents said money is important in their lives.

### Second Questionnaire

49% of the respondents said they saved money in savings accounts, however, some of them mentioned their experience as

unsatisfying. Regarding the BILLEGAS, 50% said they used it to save money, and 47% for decoration. When asked about the different qualities of the BILLEGAS, 67% said the possibility to write down the saving intention was important, while 19% said it was mandatory. Furthermore, the act of planning the savings was deemed important by 67% and mandatory by 29%. The respondents said that the BILLEGAS has helped them to save moderately (67%), and a lot (19%).

### In-Depth interviews

Interviewees talked about the importance of saving in previous experiences 'besides my piggy bank (...) I have a saving account, escrow account and TDC [term deposit certificates]'; experience with the BILLEGAS 'she helped me a lot to be more committed [...] every time I see him, I remember that I have to put a bill inside'; the importance of the BILLEGAS characteristics (name, intention, and date) 'naming it and setting the intention makes it more personal... when you get involved with the intention it turns out to be more interesting [...] naming the BILLEGAS was important because we were calling her by her name: Paris. We were saying "We have to take the money to feed Paris"... so she turned into a character of the house, during that time she was alive'; and the importance of saving and its relation with happiness 'saving is in the process of being happy, I don't see it as an end. I see it as the process of saving continuously for a period of time that satisfies me. Then the whole process turns into my happiness'.

### Conclusions of Study One

From Study one we learnt three things. The first one is that people perceived saving as an activity that can contribute to their goals and achievements. A study about the saving habit of young people demonstrated that saving was a very important habit (Furnham, 1999) and that it can contribute to one's life satisfaction (Xiao et al., 2008). Secondly, there is a higher chance to commit to an intention, when it is established and written before starting to save. And lastly, customizing the piggy banks develops a level of attachment which increases the motivation to save. We used these insights to structure Study two, in which we wanted to evaluate certain characteristics at different levels and determine which ones contribute to happiness and how.

### Study two: Saving experiment

Study two started with an introduction session, in which twelve participants received a 'saving kit' to save for a four-week period, and ended with a creative group session to discuss the experience. For this study, twelve participants were recruited, and randomly split into three groups, which were each given different piggy bank styles. Group one (the control group) was given a blank piggy bank. Group two had the option to choose one of four available BILLEGAS characters (there was no direct customization besides this choice), and was instructed to name the character, and set a saving intention. Group three had a customizable version of a BILLEGAS character which was a basic female or male character that could be customized with stickers, ranging through an assortment of eyes, accessories,

and logos for the character's clothes. They were instructed to name their characters and set up a saving intention.

Respondents in all three groups were asked to save for a period of four weeks, meanwhile keeping track of their motivation and thoughts about saving in a diary booklet. The booklet was divided into weeks and each week had a topic for the participants to think and reflect upon, as well as a calendar to record any situation or emotion that contributed to happiness during that period. The first week was about intentions, goals, and achievements. The second week was about happiness and its importance to keep up motivation. The third week was about savings, strategies, methods, and stories. And lastly, the fourth week was about reflection, assessment, and learning. In the fourth week the participants were also asked to take a picture of their piggy bank in the context where they had it.

During the creative follow-up sessions (each group had a separate session), the groups engaged in five exercises to catalyse a discussion about their experiences. In the first exercise, participants were asked to choose from a pool of activities representing the different saving intentions (Table 1), and placed them in a target, where the area closer to the centre would be for the ones most relevant to their happiness. For the second exercise the participants were handed six blank papers to expand on different themes: personal sphere, relationship sphere, social sphere, professional sphere, global sphere, and spiritual sphere. These exercises aimed to provide a thoughtful exploration of the participants' priorities in various aspects of their lives (which can influence decisions and intentions for saving). For the third exercise the participants were asked to pull out discussion cards containing different debate questions. In the fourth exercise the participants were handed a self-assessment sheet with several steps to evaluate and reflect on the experience of saving with the BILLEGAS. It asked them to take a photo with the piggy bank, to review their saving intention, and to state things that were done to pursue it. Furthermore, the exercise asked for a mood evaluation and an assessment of how close they were to the intention, followed by an explanation, and prospects on the continuation of saving. For the final exercise, a discussion about the role of technology, customization, and the responsibility of banks was raised among the groups.

### Results of Study Two

The results from the booklets served mostly as input for the sessions, which were used to draw new possible directions towards meaningful saving.

#### Exercise One: Saving intentions

In group one the undefined intentions (UI) and defined short-term intentions (DSTI) were selected as most relevant. The participants agreed that unexpected emergencies or unpredicted future situations (UI) and special activities that involved social interactions (DSTI) motivated them to save. For group two, the defined long-term intentions (DLTI), which were activities that needed more time and effort, were considered the most

important. As for group three, the most relevant intentions were also future oriented, as group two, however, they also stated the importance of DSTI as motivators to save. Although no particular pattern was observed, all groups agreed that defined intentions are motivating to save for, and undefined ones are mostly necessary to save for.

### Exercise Two: Spheres of Happiness

Results from this exercise showed that all participants, disregarding the groups, were tuned into aspects related to their relationships (interpersonal connections, in which participants mentioned *togetherness, love, trust, honesty, learning from others, and giving support*); professional status (occupation, and the participants mentioned *challenges, accomplishments, success, and development* as contributing to happiness, but also *income and financial stability*); and spirituality (believes and practices, and for this the participants indicated *peace of mind, connection, nature, and spiritual growth*). The latter is important, taking into account that participants have different backgrounds and different religions. For the remaining spheres there were no connections found. However, participants from group two and three were tuned regarding the personal (inner-self, and the answers mentioned different topics like *freedom, peace, balance, education and health*); and social spheres (collective society, and the mentioned topics related to it were *being aware, sharing, communicating, supporting, and helping at community level*). This connection can be derived from the relation of setting up an intention.

### Exercise Three: Discussion cards

Results on this exercise showed that visual reminders (written intention or personification of the goal) help to encourage and motivate the savings 'When I used to open the drawer of my office and I saw this guy [the piggy bank], he was reminding me: "Hey you haven't saved!" So I put money in it'. Also, setting up rules and creating a habit are strategies that can help with saving: 'Saving is about rules: The spare money that I have I put it in the piggy bank, and for me it is sacred, nobody touches it'. Saving is perceived as buffer activity (Dunn & Norton, 2013) 'Saving gives you a feeling of safety... whenever I picture my future I want to feel safe'. The exercise also showed the importance of identifying and prioritizing intentions in contributing towards meaningful saving: 'Having a clear goal, and knowing that you can make someone happy with it'.

### Exercise Four: Self-assessment sheet

The results of the self-assessment sheet showed that the motivation in group one was not very high, and the savings were also not particularly high. In the self-assessment sheet, the participants of group one placed themselves far from the goal. In group two and three there was a better outcome, and particularly in group three the results were outstanding. Due to the relationship that was built with the characters, the participants of group three were able to gather considerable amounts of money, but also described the saving experience with great joy.

### Exercise Five: Final discussion

Participants reflected upon the topics mentioned above and gave insights into how they envisioned the act of saving in the future 'It would be nice to have some sort of service that allows you to put money in it, but not touching it... like having a kind of reward or a visual cue for your progress... you have saved till here, but if you put in more then you can get this or that'.

## REFLECTION ON FINDINGS

In this section of the paper we reflect on the learned lessons about effectiveness and meaningfulness in saving. During study two we were able to find relevant connections between the elements we were evaluating and how they improved the saving experience. However, there were new important insights learned from the study that are potentially applicable in real-life contexts of saving. The use of the piggy bank was described as being evocative of the act of saving, like a tangible reminder. The currently available saving solutions, according to the participants, lack an evocative visual quality that reminds users to save, and shows them how much they have saved, or how much to save. According to the participants, it is this visual quality that stimulates a constant motivation. One participant of group two described how the visual appeal of the animal character he chose provoked a reaction that extended to his friends, making them feel the need to 'feed the penguin'. This engagement became even more evident in the group that customized their own characters in the form of a self-portrait or caricature (group three), naming them with their own names or nicknames 'it has so much similar appearance with me, also has my nick name'. This suggested to the participants that they had to take care of, as they put it, 'a better you' or 'a friend'. In the study, we found that the level of attachment and the power of customization strengthen the relation with the piggy bank, making it more meaningful to save. According to Beggan (1992), when a person owns an object, it is linked to them as a self-extension. The characterization of the piggy banks in group three made the participants treat them in a special way, and added symbolic value by becoming an extended part of them (Belk, 1988). Some participants engaged in dialogue with the customized piggy banks, and some put them in special places to be able to look at them: 'I liked her. I even talked to her when putting money in'. Identity and self-expression reinforce the sense of self, making symbolic possessions, which represent the self or attachments to others, to have high weights on positive emotions (Richins, 1994). To introduce an avatar in a virtual format of saving could be a strategy to increase engagement and meaningfulness, as well as motivation for saving '...it makes it personal, so I'm giving money to myself, and I think it's funny'.

Participants proposed that having a list of saving intentions (suggested by the hosting institutions) could help users to review their own priorities and goals when saving. Prior studies on saving (e.g. Furnham, 1999) have shown that people save money when they want something special, which can be understood as a goal. A goal is a cognitive representation of a desired

endpoint that impacts evaluations, emotions, and behaviours (Fishbach & Ferguson, 2007). The control group in the study (group one), unlike the other groups, did not receive instructions to set an intention, and turned out to be less motivated to save than the remaining groups. In that sense, the setting of saving intentions can be seen as a contribution of this study to a real-life context of saving.

From study two we learned that in order to make saving meaningful it was important to have a method to keep track of motivation, thoughts, and progress on savings, expenses, and goals. Such features could benefit a digital format, making it more relatable and meaningful, and could be implemented, for example, as a mobile phone application.

The participants in the study also discussed rewards. In case of small rewards like interests in saving accounts, the suggestions were that they be announced or made visual, to increase motivation. They also mentioned the idea of a wish list in association with the act of saving that would aid the visualization of the amounts saved. For example, a user would set up an inspirational list of products, travels, or activities (e.g. education). When the user reached a certain amount, it would be visualized as elements of the list, for example 'you have saved enough for/ to buy X'. Other amounts could also be used, for example related to helping others 'you have saved the equal of one child's education costs in X country'. This ability to transform currency into something significant allows for an 'applied' form of visualization, and such a solution could potentially increase effectiveness of saving by means of a virtuous incentive.

The use of gamification in savings could improve the experience by promoting an experiential engagement, for example, by letting users set up their own rules that would ensure more control over the saving process, but also a self-challenge, in a virtue oriented approach.

In regards to the current formats of saving, the participants stated that since most of them use debit or credit cards, it was difficult to save cash money, but also the use of this system was a misrepresented way to deal with money, since it lost its tangibility. The participants suggested a solution of hybrid props in replacement of the card as an alternative that would offer more relatedness, and thus a bigger notion of awareness and consequence when dealing with money, contributing to a more meaningful and less abstract relation when saving and spending money.

## CONCLUSIONS AND FURTHER DEVELOPMENTS

From the studies we conclude that design can contribute to the meaningfulness of saving, by enabling users to set up an intention, visualize it, and empathize with it. During the studies, participants mentioned several occasions in which the use of money is now being limited to credit and debit cards, instead of coins and bills. We see this as a tendency that can increase with new technological developments. However, it is possible to learn a lot from traditional ways of saving, and such lessons that can provide a salient contribution to well-being. The evaluated strategies are seen as potential enhancers of meaningfulness in

saving and thus contribute to the happiness of those engaged in saving. In addition, new insights were gathered in other areas to increase meaningfulness in saving: the first one was the ability to choose and transform currency into more meaningful references by visualizing the progress of savings; secondly, the use of alternative, more relatable forms, of handling and saving money by resembling the use of the piggy bank combined with digital services; and lastly, the sense of community as a support for shared saving intentions, creating saving networks.

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