



Young Adults' Consumption Desires, Feelings of Financial Scarcity and Borrowing

Amelie Gamble, Tommy Gärling and Patrik Michaelsen

I INTRODUCTION

A tenet of the life cycle hypothesis (Modigliani, 1966), referred to in Chapter 2 of this volume, is that people smooth their consumption across the life cycle by borrowing in young ages when they have low incomes and repaying at older ages when their incomes are higher. Although it appears sensible to borrow to consumption in young ages, when the income is lower than expected to be in the future, inexperienced young borrowers appear to over-borrow (Kamleitner, Hoelzl, & Kirchler, 2012). Consistent with the research findings in other countries (e.g., Xiao, Ahn, Serido, & Shim, 2014; Xiao, Tang, Serido, & Shim, 2011), a governmental study in Sweden concluded that it is particularly alarming that young adults are overrepresented among debtors, have high levels of credit card debts and are the primary users of unsecured instant loans with high interest (Swedish Government

A. Gamble (✉) · T. Gärling · P. Michaelsen
Department of Psychology, University of Gothenburg, Göteborg, Sweden
e-mail: amelie.gamble@gu.se

T. Gärling
e-mail: tommy.garling@psy.gu.se

P. Michaelsen
e-mail: patrik.michaelsen@psy.gu.se

Official Reports, 2013). If people in the early stages of adulthood borrow extensively at high interest rates, this may have detrimental consequences for their future consumption. They are also at risk of being trapped in problem debts and possibly over-indebtedness resulting in psychological ill-being (e.g., Ahlström & Edström, 2014; Meltzer, Bebbington, Brugha, Farrell, & Jenkins, 2013; Walsemann, Gee, & Gentile, 2015).

Our focus in this chapter is on young adults' borrowing to consumption that improves their material lifestyle, for instance, purchases of new models of smartphones, computers or other electronic gadgets, weekend travel or vacations in distant foreign countries. We believe that both an increasing supply and aggressive marketing in conjunction with accessible loans make young adults desire these products even though they do not afford to purchase them. Young adults are therefore likely to borrow to purchases at the risk of over-borrowing. Furthermore, in present-day markets of consumer products, it appears possible to borrow "without full awareness." Paying by credit cards and leasing contracts are examples of when borrowing may not be a primary motive. Our two main propositions in this chapter is that young adults' borrowing is more likely (i) if consumption desires exclusively focus on present consumption while future consumption is neglected, and (ii) if lack of borrowing awareness reduces the influences of a negative attitude toward borrowing and financial knowledge that otherwise would have moderating effects.

In the next Sect. 2, we briefly discuss the relation between purchasing and borrowing. In the following Sect. 3, we then analyze the role of consumption desires in the affective/cognitive pre-decisional information process leading to young adults' decisions to borrow to purchases of consumer products (Kamleitner et al., 2012). The analysis is based on findings in our recent study conducted in Sweden of young adults' borrowing to purchase consumer products (Gärling, Michaelsen, & Gamble, 2018a) and reported findings in related previous studies in other countries. In Sect. 4, we address the question of whether borrowing unawareness affects how much young adults borrow to purchases of smartphones. As in Sect. 3, we both review research in different countries by others and present the results of our own study on young adults' overspending on smartphones in Sweden (Gärling, Michaelsen, & Gamble, 2018b). The chapter ends with a summary and conclusions in Sect. 5.

2 BORROWING AND PURCHASING

Our focus on young adults' borrowing to purchases of consumer products implies that purchasing and borrowing are closely related. In the following, we exclude expensive products, such as cars and apartments or houses, for which borrowing normally is needed. We also exclude purchases of consumer products paid by debit or credit cards for which the intention is not to defer payment longer than until the end of the month (although it may be tempting to extend the credit if feasible).¹ A prototypical situation is facing a choice of how to pay for a purchase of a consumer product if the store offers the option of installment payments. Accepting this offer makes the product instantly available to consume, whereas the payment is deferred on agreed conditions. The offer is likely to be particularly attractive if the product is highly desired, barely affordable and pre-commitments have been made to purchase it. Other loans, including unsecured instant loans, loans from family and loans from friends, may also be used but not necessarily equally close in time to a purchase.

In contemporary Western societies, necessities are affordable to most young adults whereas non-necessities may not always be. However, the distinction between what is necessary and desired, but not necessary, is floating. Products such as smartphones are by many young adults today considered a necessity (Ting, Lim, Patanmacia, Low, & Ker, 2011). Yet, smartphones are vastly different from, and more expensive, than necessities in the past, like similarly handheld cellular (mobile) telephones with no Internet connection or GPS, or even earlier, stationary landline telephones. Furthermore, every new generation of smartphones comes with new features (e.g., stereo sound, an advanced camera) that attract young adult buyers. Supplementary products (e.g., wireless charger, headset) are likewise attractive. Thus, features added to the core features of necessary products, supplementary products, or their combination are both making the products even more desired and expensive to purchase. The same may hold for other products, for instance, computers and TV sets. Products that improve the material lifestyle are thus connected to necessities. This may increase the temptation to purchase them even if not affordable. Available and easily accessible installment payments offered by stores (sometimes in connection with Internet shopping) or other accessible loans are likely to further strengthen the temptation to purchase the products.

A pre-decisional process preceding a purchase may result in deferring or abandoning the purchase. One factor is liquidity constraints. However, the pre-decisional process may be shortcut if the desire is strong and resistance weak,² therefore resulting in unplanned purchases. The likelihood of borrowing for unplanned purchases of unaffordable products would then conceivably increase. In the following, we argue that strong desires for unaffordable consumer products are important determinants of borrowing. Thus, desires for the attractive products are primary drivers. Anything that increases the desires or prevents counter-acting factors therefore increases borrowing. Lending possibilities are necessary but not sufficient conditions.

3 AFFECTIVE/COGNITIVE PRE-DECISIONAL INFORMATION PROCESSING

Deferring payments of purchases of consumer products has generally been considered to be an essential ingredient of borrowing (Webley & Nyhus, 2008). This is referred to as intertemporal decision-making, which has been studied extensively by means of context-free choices between small outcomes earlier or large outcomes later (Frederick, Loewenstein, & O'Donoghue, 2002; Read, McDonald, & He, 2018). A general finding is that small gains earlier are preferred to large gains later, and small losses earlier are preferred to large losses later.

A preference for instant small gains to deferred large gains is referred to as present-biased temporal discounting (Laibson, 1997). In a consumer purchase context, present-biased temporal discounting would, *ceteris paribus*, account for borrowing (Meier & Sprenger, 2010). If knowledge of the repayment cost is weighted in, borrowing to the purchases of consumer products are however unlikely if liquidity allows cash payment. A negative attitude toward borrowing is an additional factor that would favor cash payment. If cash is not available, saving to a later purchase is an option.

Previous research has shown that feelings of resource deficits related to economic transactions may strengthen present-biased temporal discounting. Such feelings referred to as a scarcity mindset is a critical factor (Mullainathan & Shafir, 2013). It explains irrational economic behaviors to result “simply from having less” (Shah, Mullainathan, & Shafir, 2012: 682). Findings in this research reviewed below show that the scarcity mindset has consequences for how people process information and make

decisions. One consequence is that attention is focused on the means of reducing the deficit. Metaphorically, the scarcity mindset induces “tunnel vision.” Matters falling inside of the tunnel receive attention, while matters falling outside are neglected. This is how present-biased temporal discounting may be explained. The other consequence is that mental resources are depleted (e.g., imposing a load on working memory, decreasing fluid intelligence, reducing executive control). This results in an impaired ability to process information with no bearing on reduction of the deficit.

A scarcity mindset caused by financial deficits may provide a theoretical account of why young adults borrow to purchase of unaffordable consumer products that improve their material lifestyle. A financial deficit is, however, not felt unless desires for purchasing the products exist. In the Elaborated Intrusion (EI) theory proposed by Kavanagh, Andrade, and May (2005) (see also Hofmann & Van Dillen, 2012), desire is defined as an ‘...affectively charged cognitive event in which an object or activity that is associated with pleasure or relief of discomfort is in focal attention’ (ibid.: 447). Stated differently, a desire is a conscious feeling of wanting to have or do something. Although sometimes evoked by unconscious processes, the desire increases in strength when cognitively elaborated by thoughts about the benefits. If barriers are encountered to purchases of a desired consumer product, a conflict exists that needs to be resolved. The conflict initiates thoughts about borrowing as a means of eliminating the financial deficit.

Figure 1 illustrates that a desire for a consumer product would influence the decision to borrow if insufficient financial resources make the consumer product unaffordable such that a scarcity mindset is evoked. Borrowing instantly satisfies the desire for the product, whereas future repayment costs are neglected due to present-biased temporal

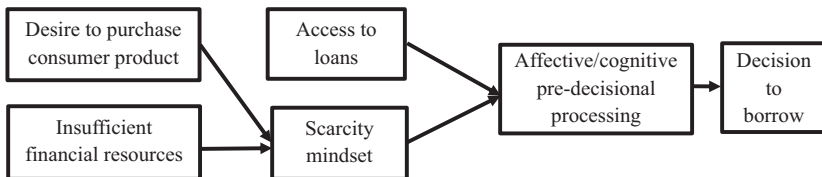


Fig. 1 Influences on decision to borrow to purchase of desired consumer product

discounting resulting from the scarcity mindset. Several empirical studies in different contexts have demonstrated this effect of a scarcity mindset (Mullainathan & Shafir, 2013).³ In a laboratory experiment reported in Shah et al. (2012), participants competed in a video game in which the goal was to use shoots to hit distant targets for points. The participants were randomly assigned to one group receiving a low number of shots or to another group receiving a high number. Half of the participants in each group were offered to borrow shots to use in the current period to be repaid with “interest” in future periods. The shot-scarce participants given this opportunity borrowed more than their affluent peers, and as a result received worse total scores. In contrast, the shot-abundant participants performed similarly whether they were allowed to borrow or not. It appears as if the shot-scarce participants’ desire to outperform the competitors in the current round made them neglect their need of shots in future rounds, implying that a focus on the present induced by the scarcity mindset led them to neglect future consequences.

Other research (as reviewed by Hofmann, Schmeichel, & Baddeley, 2012) has shown that desires may impair executive functions and as a result the quality of cognitive information processing. Executive functions supporting attainment of self-control goals include memory updating related to working memory capacity, inhibition of automatic impulses, and mind shifting. Cognitive elaboration in working memory of desires aroused by external or internal factors, as proposed in the EI theory (Kavanagh et al., 2005), may interfere with self-regulatory goal pursuit that results in yielding to desires that are opposed to these goals.

There are three objections to our arguments. A first objection is that a scarcity mindset evoked by consumption desires may make people more aware of their financial scarcity. In support of this, a scarcity mindset sometimes has the reverse effect that all relevant information is processed thoroughly. In another similar experiment reported in Shah et al. (2012), it was found that the shot-scarce group performed more accurately than the shot-abundant group when none was offered any loan. In another series of experiments, Shah, Shafir, and Mullainathan (2015) found that a scarcity mindset shields people from irrational context influences on economic choices. As an example, a percentage discount on a low price is valued equally much as the same percentage discount on a high price (e.g., Tversky & Kahneman, 1981). In facing financial scarcity, however, participants value higher the discount on the higher price (the larger monetary amount) since it makes possible more additional

purchases. Furthermore, Shah, Zhao, Mullainathan, and Shafir (2018) showed in several studies that thoughts about monetary costs are more easily triggered as well as more persistent in heavily budget-constrained compared to less budget-constrained people. In one study, participants were presented a scenario asking them to pay for a gift to celebrate a friend's birthday. When then asked to report their thoughts, the heavily budget-constrained in contrast to the less budget-constrained participants more frequently reported cost-related thoughts than thoughts not related to costs.

A second objection is that the need to replace some consumer product to maintain the current material lifestyle may have a larger effect than a desire to purchase a new consumer product to improve the current material lifestyle. This was demonstrated in studies by Cook and Sadeghein (2018). Referring to the "triple-scarcity" effect, they argued that insufficient liquidity, limited lending possibilities and personal loss consequences are necessary conditions for a scarcity mindset to be aroused and to result in over-borrowing. In a scenario experiment, adult participants were asked how much they would borrow to cover expenses if liquidity was absent and they had no other lending possibilities than taking a payday loan of USD 500, the amount at least needed to cover unpaid expenses, or at most USD 1000—at an annual percentage interest rate exceeding 600%.⁴ The expenses were late installment payments for the currently owned car (need or anticipated loss of repossession of the car) versus paying for leasing a new model (desire or anticipated gain). Over-borrowing was observed to be higher for need than desire. This effect was particularly strong for those who had previously taken payday loans compared to those who had not. Cook and Sadeghein (2018) also noted that payday loans are primarily used to pay for necessities (including repayments of previous loans). Choosing installment payment to a store for an unaffordable desired consumer product is arguably different. The finding that loss consequences had a larger effect on over-borrowing than gain consequences may therefore not rule out that the scarcity mindset plays the role we propose for installment payments of desired unaffordable consumer products.

A third objection is still that the results of the experiments (Shah et al., 2012) discussed above may not generalize to young adults' purchases of consumer products. In order to investigate this, Gärling et al. (2018a) conducted an online experiment with participation of a heterogeneous sample of Swedish young adults aged 18 to 30 years. One group of the

participants were randomly assigned to the desired purchase condition in which they reported a currently desired product in the price range from SEK 4000 to SEK 8000 (1 SEK was approximately equal to 0.12 USD or 0.10 Euro at the time of the study).⁵ In a needed purchase condition to which another group was randomly assigned, participants reported a product they expected to need to replace in the near future but not immediately. Table 1 reports a classification of the products that were reported. The differences in frequencies between the desired and needed purchase conditions were statistically significant ($p < .05$) primarily due to the different frequencies of consumer electronics and entertainment media. Although it is not clear that more non-necessities were chosen in the desired purchase than in the needed purchase condition, the motives for the purchases may still differ in accordance with the instructions. A third group of the participants were randomly assigned to a past purchase condition in which they imagined having already purchased a consumer product at the price of SEK 6000 but not yet paid for it. Next, the participants indicated their preferred method of payment. In the past purchase condition, payment was immediately required, whereas in the desired purchase and needed purchase conditions, deferring the purchase would not require any payment. However, in the desired purchase condition this denied participants instant access to the desired product. If a scarcity mindset induced present-biased temporal discounting, we expected that the participants in this condition, as they must to do in the already

Table 1 A classification of reported products in the *needed purchase* and *desired purchase* conditions

<i>Needed purchase (n = 90)</i>	%	<i>Desired purchase (n = 91)</i>	%
Consumer electronics ^a	49	Consumer electronics ^a	34
Entertainment media ^b	19	Entertainment media ^b	25
Household equipment, refurbishing	13	Furniture	14
Vehicles (car, bicycle, baby carriage)	8	Clothing, jewelry	9
Clothing, jewelry	3	Household equipment, refurbishing	8
Travel	3	Vehicles (car)	4
Furniture	2	Cosmetics	2
Cosmetics	0	Travel	2
Other	1	Other	1

^aPrimarily computers and smartphones

^bPrimarily TV sets

purchased condition, would borrow to the purchase if they did not manage to pay in cash. On 1-to-9 numerical scales ranging from very unlikely to very likely, ratings were made of whether participants preferred to pay by credit card, installment, unsecured instant loan, loan from parents or other relatives or loan from friends. An index of likelihood of borrowing was constructed by averaging the ratings on the five scales ($M=3.16$, $SD=1.65$, $\alpha=.74$). Borrowing from parents or other relatives was rated highest ($M=4.41$) followed by installment payments to the store ($M=3.67$), credit card ($M=3.30$), loans from friends ($M=2.49$) and unsecured instant loan ($M=1.93$). The results showed that the index means were 3.22 for desired purchase, 3.22 for past purchase and 3.04 for needed purchase. Although in the expected direction, the differences were not large enough to reach statistical significance ($p>.25$).

The results contradict the effects of scarcity mindset observed in the laboratory experiment by Shah et al. (2012) described above. It must, therefore, be questioned whether the effects generalize to young adults' borrowing to purchases of desired consumer products. What can then account for the results? One possibility is that the scarcity mindset was not sufficiently strong because many participants did not feel any financial deficit (see Note 4).⁶ However, even if the scarcity mindset would make the decision to borrow more likely, a negative attitude may inhibit borrowing by the young adults (see Fig. 2), perhaps by acting as a heuristic that overrides the preference for borrowing (Pratkanis, 1989).⁷

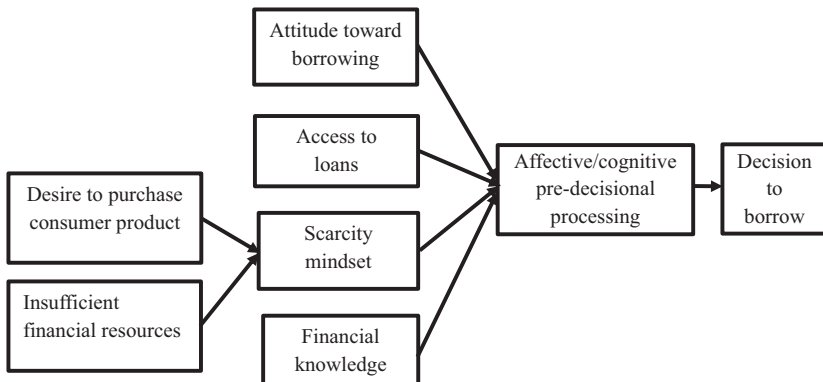


Fig. 2 Influences on decision to borrow to purchase of desired consumer product including also attitude toward borrowing and financial knowledge

Since the young adults' attitudes on average were negative and regression analysis yielded a statistically significant strong effect ($\beta = .48$, $p < .05$), we conclude that attitude had the effect of decreasing the likelihood of borrowing. Financial knowledge may also influence decisions to borrow if knowledgeable young adults are more accurate in judging the costs associated with borrowing. In line with this, we find that financial knowledge has the effect of making the young adults choose shorter and less costly installment payments, although there is no effect of financial knowledge on likelihood of borrowing.

4 BORROWING UNAWARENESS

In present-day markets of consumer products, some payment methods may not be perceived to be loans. Being unaware of taking a loan would perhaps pertain to young adults' installment payments for purchases of smartphones. Would the young adults then, if asked to re-purchase a new smartphone prefer this method of payment? Would being unaware of taking a loan eliminate the negative attitude toward borrowing and thus increase borrowing?

Two-year monthly installment payments are frequently how smartphone purchases are paid by young adults, in some cases framed as leasing contracts that after two years offer a replacement of the old smartphone with a new one at a reduced cost.⁸ One reason for paying by installment is low liquidity to pay in cash for a product that today's young adults consider being a necessity (Ting et al., 2011). Another reason is that a negative attitude toward borrowing has no influence on the decision since the buyers are not aware of that the installment payment is a loan.

A legal requirement in many countries is to disclose the total price of installment payments. A scarcity mindset may still make a disclosed total price to be neglected (Bertrand & Morse, 2011). Other misperceptions are also likely (see Raghurir, 2006, for a review). If the price is perceived as a loss, distributing the payment in time is less painful and if the total price is not disclosed, judging it by means of the anchoring-and-adjustment heuristic would lead to underestimates. Our conjecture is that compared to cash prices, installment payments make buyers likely to purchase more expensive smartphones with desirable add-on features.

A smartphone is a handheld cellular (mobile) telephone with built-in applications and Internet access (www.pcmag.com/encyclopedia).

The transition of the cellular telephone to the smartphone late last millennium is considered the largest technology revolution since the Internet (McCasland, 2005). University students are found to be earlier adopters of electronic gadgets than other sociodemographic groups (Heinonen & Strandvik, 2007; Sultan, Rohm, & Gao, 2009). As reviewed by Arif, Aslam, and Ali (2016), studies in many countries show that a large majority of university students own a smartphone, which they use for making phone calls, text messaging, accessing Internet, social networking, as well as several other tasks including, for instance, GPS navigation, reading and sending e-mails and Internet shopping. A consistent finding furthermore is that in the general population ownership is most frequent in the age range from 18 to 30 years. A high degree of ownership of smartphones is today observed also among Swedish young adults in this age range (Larsson, Svensson, & Carlsson, 2016).

In a study of Malaysian university students, Ting et al. (2011) developed a reliable self-report multi-item measure of possible determinants of purchases of smartphones including social need (e.g., "I use my smartphone to catch up with friends and relatives"), social influence (e.g., "It is important that my friends like the brand of smartphone I am using"), convenience (e.g., "Using a smartphone would allow me to accomplish tasks more quickly"), and dependency (e.g., "I am totally depending on my smartphone"). By fitting a covariance-based structural equation model, it was shown that dependency is reliably associated with all three determinants of social need, social influence, and convenience, and that a reliable multi-item measure of purchase behavior (e.g., "I intend to keep using a smartphone in the future") is associated with dependency. Almost identical results using similar scales were obtained in another study of university students in Pakistan (Arif et al., 2016). In a conceptual analysis not reporting any data, Chow, Chen, and Wong (2012) extended the determinants of continued use of smartphones to product features (e.g., appearance, speed, operation system), brand name (e.g., internationally recognized, trustworthy, favorite), price (e.g., non-essential versus essential, purchase only with discounts), social influence (e.g., all friends/family have one; influenced by friends/family/others). Indicating that price may not be important, Rahim, Safin, Kheng, Bas, and Ali (2016) found that Malaysian university students do not consider purchases of smartphones to be economically strenuous (referred to as "product sacrifice"). Purchase intention is associated with product features, brand name, and social influence but not with product sacrifice.

None of the cited studies has made the connection between purchases of smartphones and payment method as we do. In another one-line experiment (Gärling et al., 2018b), a heterogeneous Swedish sample of young adults aged 18 to 25 imagined purchasing a new smartphone to replace their current one, which had stopped working.⁹ First, we presented technical descriptions of five smartphones ranging from budget to premium. The same smartphones were then presented in a user-friendly evaluation format in the style of a popular computer magazine (see Table 2).

Table 2 Evaluations of smartphones presented to participants including in different conditions either the cash prices or the monthly costs of 2-year installment payments with 20% discount on the cash prices

Smartphone A

Premium model, one of the best deals in the market. Top class performance. Big but still easy to handle because of its rounded corners. New technical features are improved battery life, stereo speakers and water-resistance. Furthermore, it is fitted with dual cameras; one wide-angle lens and one telephoto lens allowing for optical zoom. Top image quality. Available in black, gold, silver, and pink gold. /Cash price SEK 7920/2-year installment payment SEK 260 per month with 20% discount on the cash price/

Smartphone B

This smartphones performance is not far behind the premium model, but it has a smaller display with lower resolution. Same brightness. Has a new but less advanced camera that delivers good image quality. Battery life is the same. Not waterproof. Available in black, gold, silver, and pink gold. /Cash price SEK 6960/2-year installment payment SEK 230 per month with 20% discount on the cash price/

Smartphone C

Is the most advanced of the older smartphones. With a lower performance and a shorter battery life. Has the same screen as the premium model but with a weaker screen brightness. Camera with acceptable image quality. Not waterproof. Available in space gray, gold, silver, and pink gold. /Cash price SEK 6000/2-year installment payment SEK 200 per month with 20% discount on the cash price/

Smartphone D

The less advanced of older smartphones with the same performance and battery life. Has the same smaller screen as the closest to that of the premium model but with a weaker screen brightness. Camera with acceptable image quality. Not waterproof. Available in space gray, gold, silver, and pink gold. /Cash price SEK 5040/2-year installment payment SEK 170 per month with 20% discount on the cash price/

Smartphone E

Budget smartphone. Has all features as the more advanced smartphones but with a lower performance. Same battery life as those in the older model range. Smaller display with low resolution and screen brightness. Not waterproof. Available in space gray, gold, silver, and pink gold. /Cash price SEK 4080/2-year installment payment SEK 140 per month with 20% discount on the cash price/

In different conditions, the participants choose a smartphone either with the cash price as default or a 2-year installment payment with a 20% discount on the cash price as default. The results showed that installment payment as default did not lead to saving on the price but to choices of more expensive smartphones. Attitude toward borrowing was negative, as in the previous experiment, but did not correlate positively with choices of installment payment.

Even though young adults perceive a smartphone as a necessity, their purchases may still be influenced by desirable add-on features. In order to interpret the results as being caused by a scarcity mindset, we therefore introduced one condition in which the participants imagined that “this was an opportunity to purchase a new better smartphone with features that they desired” and another condition in which they “a new better smartphone than your old broken is not necessary for you to purchase.” In a preceding pilot experiment (Gärling et al., 2018b), where undergraduates choose among the same smartphones but the payment method (i.e., installment or cash payments) was optional, we found that the upgrade instructions led to choices of more expensive smartphones than the replace instructions. However, Fig. 3 shows that this was not the case when method of payment was default.

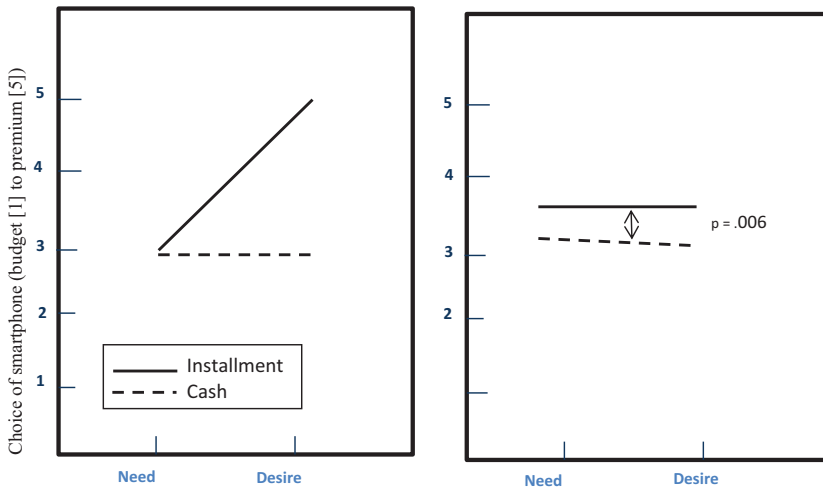


Fig. 3 Results of experiment asking young adults to choose smartphones (hypothesis to the left, results to the right) (Source Adapted from Gärling et al. [2018b])

If a scarcity mindset had been evoked, we should have expected that only the desire instructions would lead to choices of more expensive smartphones. A possibility is that the 20% discount resulted in a desire that evoked the scarcity mindset in both the upgrade and replace conditions. Hence, in both these conditions purchases of more expensive smartphones were chosen.

5 SUMMARY AND CONCLUSIONS

Borrowing is influenced by many factors including some that are psychological (Kamleitner et al., 2012). We argue that psychological factors should not be neglected in explanations of why young adults over-borrow. In particular, this may be true of borrowing to purchases of consumer products to improve a current material lifestyle. Specifically, we propose that young adults' borrowing to purchases of desired consumer products (although sometimes considered necessities) is more likely (i) if consumption desires make affective/cognitive pre-decisional processing to focus on the present benefits and neglect the future costs and (ii) if lack of borrowing awareness reduces the influences of a negative attitude toward borrowing as well as financial knowledge.

The role of impatience (present-biased temporal discounting) in borrowing has been recognized for a long time (Webley & Nyhus, 2008). Mullainathan and Shafir (2013) have recently proposed a possible explanation of present-biased temporal discounting as being related to feelings of deficit resulting in impairment of cognitive information processing. We propose that, in the context of purchases of consumer products, desires create the feeling of financial deficit or scarcity mindset if the consumer products are unaffordable. Yet, borrowing would not be possible only because of a scarcity mindset. Lending possibilities also need to be available and accessible. Our own study (Gärling et al., 2018a) presented in Sect. 2 did not give full support to the hypothesis that the scarcity mindset influences young adults' borrowing to desired unaffordable consumer products. Cook and Sadeghein (2018) showed an effect of "triple scarcity" to avoid a pending loss when liquidity was lacking and no other lending possibilities than a payday loan were available. Whereas Cook and Sadeghein did not leave much choice to their participants, a possible caveat in our study is that self-reports of desired products did not cause an immediate want of the products.

Our main finding is the strong effect of a negative attitude toward borrowing. As we review in Chapter 4 of this volume, attitudes have previously been shown to play important roles for borrowing. However, few of these studies have investigated borrowing to purchases of consumer products. Furthermore, previous research has frequently found that the attitude toward borrowing is positive. In the absence of any more specific information, we can only speculate why young adults in our study have a negative attitude toward borrowing. In line with the results of Haultain, Kemp, and Chern (2010), one possibility is that fear of over-borrowing may be more important than that borrowing allows purchases of desired consumer products. In our study the reported consumer products were desired but probably still not wanted to the same extent they would be at the point in time of an actual purchase. Perhaps the results would be different if payment method is chosen at this point in time. Internet shopping would provide an excellent opportunity to investigate this.

Shefrin and Thaler's (1988) behavioral life cycle hypothesis implies another account of a negative attitude toward borrowing. According to this hypothesis, resolving the conflict between immediate and deferred spending requires self-control. Allocation of assets to "mental accounts" (i.e., income, savings, and future income) is hypothesized to be a general self-control mechanism implying that the marginal propensity of spending is highest from the income account, next highest from the savings account, and referred to as debt aversion, lowest from the future income account. Although income plays a larger role for spending than the life cycle hypothesis (Modigliani, 1966) predicts, it is still the case that at an aggregate level household loans increase up to middle age after which it declines (Eng Larsson, Hallsten & Kilström, 2018). It is also a fact that borrowing to consumption has increased (Watkins, 2000). Even though the behavioral life cycle hypothesis has some support, it does not provide a full account unless mental accounting as a self-control mechanism extends to apply to people's everyday management of money (Antonides & Ranyard, 2018).

People may be unaware of what they borrow since they do not perceive some payment methods to be loans. A common payment method today is installment payments for purchases of smartphones. We found in our research presented in Sect. 3 (see Gärling et al., 2018b) that more than 50% of the young adults choose installment payments. Not being aware that it is a loan would perhaps eliminate the effect of a negative

attitude toward borrowing. In choosing between smartphones with either cash or installment payment offering a discount on the cash price, we show that smartphones that are more expensive are chosen. Nevertheless, contrasting desire to upgrade to need to replacement does not have any effect, thus again failing to show an effect of a scarcity mindset. However, the negative attitude toward borrowing did not positively influence purchases of more expensive smartphones on installment payments.

Although our results show that the young adults have predominantly negative attitudes toward borrowing, others express the concern that young adults take unsecured instant loans at high interest rates (Swedish Government Official Reports, 2013). Loans are necessary and desirable for young adults to smooth consumption across the life cycle (Modigliani, 1966; Shefrin & Thaler, 1988). However, after the financial crisis in 2008–2009, banks have been more reluctant to offer loans to young adults because of lending constraints, new regulatory standards and the relatively high lending risk they ascribe to this segment of customers. In many other Western countries than Sweden, social lending is a countermeasure that in different ways has been implemented by governments to facilitate for young adults to take loans, in particular, to enter the housing market. These programs are combined with requirements to save at subsidized lower interest rates. Conceivably, financial institutions may in combination with requirements to save at interest rates that are more reasonable may likewise offer loans to purchases of consumer products. This would likely reduce the market for unsecured instant loans at high interest rates. The requirements to save may also prevent young adults to over-borrow and mitigate possible over-indebtedness.

NOTES

1. Several studies (e.g., Xiao et al., 2011, 2014) have shown that young adults frequently have unpaid credit card debts.
2. Commonly referred to as a weak self-control (Baumeister, 2002). In a review, Labroo and Pocheptsova (2017) note that in previous research self-control is conceptualized as a personality trait, whereas more recently the role of situational factors is found to be important. This is our theoretical stance in this chapter.
3. A scarcity mindset is also evoked by poverty, in which case it may result in over-borrowing to needed consumption (Mani, Mullainathan, Shafir, & Zhao, 2013).

4. In the US, a payday loan is an unsecured instant loan that the borrower is obliged to repay on the payday, that is the day when receiving the next paycheck.
5. Based on self-reported incomes in pilot studies, for the majority of participants we considered this to be an unaffordable price range that would prevent cash payment. Yet, it is still conceivable that the desired consumer products in the price range were considered affordable (e.g., because participants had been saving to the purchase). In support of this suspicion, ratings of whether participants were able to pay in cash were on average high ($M=6.03$, $SD=3.09$, on a 1-to-9 scale).
6. Another possible caveat is that the desire was weak. However, ratings on a 1-to-9 numerical scale of how much the products were desired yielded in the desired purchase condition a high mean of 7.41 ($SD=1.75$), and in the needed purchase condition a lower mean of 6.67 ($SD=2.14$). The difference was statistically significant at $p<.05$.
7. How attitude toward borrowing was measured is presented in Chapter 4, and financial knowledge referred to below is discussed in Chapter 7.
8. Our survey results presented below showed that 44.7% of the participating young adults reported having chosen installment payment for purchases of their current smartphones. This should be contrasted to that 41.4% (excluding gifts and other forms of credit) reported having paid by cash, debt or credit cards.
9. Note, that in the cited previous studies (Arif et al., 2016; Rahim et al., 2016; Ting et al., 2011) smartphone users report that they strongly intend to continue purchase smartphones although they would change their feature preferences (Keaveney & Parthasarathy, 2001). In addition, Hew, Badaruddin, and Moorthy (2017) found that brand attachment plays an influential role for repurchases.

REFERENCES

- Ahlström, R., & Edström, S. (2014). *Överskuldssättning och ohälsa: En studie av hur långvarig överskuldssättning kan påverka den psykiska- och fysiska hälsan* [Over-indebtedness and ill-health: A study of potential effects of long-term over-indebtedness on psychological and somatic health]. Retrieved June 29, 2017 from the Swedish Consumer Agency website <http://www.konsumentverket.se/globalassets/publikationer/produkter-och-tjanster/bus-och-kvl/rapport-2014-16-overskuldssattning-och-ohalsa-konsumentverket.pdf>.
- Antonides, G., & Ranyard, R. (2018). Mental accounting and economic behavior. In R. Ranyard (Ed.), *Economic psychology* (pp. 123–138). New York: Wiley.

- Arif, I., Aslam, W., & Ali, M. (2016). Students' dependence on smartphone and its effect of purchase behavior. *South Asian Journal of Global Business Research*, 5(2), 285–302.
- Baumeister, R. F. (2002). Yielding to temptation: Self-control failure, impulse purchasing, and consumer behavior. *Journal of Consumer Research*, 28, 670–676.
- Bertrand, M., & Morse, A. (2011). Information disclosure, cognitive biases, and payday borrowing. *Journal of Finance*, 66(6), 1865–1893.
- Chow, M. M., Chen, L. H., & Wong, P. W. (2012). Factors affecting the demand of smartphone among young adult. *International Journal of Social Science, Economics, and Art*, 2(2), 44–49.
- Cook, L. A., & Sadeghein, R. (2018). Effects of perceived scarcity on financial decision making. *Journal of Public Policy and Marketing*, 37(1), 68–87.
- Eng Larsson, J., Hallsten, K., & Kilström, M. (2018). *Skuldsättning i olika åldersgrupper i Sverige*. Staff memo, Sveriges Riksbank, Stockholm. Available at <https://www.riksbank.se/globalassets/media/rappporter/staff-memo/svenska/2018/skuldsattning-i-olika-aldersgrupper-i-sverige>.
- Frederick, S., Loewenstein, G., & O'Donoghue, T. (2002). Time discounting and time preference: A critical review. *Journal of Economic Literature*, 40(2), 351–401.
- Gärling, T., Michaelsen, P., & Gamble, A. (2018a). *Young adults' borrowing to purchases of desired consumer products related to present-biased temporal discounting, attitude toward borrowing, and financial involvement and knowledge* (Working Paper). Göteborg, Sweden: Centre for Finance, School of Business, Economics, and Law, University of Gothenburg.
- Gärling, T., Michaelsen, P., & Gamble, A. (2018b). *Young adults' overspending on purchases to smartphones* (Working Paper). Göteborg, Sweden: Centre for Finance, School of Business, Economics, and Law, University of Gothenburg.
- Haultain, S., Kemp, S., & Chern, O. S. (2010). The structure of attitudes to student debt. *Journal of Economic Psychology*, 31, 322–330.
- Heinonen, K., & Strandvik, T. (2007). Consumer responsiveness to mobile marketing. *International Journal of Mobile Communications*, 5(6), 603–617.
- Hew, J.-J., Badaruddin, M. N. B. A., & Moorthy, K. M. (2017). Crafting a smartphone repurchase decision making process: Do brand attachment and gender matter? *Telematics and Informatics*, 24, 34–56.
- Hofmann, W., Schmeichel, B. J., & Baddeley, A. D. (2012). Executive functions and self-regulation. *Trend in Cognitive Sciences*, 16(3), 174–180.
- Hofmann, W., & Van Dillen, L. (2012). Desire: The new hot spot in self-control research. *Current Directions in Psychological Science*, 21(5), 317–322.
- Kamleitner, B., Hoelzl, E., & Kirchler, E. (2012). Credit use: Psychological perspectives on a multifaceted phenomenon. *International Journal of Psychology*, 47(1), 1–27.

- Kavanagh, D. J., Andrade, J., & May, J. (2005). Imaginary relish and exquisite torture: The elaborated intrusion theory of desire. *Psychological Review*, *112*(2), 446–467.
- Keaveney, S., & Parthasarathy, M. (2001). Customer switching behavior in online services: An exploratory study of the role of selected attitudinal, behavioral, and demographic factors. *Journal of the Academy of Marketing Science*, *29*(4), 374–390.
- Labroo, A. A., & Pocheptsova, A. (2017). What makes tomorrow's gain worth today's pain? Cognitive and affective influences on self-control dilemmas. In C. V. Jansson-Baird & M. J. Zawisza (Eds.), *Routledge international handbook of consumer psychology* (pp. 447–466). London: Routledge.
- Laibson, D. (1997). Golden eggs and hyperbolic discounting. *Quarterly Journal of Economics*, *112*(2), 443–477.
- Larsson, S., Svensson, L., & Carlsson, H. (2016). *Digital consumption and over-indebtedness among young adults in Sweden* (LUii Reports, Vol. 3). Lund, Sweden: Lund University Internet Institute.
- Mani, A., Mullainathan, S., Shafir, E., & Zhao, J. (2013). Poverty impedes cognitive function. *Science*, *341*(6149), 976–980.
- McCasland, M. (2005). Mobile marketing to millennials. *Young Consumers*, *6*(3), 8–13.
- Meier, S., & Sprenger, C. (2010). Present-biased preferences and credit card borrowing. *American Economic Journal: Applied Economics*, *2*(1), 193–210.
- Meltzer, H., Bebbington, P., Brugha, T., Farrell, M., & Jenkins, R. (2013). The relationship between personal debt and specific common mental disorders. *European Journal of Public Health*, *23*(1), 108–113.
- Modigliani, F. (1966). The life cycle hypothesis of saving, the demand for wealth and the supply of capital. *Social Research*, *33*(2), 160–217.
- Mullainathan, S., & Shafir, E. (2013). *Scarcity: Why having too little means so much*. New York: Times Books, Henry Holt and Company.
- Pratkanis, A. R. (1989). The cognitive representation of attitudes. In A. R. Pratkanis, S. J. Breckler, & A. G. Greenwald (Eds.), *Attitude structure and function* (pp. 71–98). Hillsdale, NJ: Erlbaum.
- Raghubir, P. (2006). An information processing review of the subjective value of money and prices. *Journal of Business Research*, *59*, 1053–1062.
- Rahim, A., Safin, S. Z., Kheng, L. K., Bas, N., & Ali, S. M. (2016). Factors influencing purchases intention of smartphone among university students. *Procedia Economics and Finance*, *37*, 245–253.
- Read, D., McDonald, R., & He, L. (2018). Intertemporal choice: Choosing for the future. In A. Lewis (Ed.), *The Cambridge handbook of psychology and economic behavior* (2nd ed., pp. 167–197). Cambridge: Cambridge University Press.
- Shah, A. K., Mullainathan, S., & Shafir, E. (2012). Some consequences of having too little. *Science*, *338*(6107), 682–685.

- Shah, A. K., Shafir, E., & Mullainathan, S. (2015). Scarcity frames value. *Psychological Science, 26*(4), 402–412.
- Shah, A. K., Zhao, J., Mullainathan, S., & Shafir, E. (2018). Money in the mental lives of the poor. *Social Cognition, 36*, 4–19.
- Shefrin, H. M., & Thaler, R. H. (1988). The behavioral life-cycle hypothesis. *Economic Inquiry, 26*, 609–643.
- Sultan, F., Rohm, A. J., & Gao, T. T. (2009). Factors influencing consumer acceptance of mobile marketing: A two-country study of youth markets. *Journal of Interactive Marketing, 23*(4), 308–320.
- Swedish Government Official Reports. (2013). *Överskuldssättning i kreditsambället?* [Over-indebtedness in the credit society?] (Report 78). Stockholm: Fritze.
- Ting, D. H., Lim, S. F., Patanmacia, T. S., Low, C. G., & Ker, G. C. (2011). Dependency on smartphone and the impact on purchase behavior. *Young Consumers, 12*(3), 193–203.
- Tversky, A., & Kahneman, D. (1981). The framing of decisions and psychology of choice. *Science, 211*, 453–458.
- Walsemann, K. M., Gee, G. C., & Gentile, D. (2015). Sick of our loans: Student borrowing and the mental health of young adults in the United States. *Social Science & Medicine, 124*, 85–93.
- Watkins, J. P. (2000). Corporate power and the evolution of consumer credit. *Journal of Economic Issues, 34*(4), 909–932.
- Webley, P., & Nyhus, E. K. (2008). Inter-temporal choice and self-control: Saving and borrowing. In A. Lewis (Ed.), *The Cambridge handbook of psychology and economic behavior* (pp. 105–131). Cambridge: Cambridge University Press.
- Xiao, J. J., Ahn, S. Y., Serido, J., & Shim, S. (2014). Earlier financial literacy and later financial behaviour of college students. *International Journal of Consumer Studies, 38*(6), 593–601. <https://doi.org/10.1111/ijcs.12122>.
- Xiao, J. J., Tang, C., Serido, J., & Shim, S. (2011). Antecedents and consequences of risky credit behavior among college students: Application and extension of the theory of planned behavior. *Journal of Public Policy & Marketing, 30*(2), 239–245.