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Consumers' willingness to incur debt with "Buy Now Pay Later" payment options

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Executive summary

Consumers are offered more payment options than ever before, and many of them offer exceptionally flexible solutions and different ways of financing purchases with credit. Simultaneously, the increased credit use has led to a major rise in consumer debt and debt collection cases in recent years (Dinero, 2019; Kredinor, 2018). The prevalence of interest-free credit options, in addition to the increasing use of credit for an abundance of goods, has in recent years been implicated as a cause for the growing amount of personal bankruptcies and household debt, especially for young adults (Bauer et al., 2021). This study aims to investigate how Buy Now Pay Later (BNPL) credit payment options influence consumers' willingness to incur debt. Furthermore, this study wishes to make a societal contribution by investigating whether certain consumer characteristics representing vulnerable consumer groups, such as young age, lower levels of self-control and lower levels of financial literacy, make consumers more inclined to incur debt with BNPL payment options.

To test this, we conducted an experiment in which participants were presented with an online purchasing situation, as observed in the study of Bauer et al. (2021). The participants were randomly assigned to either BNPL or credit card (a more traditional credit payment option), and followingly asked about their willingness to incur debt with the payment option. The respondents were then asked a set of questions related to their levels of self-control and financial literacy, as well as their demographics. The results of this study were tested using Andrew F. Hayes' PROCESS software in SPSS. The evidence suggests that the consumer's willingness to incur debt is higher for BNPL than with credit card, due to lower levels of transparency and higher levels of convenience. The evidence also suggests that vulnerable consumers (i.e., young consumers and consumers that lack financial literacy) are more willing to incur debt with BNPL than the general consumer. The implications of this study are related to the lack of regulations placed upon BNPL providers in Norway today. This study aims to prompt regulators to ensure the protection of consumers against the potential negative consequences of BNPL. Whilst BNPL can be a valuable and effective mean of payment, it is indeed a form of credit debt, and should therefore be regulated as such.

Disclaimer:

This study was conducted during the Covid-19 pandemic. Thus, the health restrictions of the Norwegian government have influenced the data collection process, as well as the general work conditions for the authors. It may be taken into consideration that the pandemic therefore has impacted the results of this study.

Keywords: BNPL; Willingness to incur debt; Consumer credit; Pain of Paying; Transparency; Convenience; Vulnerable consumer groups; Young adults; Self-control; Financial literacy

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1.0 Introduction

Consumers are offered more payment options than ever before, and many of them offer exceptionally flexible solutions and different ways of financing purchases with credit. Credit cards were originally the go-to payment option for most consumers when making a common purchase using credit. Today, the availability of alternative credit options, particularly in the form of “Buy Now Pay Later” (BNPL) apps, have increased substantially. At the beginning of 2021, The Bank of England’s regular consumer credit report revealed that credit card borrowing had decreased with 14.5 % to a new record low number and that younger persons in general were dismissing this payment option (Bank of England, 2021; Key, 2021). A factor frequently identified as a reason for the decreasing numbers of credit card borrowing among millennials is the availability of alternative ways to pay with credit through online BNPL services like Klarna and Qliro (Key, 2021). A similar finding was discovered in the recent research conducted by the Motley Fool, where it was found that 62 % of BNPL users think BNPL could in fact replace their credit card (Backman, 2021). In particular, consumers are increasingly prompt with BNPL options at online checkouts, which allow them to buy now and pay 30 days later, interest free - transforming the way consumers shop, spend money and think about credit (Klarna, n.d.-b; Webster & Rees, 2021).

For many consumers, credit debt is a beneficial option to have. It can help consumers in developing their personal identity, achieve lifestyle goals or ease life transitions and other difficult situations. However, credit debt can only be used as an effective financial tool if it is fully recognized as, indeed, debt and, most importantly, timely repaid (ING, 2020a). This has not been the case for many young consumers in the previous years. Kredinor, Norway’s largest debt collection company, received 1,4 million debt collection cases and processed 700 000 overdue notice cases in 2018. Interestingly, their numbers show that debt and debt collection increases the most within the younger age groups, between 18-25 and 26-34 (Dinero, 2019). One of the reasons for this development is the increased use of credit among young adults, i.a. as a result of an increase in online shopping (Dinero, 2019; Kredinor, 2018). The prevalence of interest-free credit options, in addition to

the increasing use of credit for a majority of goods, has in recent years been implicated as a cause for the growing amount of personal bankruptcies and household debt, especially for young adults (Bauer et al., 2021). In addition to young age, the importance of personal attitudes, as well as certain psychological factors, has been identified to have an impact on consumers' debt decisions (Frigerio et al., 2020). Individual characteristics such as low self-control and lack of financial literacy have been recognized in previous research as drivers behind increased credit. Thus, previous research indicates that consumers with such characteristics are more vulnerable and at risk of over-indebtedness (Brougham et al., 2011; Frigerio et al., 2020; Gathergood, 2012; Majamaa et al., 2019).

There is an extensive gap in the literature regarding the study of newer credit payment options such as BNPL and, moreover, the effect it may have on customers' willingness to incur debt. We therefore wish to investigate the following:

1.1 Problem statement

How does buy now-pay later (BNPL) payment options influence consumers' willingness to incur debt? Are young consumers and consumers with low self-control and/or financial literacy more likely to incur debt with online BNPL than with traditional forms of payment (e.g., credit cards)?

2.0 Literature review

To increase our understanding of how different payment methods influence our willingness to incur debt, we have conducted an extensive literature review on the topic. Firstly, we introduce BNPL and give a summary of its evolution as a payment option in the consumer market. Afterwards, we conduct a review on the mechanisms discovered by other researchers to influence consumers' willingness to incur debt. Followingly, we connect their findings to the use of BNPL. This provides us with a deeper insight into how consumers behave in response to different payment options and, subsequently, the field we aim to research. Lastly, we wish to make a societal contribution by looking into different consumer characteristics identified by previous researchers to describe groups perceived as vulnerable for financing with credit, and who are potentially more at risk of

experiencing over-indebtedness. Due to the complexity of this topic, we have decided to focus on three characteristics: (1) young age, (2) self-control and (3) financial literacy. These three concepts are all frequently mentioned in the literature concerning consumer credit and over-indebtedness, as well as in recent articles related to BNPL (Brougham et al., 2011; Frigerio et al., 2020; Gathergood, 2012; ING, 2020b; Johnson et al., 2021; Majamaa et al., 2019).

2.1 What is BNPL?

BNPL, also known as Point-of-Sale (POS) financing, is an electronic credit payment system that allows the consumer to purchase a product, receive it immediately and delay the payment up to 30 days, interest-free. Many BNPL providers, e.g. Klarna, have their own apps and online customer portals in which consumers have the option to pay off the amount earlier, pay in installments or extend the due date to a later date (Klarna, n.d.-b). The large BNPL providers offer solutions that charge the merchant a fee per transaction. The consumer, on the other hand, carries no additional costs for the credit they are provided with. Additional fees are only charged if the consumer misses a due date. The absence of additional costs lowers the threshold for both large and small purchases (Johnson et al., 2021; Visser, 2021). Figure 1 below shows the process in which the customer repays the BNPL provider, inspired by the research of Xing et al (2019).

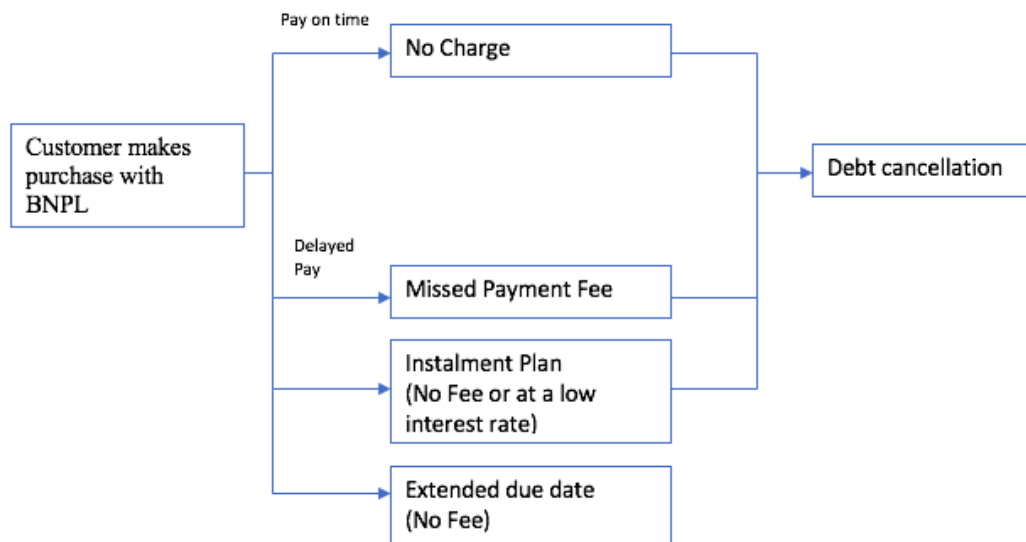


Figure 1: How BNPL-customers repay the provider

The interest-free element of credit payment systems plays an important role for the consumers when financing goods with credit. Previous research has made clear that consumers tend to experience unpleasant feelings when paying with credit (Eckel et al., 2007; Greenberg & Hershfield, 2016). However, more recent research from Bauer et al. (2021) shows that the unpleasant feelings attenuate when the interest-free aspect of the credit financing option is highlighted. Thus, the aversion to debt incurred through the financing alternative is decreased. The interest-free aspect of credit, and its importance, can be linked to the many demands of today's consumer. Consumers today expect and want a seamless commerce experience that is easy, hassle-free and without associated fees and complicated interest charges (Bauer et al., 2021).

BNPL on its own is not a new concept - it is actually considered to be the core idea of the traditional individual credit system. Nonetheless, while the traditional credit business centers around the consumption of credit cards, online BNPL centers around e-Business, targeting online consumption and mobile payments (Xing et al., 2019). These newer types of online BNPL schemes can be defined as agreements between the consumer and a third party, in which the third party is responsible to purchase the credit sale from the merchant. Followingly, the consumer is contractually binded to pay the amount of the sale to the third party, either as a one-time payment or in installments (Johnson et al., 2021). When the consumer takes out a loan from the BNPL provider, most providers do not conduct a hard check of the consumer's credit score. Therefore, smaller amounts of credit are easily accessible for consumers who wish for a "clean" credit score, as well as for the consumers who are denied loans due to poor credit history. The credit amount available for consumers is in most cases not unlimited - the maximum basket value is set by the provider (Visser, 2021).

2.1.1 The BNPL customer journey

Xing et al (2019) illustrated how online BNPL payments take place for the consumer in the e-Business of today. Firstly, the consumers use their smart devices or their computer to make a purchase from an e-Business merchant. Along with presenting the consumer with payment options such as debit or credit card, the merchants offer the consumer a payment option from one or several BNPL

providers. If the consumer selects a BNPL payment option they have used before, e.g., Klarna, all they must do is press “purchase”, as their information is already plotted in by the BNPL-system they are using to make the purchase. If the consumer is using the BNPL payment option for the first time, they can quickly sign up for a financing account at the checkout of the partnering online store (Klarna, n.d.-a). Klarna will then carry out a credit approval, in a matter of minutes (Klarna, n.d.-a; Visser, 2021). Ultimately, the process of choosing BNPL as a payment option consumes much less time than the process of applying for a credit card at your local bank. After the BNPL payment option is selected, the BNPL provider will pay the e-Business merchant. Finally, the consumers will repay the BNPL provider within the following weeks (Xing et al., 2019). The main stages of this process is shown in Figure 2.

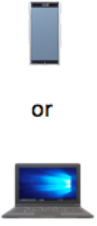





Browses website	Ready to purchase	Purchase	BNPL provider pays merchant	Receives product	Pay later
<p><i>The consumer opens the merchant's online store and browses the site using</i></p>  <p>or</p>	<p><i>The consumer adds their products/services of choice to the shopping cart and moves on to check-out</i></p> 	<p><i>The consumer is offered different payment options and chooses BNPL</i></p> 	<p><i>The BNPL provider pays the merchant whilst the consumer starts consuming or awaits delivery</i></p> 	<p><i>Product delivery (if the product cannot be consumed immediately)</i></p> 	<p><i>The consumer pays the BNPL provider</i></p> 

Figure 2: BNPL customer journey

2.1.2 Growth of the BNPL market

In recent years, there has been a rapid growth in the BNPL market. The growth accelerated during the e-Business expansion in 2015, when a series of fintechs entered the market as payment platforms, collaborating with leading e-commerce retailers to offer credit option alternatives at check-out (Capco, 2020; Xing et al., 2019). Klarna made its first transaction already back in 2005 and is today by far the

largest independent BNPL-player in Europe, which recently got valued at €26bn. Klarna is available in most global large-scale markets, and has more than 250.000 merchants integrated into its system (Visser, 2021). The Worldpay report from 2020 claims that around 11 % of eCommerce spend will be paid through BNPL payment schemes in EMEA by 2025 (Worldpay, 2020). Numbers from Kaleido intelligence estimate the growth to be even higher, claiming that the European BNPL market is expected to grow to €300bn by 2025, or around 30 % of the total eCommerce spent that year (Visser, 2021).

The BNPL market is gaining market shares at rapid speed, and the value of BNPL has continued to grow even more during the COVID-19 pandemic. This is due to the fact that the pandemic has caused the transition to electronic payment methods and online shopping to move even more rapidly (Bullock, 2020). The pandemic has reduced our mobility, which in return has encouraged us to spend more money online (ING, 2020b). Research from the Motley Fool shows that consumers have adapted to BNPL payment options during the pandemic, with as much as 55 % of Americans having used BNPL options as of March 2021 in comparison to 37 % in July 2020 (Backman, 2021). The findings also show that, among BNPL users, 64 % have increased their use of BNPL services during the past year. The reported reasons behind this increase were a combination of wanting to conserve cash in case of emergency, increased online shopping and lost income (Backman, 2021). Increased adoption rates and increased use of BNPL ultimately increases the relevance of our study and, in the long run, has the potential to cause implications at a worldwide level - especially if BNPL can be linked to increased willingness to incur debt among vulnerable consumers.

2.2 Factors Influencing Willingness to Incurring Debt

2.2.1 Pain of paying

Even though we are prompt with flexible, easy and interest-free credit solutions every time we make an online purchase, consumers still do not like to spend money. An explanation for this pain was introduced by Zellermayer (1996) as the term “pain of paying”, referring to the negative emotions experienced during the payment process of a good or service (Zellermayer, 1996). As most consumers are

loss averse, the experience of losing money is linked to negative feelings. In return, these negative feelings can cause reduced or avoided spending. To put it in other words; the more strongly we feel this “pain of paying”, the less likely we are to enjoy the purchase process or make the initial purchase (Prelec & Loewenstein, 1998). We feel this “pain” less when we pay with credit or when there is a time gap between when we consume the product that we have paid for and when the money is actually drawn from our wallet (Ariely & Kreisler, 2018).

The pain of paying plays an important role in consumer self-regulation aimed at keeping spending in check (Prelec & Loewenstein, 1998). Thus, it is important to see how consumers are affected by new payment methods in terms of spending habits and the ability (or lack thereof) to control their spending. In a recent survey conducted by Capco, 44 % of the respondents said that BNPL had made them spend more than they typically would be spending (Webster & Rees, 2021). The pain of paying should primitively lead us to the avoidance of making painful spending decisions. However, with the “help” of different financial services we find ways to lessen the pain then and there. Consequently, we risk causing ourselves more pain in the long run (Ariely & Kreisler, 2018). There are potentially many elements contributing to the pain we feel when we pay and when deciding whether to take on debt. Based on our review of the research that exists in the marketing research field today, we have decided to focus on two main constructs that affect how different payment methods influence the consumer’s level of pain when paying; (1) the transparency of the payment method (and the debt that is incurred) and (2) the convenience of the payment method.

2.2.1.1 The transparency of the payment method

The difference in experienced “pain” when using different payment methods is due to mental coupling - the more mentally decoupled the payment is from the actual purchase, the lower is the pain of paying (Prelec & Loewenstein, 1998). An important factor to mental coupling is the attention that we give to the payment itself and the transparency of parting with money that is sustained from the payment. In the studies of Soman (2003), the transparency of a payment method is described as “the salience of parting with money” (Soman, 2003). For instance, a financial service that simplifies the payment process will make it more difficult for

us to see to what degree we are actually spending money (Ariely & Kreisler, 2018). With most BNPL solutions, the payment process is simple, and a purchase is only “one click away”. Comparatively, previous research has shown that the salience of individual payments is lower for payments made with credit cards compared to cash. However, the difference in spending behavior will presumably diminish if the salience of parting with money is increased at the time of purchase (Raghubir & Srivastava, 2002). The salience of payment form would be even lower for mobile payments (Soman, 2003). The research of Pisani and Atalay (2018) and Gafeeva et al. (2018) shows that the multifunctionality of a mobile phone will contribute to the phone being a less transparent form of payment compared to credit cards. Therefore, purchases that are made through mobile phones generate lower levels of pain for the consumer (Gafeeva et al., 2018; Pisani & Atalay, 2018). Thus, according to transparency theory, payment options which are less transparent are more likely to lower the pain of paying for the consumer and facilitate increased spending compared to more transparent payment options. Based on these assumptions, we suggest that BNPL is a less transparent payment method than regular forms of credit (e.g., credit card). Our first hypothesis is as follows:

H1: *Less transparent payment methods (BNPL relative to credit card) reduce perceived pain of paying and thereby increases willingness to incur debt.*

2.2.1.2 The convenience of the payment method

According to Xing et al. (2019), convenience is considered as one of the most significant advantages for online BNPL schemes (PYMNTS.com & PayPal, 2020; Xing et al., 2019). Convenience, which we refer to as perceived ease of use, can be defined as an individual’s perception that using a specific system will be effortless or easy to handle. For this reason, convenience is considered to be one of the most influential decision factors when consumers decide whether or not to adopt new technology - which includes the adoption of different payment systems (Taylor & Todd, 1995). According to the research of Teo et al. (2015), consumers tend to perceive the act of paying as more or less convenient based on the feeling of high or low effort needed to perform the transaction (Teo et al., 2015). Thus, if a payment option is more convenient and associated with the feeling of ease, it should also increase consumers' willingness to pay. The extra convenience that comes with

mobile phones, in place of credit cards, leads consumers to become more willing to incur debt by credit. This is especially topical for BNPL schemes, as they are heavily dependent on mobile applications (Johnson et al., 2021). Along those lines, it is natural to believe that this effect will be even stronger for consumers who have already adopted technology at a high level and are considered more “mobile friendly”, such as younger consumer groups (Boden et al., 2020; Wilska, 2003). The providers of BNPL solutions offer the consumers “smooth” processes and fast payments. The registration of payment information, which can be done through most BNPL providers, is an effective way of eliminating some of the “painful” feelings that are linked to the actual payment of the purchase. Additionally, through customer portals and apps, BNPL providers give the consumer a wide array of options, tailoring the BNPL experience to the needs of many consumer types. As it appears, the BNPL payment process is designed to be as seamless and hassle free as possible, with an aim of eliminating as many consumer journey pains as possible. Based on these assumptions, we propose our second hypothesis:

H2: *More convenient payment methods (BNPL relative to credit card) reduce perceived pain of paying and thereby increases willingness to incur debt.*

2.2.2 Consumer characteristics of vulnerable groups

We have now identified several factors that affect the pain felt by the consumer when incurring debt, and we can assume that the feeling of pain is not held constant across different payment methods. Similarly, we do not assume that the pain of paying associated with a certain payment method is constant across individual differences. According to Thomas et al. (2011), previous research on pain of paying tends to overlook the individual differences among consumers that influence the level of perceived pain (Thomas et al., 2011). We wish to further explore consumers’ individual differences in response to interest-free financing, in line with advice from Bauer et al. (2021) for further research. We also aim to make a societal contribution by identifying certain characteristics that can be linked to consumer groups that are particularly vulnerable to the negative consequences of overspending, such as over-indebtedness, enabled by easily accessible consumer debt solutions such as BNPL (Bauer et al., 2021).

2.2.2.1 Vulnerable consumer groups

The preceding literature review has revealed a primary focus on socio-demographic and economic characteristics among researchers when describing groups that are considered as vulnerable and at a higher risk of over-indebtedness - individuals such as low-income individuals, younger individuals, single parents and large size families (Bridges & Disney, 2004; Brown et al., 2005; Jiang & Dunn, 2013; Patel et al., 2012). In more recent years, interdisciplinary studies have called attention to the importance of personal attitudes, as well as some other psychological factors, on consumers' debt decisions and risk of over-indebtedness (Frigerio et al., 2020). Amongst these factors, self-control and financial literacy has been identified by previous researchers to play a major role (Brougham et al., 2011; Frigerio et al., 2020; Gathergood, 2012; Majamaa et al., 2019). In order to limit our scope, we wish to investigate how younger age groups and consumers with low levels of self-control and financial literacy relate to the willingness to incur debt with BNPL.

2.2.2.2 Young age

According to Houle (2014), a life on credit has become the way to live for many young adults, which is also mirrored in the high number of debt problems that occur within this age group (Houle, 2014). The research of Majamaa et al. (2019) and Oksanen et al (2015) considered consumers under the age of 30 as the most vulnerable for debt problems. The level of vulnerability peaks within the age group (19-24), followed by the age group (25-29) (Majamaa et al., 2019; Oksanen et al., 2015). The age of 18-19 is when minors go from being minors to being considered as young adults. This is when secondary school education is generally completed and many move on to student life (Oksanen et al., 2015). According to Johnson et al. (2021), young adults are considered to be a key group of consumers with higher levels of impulsive consumption enabled by BNPL solutions (Johnson et al., 2021). Accordingly, BNPL marketing campaigns are seemingly targeting young consumers to a large degree.

This age group is subject to several risk factors, such as low income (due to the fact that they are likely to have just moved out from home), less financial knowledge and easy access to quick payment tools (Brougham et al., 2011; Majamaa et al., 2019). As they are in the process of developing their financial identity, the desired

financial identity does not always match the students' current financial status, which can facilitate borrowing behavior (Brougham et al., 2011). Additionally, debts among young adults are used as a tool to finance minor consumer needs to a much larger degree than among other age groups (Majamaa et al., 2019). Taking on debt might cause less pain in younger age groups as they are unaware of the long-term consequences of over-indebtedness (Lo & Harvey, 2011). Consequently, due to their view of and behavior in relation to debt, young adults today have the potential to incur more and more debt problems as they age (Majamaa et al., 2019). The increased debt among young consumers has come at the expense of the mental, and in some cases physical, wellbeing of many. The mental effects experienced amongst these individuals are higher levels of financial anxiety, stress, and depression, along with poorer subjective assessments on general health issues. The increase in such issues suggests that there will likely be problems with the usage of BNPL in the future among youth, as they are the main users of these credit payment options today (Johnson et al., 2021). Based on this section, we propose the following third hypothesis:

H3: *The mediating effect of pain of paying on the willingness to incur debt is moderated by the age of the consumer, such that lower age leads to decreased pain of paying and increased willingness to incur debt.*

2.2.2.3 Self-control

Inzlicht et al. (2014) defines self-control as the mental process that allows for individuals to interrupt the action of thoughts and emotions, enabling behavior to differ from one moment to the next (Inzlicht et al., 2014). Self-control is conceptualized as an ongoing conflict between desire and willpower that appears when the preference for consumption now is dissimilar to those at some point in the future (Hoch & Loewenstein, 1991). Achtziger et al. (2015) showed that consumers with low self-control have a higher chance of experiencing problems with debt, due to not being able to resist the temptation of purchasing what they desire here and now, nor yet control negative emotions that trigger compensatory responses, such as buying behavior (Achtziger et al., 2015). Meier and Sprenger (2010) further revealed that individuals who desire immediate consumption also have a higher probability of borrowing with credit (Meier & Sprenger, 2010).

According to Fook and McNeill (2020), the users of BNPL solutions have a higher impulse buying tendency online compared to the ones who do not use BNPL. Additionally, these users report an increased likelihood of future purchases if BNPL solutions are available to them, possibly indicating that BNPL promotes overconsumption in this setting (Fook & McNeill, 2020). The concept of self-control and impulsivity work as interrelated processes operating in tandem in relation to determining the risk-taking behaviors of an individual (Duckworth & Kern, 2011; Frigerio et al., 2020). Pirog and Roberts (2007) elaborated on that the buying impulse is in most cases supplemented by intense feeling states, such as positive emotions when the new item is purchased, but also negative emotions and pain, such as feelings of regret, when the invoice arrives (Pirog & Roberts, 2007). Gathergood (2012) found a positive link between over-indebtedness and self-control problems, and stated that consumers with lower self-control make disproportionate use of quick-access credit products and might benefit from less access to credit (Gathergood, 2012). Thus, our fourth hypothesis is:

H4: *The mediating effect of pain of paying on the willingness to incur debt is moderated by the level of the self-control of the consumer, such that lesser self-control leads to decreased pain of paying and increased willingness to incur debt.*

2.2.2.4 Financial literacy

Financial literacy can be described as the consumers' understanding of financial concepts and capability to precisely interpret financial data (Gathergood, 2012). In previous literature, this concept has been measured by examining the consumers' financial attitude, financial behavior and financial knowledge (INFE, 2011; Potrich et al., 2015). Prior studies has shown that consumers with less financial knowledge are more likely to have higher levels of debt-to-income-ratio and difficulties to pay off the debt, compared to individuals with higher financial knowledge (Disney & Gathergood, 2013; Frigerio et al., 2020; Lusardi & Tufano, 2015; Robb, 2011). The research of Gathergood (2012) showed financial illiteracy to be positively associated with failure to pay consumer credit, in addition to other financial debt burdens (Gathergood, 2012). It is a challenge for consumers to grasp the complexity and hold the financial knowledge to understand the many fintech services available

in today's market. The reason for this is that fintech services, such as BNPL, is starting to exceed the capability of many consumer groups (Johnson et al., 2021). Newly conducted research by ING found that 57 % of respondents in the age group 18-34 were unsure whether BNPL meant “taking on debt” or “deferring a payment” (ING, 2020a). Deferring, or delaying, a payment reduces the pain of paying and enhances the purchase experience, as it makes it feel seamless and effortless, compared to when the payment is recognized as actual debt (ING, 2020b). This finding shows there to be a distinct lack of education surrounding BNPL, especially among the younger age groups, as all forms of delayed payments are technically considered debt (ING, 2020b). We therefore propose the following fifth hypothesis:

***H5:** The mediating effect of pain of paying on the willingness to incur debt is moderated by the level of the financial literacy of the consumer, such that lesser financial literacy leads to decreased pain of paying and increased willingness to incur debt.*

3.0 Conceptual framework

Looking back at the literature review conducted in the previous chapter, it is clear that there is an extensive gap in the literature regarding BNPL. The research conducted on this easily accessible credit payment option, and how its perceived advantages possibly affect our willingness to incur debt, is limited at best. This study aims to fill the gap in previous research by examining how BNPL as a credit payment option potentially increases consumers' willingness to incur debt compared to more traditional credit payment options. This is done by proposing a link between the payment method, pain of paying and willingness to incur debt. As there are ideally many factors included in the concept of pain of paying, in relation to debt, we have narrowed it down to consist of the two concepts: (1) the transparency of payment method (i.e., credit) and (2) the convenience of payment method. This study also aims to investigate the effect of consumers' age and levels self-control and financial literacy (i.e., consumers at risk for over-indebtedness) on their levels of pain when paying and willingness to incur debt. We propose pain of paying as a mediating variable in the relationship between BNPL and willingness to incur debt, whereby the individual characteristics of the consumer moderate the

effect of pain of paying. The conceptual framework of this study is inspired by the newer framework of Bauer et al (2021) and Boden et al (2020).

The conceptual framework (Figure 3) illustrates the following: (1) less **transparent** payment methods (BNPL relative to credit card) reduce perceived pain of paying and thereby increases willingness to incur debt, (2) more **convenient** payment methods (BNPL relative to credit card) reduce perceived pain of paying and thereby increases willingness to incur debt and (3) the mediating effect of pain of paying on BNPL and the willingness to incur debt is moderated by the **age, self-control and financial literacy**, such that lower levels of these characteristics lead to decreased pain of paying and increased willingness to incur debt.

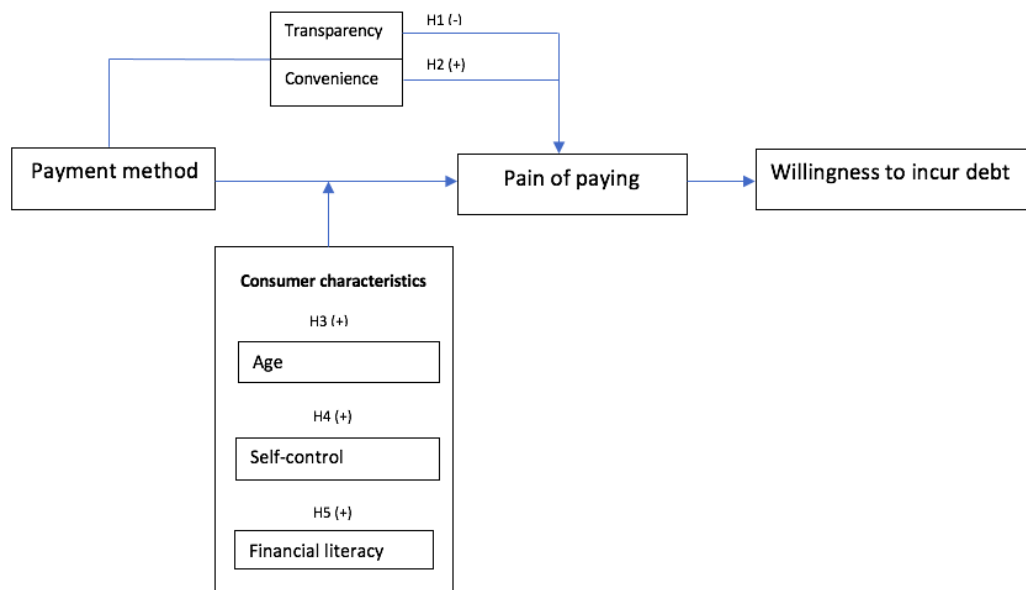


Figure 3: Conceptual framework

4.0 Research methodology

This section describes the background and design of the study, and clarifies the methods used for data collection and hypotheses testing. Lastly, validity of the study and its components will be discussed, followed by a section on legal and ethical concerns.

4.1 Study background

Our aim with this study is to examine how BNPL payment options influence consumers' willingness to incur debt and how this is influenced by pain of paying conveyed through the transparency and convenience of the payment method. Lastly, we also intend to check for different types of characteristics representing vulnerable consumer groups, such as young age, lack of self-control and financial literacy, and its effect on the pain of paying.

For us to test our hypotheses, we decided to create a between-subjects experiment based on the method of Bauer et al. (2021) with questions asked in the experiment. Our study solely collected primary data and was conducted online. In the experiment, we decided to use a randomized group design in which the subjects were randomly assigned to two different experimental conditions based on the payment instrument used (BNPL and credit card). This was done to ensure that the groups are statistically equivalent, and differences between the groups will then be due to random factors. Our hypotheses were analyzed by conducting double mediation and moderated mediation analysis in SPSS (Andrew F. Hayes, PROCESS).

4.2 Methods of data collection

Data sample

Our dataset consists of 114 participant responses collected from two experimental purchase situations (BNPL versus credit card) during the first two weeks in the month of May 2021 (see section 5.1 Data cleaning for information concerning number of participants). Due to the special circumstances surrounding Covid-19, we found it necessary to use a convenience sampling in order to collect a sufficient number of responses. This is a nonprobability sampling technique that aims to obtain a sample of convenient elements, where the selection is primarily left to the interviewer (Malhotra, 2019). For this purpose, the participants were recruited through our different social media channels, such as Facebook, LinkedIn and Instagram. Facebook was our main tool for distributing the survey, both in our personal channels and different student groups. Our aim was to gather responses

from participants aged 18 and above. To secure this age limit, the participants had to confirm their age before entering the survey. The main reason for setting an age limit of 18 was to reflect the age limit set by BNPL providers, such as Klarna, and other issuers of credit cards in Norway. We encouraged everyone above the age of 18 to answer the survey, and it was not a demand that they had previous experience with either Klarna or credit cards.

Pre-test

We conducted a pre-test of our study before publishing it by letting a small sample of respondents identify and eliminate potential problems (Malhotra, 2019). We did this by selecting 10 participants in the same environments as those who would potentially be participating in the actual study to look through our experiments and follow-up questions, to make sure the questions and response alternatives were understandable, as well as the length of the survey and overall impression. Based on this response, we made the introduction to our survey shorter and less complicated. We also cut down on the number of questions that were highly similar and measured the same thing – i.e., questions that we felt that we could cut without damaging the reliability and validity of the study. We also made the survey more specific and to the point. Followingly, the survey was reduced from 10 minutes to 5 minutes, enhancing the probability that respondents will take their time to answer the survey and stay concentrated throughout the duration of the experiment.

4.2.1 Experiment BNPL vs credit card

4.2.1.1 Data collection

Tools and procedures

We created the survey in the web-based survey tool Qualtrics and distributed it through social media over the span of two weeks. The participants were asked if they would take part in a 5-minute survey, but they were not aware that it was an experiment with two different conditions. They were able to answer the survey at whatever time that suited them the best. Once the participants entered the survey, they were presented with information about the data collection process, which was voluntary and confidential, as well as the purpose of the study.

For the experiment itself we used the same common marketplace practice for a material good as observed in the study of Bauer et al (2021). In this format, the participants were told that they were thinking about buying a 2500 Norwegian kroner stereo system, and that the only way they would be able to purchase it today was if they used a credit payment solution. If they did not finance the purchase with the payment option they were presented with, they would have to wait 30 days to purchase the stereo with money from their account. The participants were informed that there were no additional costs associated with the payment option and that it was interest-free, and that they expected to be able to pay the purchase off within 30 days. The participants were randomly assigned to one out of two conditions: (1) paying with BNPL or (2) paying with credit card. Notably, the financing was economically equivalent in these two conditions. The only thing that was changed was the word “BNPL” and “credit card” (i.e., the information mentioned above was kept the same). None of the participants were presented with both scenarios. To replicate a real-life purchasing situation as best as possible, we presented the payment options to the respondents as they would be presented to a consumer in an actual online purchase. See Figure 4.

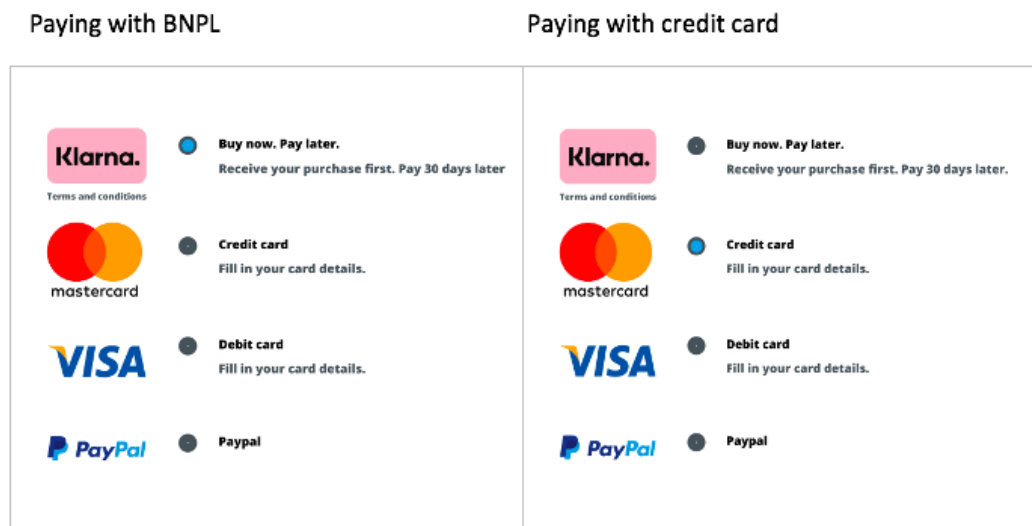


Figure 4: Paying with BNPL versus paying with credit card

The first group of questions, succeeding the experiment, related to the purchasing situation the participants were presented with and their willingness to finance the purchase with the given payment option. This group of questions were based on the research of Bauer et al. (2021). The next group of questions related to the

transparency, convenience and general pain caused by paying with the payment option, with measures inspired by the research of Raghurir & Srivastava (2008), Bauer et al. (2021), ING (2020) a and b, Thomas et al. (2011) and Rick et al. (2008). The following group of questions related to the level of self-control of the participant. Firstly, the participants were asked to indicate their agreement with two statements about impulsivity. These statements are considered accurate descriptions of impulsive behavior and are included in recognized models that measure self-control (Gathergood, 2012). Statements about impulsivity were followed by statements from the consumers' spending self-control (CSSC) scale (Haws et al., 2012).

The next group of questions related to financial literacy. In previous literature financial literacy has been measured by asking about the respondents' financial attitude, financial behavior and financial knowledge (Potrich et al., 2015). Initially, we intended to measure all these constructs. However, as we also aimed to examine the respondents' level of self-control, we recognized that behavioral financial questions would overlap with this concept. Thus, to ensure that we could measure both financial literacy and self-control, we did not measure financial behavior. The questions related to financial attitude were based on the OECD financial literacy questionnaire and methodological guidance developed by the International Network on Financial Education (INFE). In addition, the questions related to financial knowledge were based on the National Financial Capability Test of the National Financial Educators Council (INFE, 2011; National Financial Educators Council, n.d.). The final group of questions in the study were related to participants' demographics, where they were asked questions related to their age, gender, highest level of education, job situation and yearly income level. See Appendix A and B for the full study guides and Table 1 for additional measurement descriptions.

Table 1: Measure Descriptions

Measure	Item	Scale	Reference
Willingness to incur debt	"How willing would you be to finance this stereo system with BNPL/credit card?"	7-point Likert scale ranging from "extremely unwilling" (1) to extremely willing (7).	Bauer et al (2021)

	“How likely are you to wait for 30 days to buy the stereo system with money from your account, rather than using BNPL/credit card?”	7-point Likert scale ranging from “extremely unwilling” (1) to extremely willing (7).	Self-created
Frequency of usage	“How frequently have you so far used BNPL/credit card (approximately)?”	Scale from “never” to “more than once per month”.	Self-created
Future usage (likeliness)	“How likely is it that you would use BNPL/credit card at some point in the future?”	7-point Likert scale ranging from (1) “extremely unlikely” to (7) “extremely likely”.	Self-created
Convenience	“Paying with BNPL/credit card enables me to shop quickly and without much contemplation”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	Raghubir & Srivastava (2008)
	“Paying with BNPL/credit card feels convenient”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	Raghubir & Srivastava (2008)
	“Paying with BNPL/credit feels hassle-free and effortless”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	Raghubir & Srivastava (2008)
	“Paying with BNPL/credit “is efficient”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	Raghubir & Srivastava (2008)
Transparency	“Paying with BNPL/credit card makes me feel like I’m in debt”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	Bauer et al (2021), ING (2020) a & b
Pain	“Paying with BNPL/credit card bothers me”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	Thomas et al. (2011) Rick et al. (2008)
	“Paying with BNPL/credit feels painful”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	Thomas et al. (2011) Rick et al. (2008)

		disagree” (1) to “strongly agree” (7).	
Self-control (impulsivity)	“I am impulsive and tend to buy things even when I can’t afford them”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	Gathergood (2012)
	“I am prepared to spend now and let the future take care of itself”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	Gathergood (2012)
Self-control	“I closely monitor my spending behavior”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	CSSC-scale, Haws et al (2012)
	“I am able to work effectively toward long-term financial goals”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	CSSC-scale, Haws et al (2012)
	“I carefully consider my needs before making purchases”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	CSSC-scale, Haws et al (2012)
	“I often delay taking action until I have carefully considered the consequences of my purchase decisions”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	CSSC-scale, Haws et al (2012)
	“When I go out with friends, I keep track of what I am spending”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	CSSC-scale, Haws et al (2012)
	“I am able to resist temptation in order to achieve my budget goals”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	CSSC-scale, Haws et al (2012)
	“I am responsible when it comes to how much I spend”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	CSSC-scale, Haws et al (2012)

Financial literacy (attitude)	“Setting long-term financial goals and having objectives related to spending is important to me”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	OECD financial literacy questionnaire and methodological guidance developed by the INFE.
	“Making sure that my bills are paid on time is important to me”	7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7).	OECD financial literacy questionnaire and methodological guidance developed by the INFE.
Financial literacy (knowledge)	“Choose the two best alternatives that would allow you to build and maintain a good credit rating”*	“Protect against identity theft and put money in savings” “Pay my bills on time and avoid debt” “Set clear financial goals and make safe investments”	OECD financial literacy questionnaire and methodological guidance developed by the INFE. National Financial Capability Test of the National Financial Educators Council
	“If you put 1500 kroner in a high interest rate account, and that money earns a 3,6 % annual return, how much will you have after 5 years (approximately)?”	“6900 kroner”, “1790 kroner”, “3554kroner” “None of the above”.	OECD financial literacy questionnaire and methodological guidance developed by the INFE. National Financial Capability Test of the National Financial Educators Council

* This question was cut from our dataset as a part of the data cleaning process.

4.2.3 Validity of methodology

Internal validity

For us to strengthen the internal validity of the study we ensured that the participants were given the exact same information prior to and during the study. All information was held constant, and the only thing we changed was the payment method in the experiment. This allowed us to have confidence in the causal relationship between the IV’s (transparency, convenience and BNPL relative to credit card) and DV (pain of paying and willingness to incur debt). Furthermore, to measure behavioral characteristics as accurately as possible, we mainly used

recognized and standardized scales (i.e., interrelated questions) developed by other researchers. This strengthened the content validity of our study, which is referred to as how well the content of a scale represents the task we intend to measure (Malhotra, 2019). However, for some concepts, such as financial literacy, it was difficult to find pre-constructed scales that fit into the desired length and complexity, on behalf of the respondents, of our survey. Thus, for financial literacy we had to create our own composition of questions. Although these questions had been used in previous research before, there was little research on financial literacy in which the consumers' level of literacy was measured in a quick and uncomplicated manner.

To strengthen the scale validity of the study, we largely used Likert scales; “a widely used rating scale that requires the respondents to indicate a degree of agreement or disagreement with each of a series of statements about the stimulus objects” (Malhotra, 2019). An advantage with Likert scales is that they are relatively easy to administer, as well as understandable for the respondent. However, the scales might take longer for the respondent to read and in some cases the responses might be difficult to interpret. We added both positive and negative statements, randomly interspersed, with the intent of controlling for the tendency of some respondents marking one end of the scale without reading the items (Malhotra, 2019). In addition, we added an attention check in between the statements in one of the survey matrices, with the following text: *“This is an attention check. Please mark “Strongly disagree” as your answer. Thank you for paying attention”*.

As the study was conducted online, we could not control for situational factors such as the data collection environment. As the study was self-administered, we could not control for the influence of others and the respondent could take the survey in the environment they choose, which serves as a weakness to the internal validity of our study (Malhotra, 2019). For us to secure individual responses, we adjusted the settings in Qualtrics so that the survey could only be conducted once per electrical device. However, a weakness with this setting is that participants can answer it multiple times if they change their devices.

We also identified issues of respondent factors, such as social desirability bias. This can be defined as the tendency for respondents to give answers that are more desirable from a social standpoint, which may not be accurate to the ones of the respondents (Malhotra, 2019). This might serve as an issue when interviewing respondents on financial or personal behavior, as conducted in this study. In order for us to counteract this issue, we made sure of full anonymity of the respondents, which is a measure to lower social desirability bias, as respondents are more willing to give this type of information if the perceived anonymity of the survey is high (Malhotra, 2019).

External Validity

The external validity of the study was strengthened by randomly assigning the participants into the two different conditions, reducing the risk of systematic pre-existing differences between groups. However, as we recruited our participants through convenience-sampling through our social media channels, most participants in our study were students from similar environments. This may have increased the risk of the extraneous variable selection bias (SB), which refers to the improper assignment of test units to treatment conditions reducing the generalizability of our study (Malhotra, 2019).

Lastly, the results of the study may have been influenced by Covid-19 as the extraneous variable, history (H). History refers to the specific events that occur at the same time as the experiment, but are external to the experiment itself, such as the decline of economic conditions in the society (Malhotra, 2019). The financial situation and purchasing patterns of the participants may have been subject to change due to the extraordinary circumstances of the pandemic, possibly influencing the outcome of our study.

4.2.4 Legal and ethical concerns

This study was conducted in compliance with Norwegian and BI Norwegian Business school regulations for data collection. IP addresses or any personal data that can be used to identify respondents were not collected, and the responses were fully anonymized. The participants were informed at the beginning of the survey that it was voluntary to participate and that they could withdraw at any time.

Disclaimers in the beginning of the study such as “there are no right or wrong answers - please respond according to what feels right to you” can relieve much of the stress that arises from a survey, as researchers should not subject respondents to stressful situations (Malhotra, 2019). Followingly, questions that may be perceived by some respondents as sensitive, e.g., gender and income, were presented with a “prefer not to say” answer option in order not to violate respondent privacy.

5.0 Data analysis

This section contains an exploration of the collected data, including data cleaning and a description of sample demographics. Furthermore, the results of one-way analysis of variance, double mediation analysis and mediated moderation analysis are presented.

5.1 Data cleaning

We performed a cleaning of our data to transform raw data into a complete and accurate dataset. To do so, the raw data was categorized, appropriately labeled and noise was eliminated (i.e., unnecessary variables, such as date and duration of the survey, were removed). Scale data (Likert) was also revised to ensure that the value order was correct. To begin with, we received 212 participant responses in Qualtrics. Firstly, we removed 79 respondents, as they did not finish the survey. Next, we removed the respondents who failed the attention check. From the respondents who were placed in the BNPL-condition, 10 failed the attention check. Similarly, 9 of the respondents that were placed in the credit card-condition failed. Thus, we removed 19 additional respondents. In addition, we explored the option of eliminating outliers from our dataset. As our dataset solely consists of dummy variables, Likert scales and pre-constructed brackets for i.a. age groups, income levels and job situations, the probability of outliers, in terms of e.g., entry errors, was small. However, depending on how you define an outlier, our variables could point to responses that are largely outside the “norm”. Such outliers could potentially affect the statistical significance of our results. Additionally, it could point to the presence of more than one statistical dissimilar group, in which one of these groups is too small to give results that are statistically significant for the part of the population it represents.

We ran an explorative analysis of outliers for all our independent variables. There was identified one outlier each for FIN_LIT and SELF_C. Removing respondent 19 (financial attitude) and 88 (self-control) proved to not increase the statistical significance of our analyses, due to its ripple effects. By removing outliers within the variables self-control and financial attitude, we did not fix the problem. On the contrary, this led to new outliers to be identified. In addition, removing these two participants would only lead us to eliminating the two, arguably, most interesting responses of our survey - those responses that actually pick up on the vulnerable consumer characteristics that we aim to measure. As such, we found that excluding responses 19 and 88 would affect the validity of the study more than it would positively affect its statistical significance.

There were also seven and four outliers identified for age. We experienced the same difficulties in the removing process of AGE as with FIN_LIT and SELF_C. When the seven first outliers were removed, a new set of outliers were identified - and so on. Ultimately, removing all outliers for AGE in the dataset would entail a large reduction of responses and eliminate all age brackets below 22 and above 30. Including different age groups would allow us to potentially see differences between age brackets - although unlikely to be significant due to the lack of representation within each age group - whilst eliminating outliers would be even more damaging to the validity of our study than not doing so. Hence, we concluded that no outliers were to be removed due to the fact that they were either below the 25th percentile (first quartile) or above the 75th percentile (third quartile). Followingly, our sole purpose of an outlier analysis was to ensure that we had no values that had been corrupted in transition from raw data to categorized data. Our analysis of frequencies showed that all respondents were within the constructed scales and brackets for all variables. By the same means, we also concluded that our dataset contained no missing values.

5.2 Sample demographics

Our sample consisted of 64.0 % female and 34.2 % male participants, whilst 1,8 % preferred not to state their gender. Our youngest participants were between 18-21 and our oldest participants were 50 years of age or above. Most respondents fell

within the two age groups (22-25) and (26-30), whereas 29.8 % of the respondents represented the age group (22-25) and 48.2 % represented the age group (26-30). All the participants had a formal education, whereas 43 % had a bachelor's degree and 41.2 % had a master's degree. Furthermore, 51,7 % of the participants have an annual income below 400 000 Norwegian kroner (NOK). As for the job situation of the participants, 50 % of the participants were employed full-time and 25,4 % were employed part-time. 3,5 % of the respondents were unemployed and 0.9 % were retired. In addition to and amongst these, 44, 7 % of the participants were students/in internships, as it was possible for the participants to tick off multiple boxes when responding to the question about their work situation.

In the experiment, 49,12 % (frequency of 56) of the participants were placed in the BNPL-condition and 50,88 % (frequency of 58) were placed in the credit card-condition randomly by Qualtrics. 10.7 % of the participants that were placed in the BNPL-condition used BNPL more than once per month, whilst 16.1 % used BNPL once per month. 37,5 % had never used BNPL before. 32.1 % answered that it is extremely likely that they will use BNPL in the future, whilst 23.2 % found this to be extremely unlikely. 25.9 % of the participants that were placed in the credit card-condition used credit card more than once per month, and 17,2 % used credit card once per month. 13,8 % had never used a credit card before. 27 % answered that it is extremely likely that they will use a credit card in the future, while 8.6 % found this to be extremely unlikely. The mean scores for financial literacy (mean = 7.496, STD = 1.224, min = 3 and max = 9) and self-control (mean = 5.2485, STD = 1.051, min = 2.33 and max = 7) are high, which is likely to stem from our sample being i.a. highly educated. A summary of the sample demographics are presented in Table 2 below.

Table 2: Summary Sample Demographics

Characteristics	Characteristics Specification	Frequency	Percentage
Gender	Female	73	64.000
	Male	39	34.200
	Non-binary / third gender	0	0
	Prefer not to say	2	1.800

Age	18-21	7	6.100
	22-25	34	29.800
	26-30	55	48.200
	31-40	7	6.100
	41-50	3	2.600
	Over 50	8	7.000
Education	No formal education	0	0.000
	High school diploma	13	11.400
	College degree	3	2.600
	Vocational training	1	0.900
	Bachelor's degree	49	43.000
	Master's degree	47	41.200
	Professional degree	0	0.000
	Doctorate (phD) degree	0	0.000
Other	1	0.900	
Income	99.999 or less	17	14.900
	100.000 - 199.999	22	19.300
	200.000 - 299.999	11	9.600
	300.000 - 399.999	9	7.900
	400.000 - 499.999	11	9.600
	500.000 - 599.999	13	11.400
	600.000 - 699.999	10	8.800
	700.000 or more	17	14.900
	Prefer not to say	4	3.500
Job	Part-time employment	29	25.400
	Full-time employment	57	50.000
	Unemployed	4	3.500
	Retired	1	0.900
	Outside the labour force (e.g. due to sickness)	0	0.000
	Student/internship	51	44.700

BNPL average usage	Never	21	37.500
	Once before	8	14.300
	Once per year	7	12.500
	Once every six months	5	8.900
	Once per month	9	16.100
	More than once per month	6	10.700
BNPL future usage	1 - Extremely unlikely	13	23.200
	2	6	10.700
	3	1	1.800
	4 - Neither nor	7	12.500
	5 -	9	16.100
	6 -	2	3.600
	7- Extremely likely	18	32.100
Credit card average usage	Never	8	13.800
	Once before	9	15.500
	Once per year	7	12.100
	Once every six months	9	15.500
	Once per month	10	17.200
	More than once per month	15	25.900
Credit card future usage	1 - Extremely unlikely	5	8.600
	2	2	3.400
	3	6	10.300
	4 - Neither nor	4	6.900
	5 -	9	15.500
	6 -	5	8.600
	7- Extremely likely	27	46.600
Self-control*	1 - Strongly Disagree	0	0.000
	2 -	3	2.700
	3 -	9	8.000
	4 - Neither nor	23	20.100
	5 -	49	43.000

	6 -	26	22.900
	7- Strongly Agree	4	3.500
Mean Self_C		114	5.2485
Financial literacy	3 - Extremely low	1	0.900
	4	0	0.000
	5	2	1.800
	5.50	10	8.800
	6	7	6.100
	6.50	10	8.800
	7	14	12.300
	7.50	15	13.200
	8	17	14.900
	8.50	18	18.800
	9.00 - Extremely high	20	17.500
Mean Fin_Lit		114	7.4956

*To simplify the characteristics specification in this table for the combined variable “Self-control”, we have gathered factors, such as 2.33, 2.44 and 2.56 into 2 etc. The mean is calculated from the non-adjusted characteristics specification created in SPSS.

5.3 Description of variables

The entirety of our data analyses was conducted using IBM SPSS Statistics 26 software, in conjunction with the PROCESS software from Andrew F. Hayes. Prior to the analysis process, the raw data from Qualtrics - the survey tool we conducted our experiment in - was transferred to and cleaned in SPSS. We ensured to exclude responses from participants who did not finish the survey or failed the attention check. All participants had to agree in our electronic consent form to conduct the survey, thus no non-consented responses needed removal. We created additional variables to ensure that our data analysis consisted of the necessary variable components. Firstly, a dummy variable for the condition each participant was presented with was set up, PAYMENT, and coherent variables were constructed so that all variables included responses from both condition groups. Additionally,

responses from matrices were categorised appropriately from minimum to maximum and consolidated to create variables that measure the participants' level of self-control and financial literacy, as well as the perceived level of convenience, pain of paying and transparency associated with the payment method. The dependent variable of our analyses was the participants' willingness to incur debt. The variables utilized in our analyses are explained in the table below, Table 3.

Table 3: Description of variables included in analyses

Variable Name	Description	Measurement	Variable type and expected direction
WILLDBT	Willingness to incur debt (i.e. willingness to finance the stereo with credit rather than waiting 30 days to purchase the stereo with money from their account)	Likert scale (1-7): 1 (extremely unwilling) - 7 (extremely willing) The scale for the following question, "How likely are you to wait for 30 days...?", was flipped such that the scale goes from extremely likely (1) to extremely unlikely (7). This was done to ensure that decreased likeliness of waiting 30 days indicated increased willingness to to finance the stereo with credit (i.e. incur debt).	Variable type: DV Expected direction: + Cronbach's Alpha: 0.834
PAYMENT	Condition (i.e. payment option) the participant was presented with	Binomial: Credit card = 0 Buy Now Pay Later = 1	Variable type: IV Expected direction: +
POP	Pain of paying experiences in reaction to the condition	Likert scale (1-7): 1 (strongly disagree) - 7 (strongly agree)	Variable type: IV Expected direction: - Cronbach's Alpha: 0.886
TRAN	Transparency of	Likert scale (1-7):	Variable type:

	payment method (i.e. debt)	1 (strongly disagree) - 7 (strongly agree)	IV Expected direction: -
CONV	Convenience of payment method	Likert scale (1-7): 1 (strongly disagree) - 7 (strongly agree)	Variable type: IV Expected direction: + Cronbach's Alpha: 0.913
SELF_C	The participant's level of self-control	Likert scale (1-7): 1 (strongly disagree) - 7 (strongly agree) The scale was flipped for the two questions about the participant's level of impulsiveness. This was done to ensure that high impulsivity indicates low self-control.	Variable type: IV Expected direction: - Cronbach's Alpha: 0.873
FIN_LIT	Participant's financial attitude and knowledge	Scale items (1-9): 1 (extremely low levels of financial literacy) - 9 (extremely high levels of financial literacy) Consisted of two questions for financial attitude, on a 7-point Likert scale, and one binominal variable for financial knowledge (wrong = 0, correct = 2)	Variable type: IV Expected direction: - Cronbach's Alpha for financial attitude: 0.318
FREQ	How often the participant has used the payment option they were conditioned to in the past	Scale items (1-6): never, once before, once per year, once every six months, once per month, more than once per month	Variable type: IV Expected direction: +
FUTURE	How likely the participant is to use the payment option they	Likert scale (1-7): 1 (extremely unlikely) - 7 (extremely likely)	Variable type: IV

	were conditioned to in the future		Expected direction: +
GENDER (GENDER_FEMALE, GENDER_PNTS)	Gender of participant	Dummy variables handling three categories Reference category: male = 0 Other categories: female and prefer not to say	Variable type: Demographics Expected direction: No specified direction
EDU (EDU_HIGHSCHOOL, EDU_COLLEGE, EDU_VOCTRAINING, EDU_BACHELOR, EDU_MASTER)	Highest level of education attained by participant	Dummy variables handling six categories Reference category: Other Other categories: high school, college, vocational training, bachelor's degree, master's degree)	Variable type: Demographics Expected direction: No specified direction
INCOME (INCOME_100, INCOME_200, INCOME_300, INCOME_400, INCOME_500, INCOME_600, INCOME_700, INCOME_PNTS)	Income of participant	Dummy variables handling nine categories Reference category: 99.999 kroner or less Other categories: 100.000 - 199.999 kroner, 200.000 - 299.999 kroner, 300.000 - 399.999 kroner, 400.000 - 499.999 kroner, 500.000 - 599.999 kroner, 600.000 - 699.999 kroner, 700.000 kroner or more, prefer not to say	Variable type: Demographics Expected direction: No specified direction
AGE	Age of participant	Ordinal items (1-6): 18-21, 22-25, 26-30, 31-40, 41-50, over 50	Variable type: IV (demographics) Expected direction: -
JOB (JOB_PARTTIME, JOB_FULLTIME, JOB_RETIRED,	Participant's job status	Dummy variables handling five categories Reference category:	Variable type: Demographics Expected direction:

JOB_STUDENT)		Unemployed Other categories: full-time employment, part-time employment, retired, student/internship)	No specified direction
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Variables that were cut due to no occurrences: non-binary / third gender (GENDER) and outside the labor force (JOB).

Our dependent variable, WILLDBT, consists of two questions linked to; (1) the participants willingness to finance the stereo using the conditioned payment method and (2) the likelihood that they would wait for 30 days to finance the stereo with money from their account. These two questions were joined to create a main variable that measures the participant’s willingness to incur debt. Similarly, POP, TRAN, CONV, SELF_C, FIN_LIT were constructed by adding together the conjoint questions from our matrices and calculating the mean score. The financial literacy variable, FIN_LIT, was constructed by combining the 7-point Likert scale measure for financial attitude and the binomial measure for financial knowledge (wrong = 0, correct = 2), such that respondents who scored high on financial attitude and answered the financial knowledge questions correctly could get a score of nine at a maximum.

We used AGE, GENDER, EDU, INCOME and JOB as demographics, to gain more insight into the data collection process. AGE was used as an independent variable as well, as a part of our moderation analysis related to H3. FREQ and FUTURE were used to conduct a linear regression to see how the frequency of past usage and likeliness of future use of a BNPL relative to credit card would potentially affect the participant’s willingness to incur debt. This was not a part of our preliminary assumptions and was conducted in response to the waste percentage of participants who were conditioned to BNPL and had not used BNPL before (37.5 %), relative to the percentage of participants who were conditioned to credit card and had not used a credit card before (13.8 %). Thus, a new assumption arose that the participant’s present adoption level might affect their willingness to use BNPL, and that among participants who had used the payment option they were conditioned to before, at least once, there would be a larger willingness to incur debt with BNPL than with credit card. This assumption was mainly explored to see whether the

willingness to incur debt with BNPL relative to credit card is indeed higher if preliminary hypotheses failed to give valuable insight, and to shed some light upon a potentially problematic area of this research article.

$$WILLDBT = B_0 + B_{PAYMENT} + B_{FREQ} + B_{FUTURE}$$

The regression model (adjusted R square: 0.520, $p < .001$) suggests that there is a positive relationship between frequency of use and willingness to incur debt ($B_{FREQ} = 0.488$, $p < .001$). Those who see themselves using the payment option they were conditioned to in the future are also more willing to incur debt ($B_{BNPL} = 0.361$, $p < .001$). Finally, when previous and future use is taken into consideration, the willingness to incur debt with BNPL is higher relative to credit card ($B_{FUTURE} = 1.294$, $p < .001$).

Table 4: Regression analysis; willingness to incur debt

	POP	R Square	Adjusted R Square	F	p
Model summary		.533	.520	41.883	< .001
	<i>B</i> Effect Size (%)	SE <i>B</i>	β	t-value	<i>p</i>
Constant	-.259	.363		-.713	.477
BNPL	1.294	.268	.327	4.835	<.001
FREQ	.453	.112	.428	4.043	<.001
FUTURE	.316	.092	.361	3.442	<.001

5.4 Reliability tests

We conducted a reliability test to ensure that there indeed was a significant inter-term correlation between variables we intended to combine into one main variable, and that the variables leaned in the same direction. For our dependent variable, WILLDBT, the two combined questions about the participants’ (1) willingness to finance with credit and (2) likeliness of waiting 30 days had a Cronbach's Alpha score of 0.834 and a correlation of 0.722. Thus, we concluded that the reliability of

our dependent variable, willingness to incur debt, was very reliable. The variable for convenience, CONV, consisted of four questions on a 7-point likert scale. According to Cronbach's Alpha, the reliability of all these variables combined was very strong (score = .913). The score for Cronbach's Alpha was not improved if either of the questions were removed, thus we felt confident in combining these questions into a sole variable.

The two questions that were combined to construct the main variable for pain of paying, POP, gave a Cronbach's Alpha score of 0.886, with an inter-item correlation of 0.796, which indicated a very reliable main variable. The main variable for self-control consisted of nine questions and had a Cronbach's Alpha of 0.873, which indicated very high reliability. The score did not improve by removing either of the nine questions. Financial attitude consisted of two questions and gave a Cronbach's Alpha score of 0.318, indicating a rather reliable variable. The corrected item-total correlation of the two questions was 0.219. The final variable for financial literacy was constructed by combining a question of scale, financial attitude, and a binomial variable, financial knowledge (one question), which did not test for reliability easily. FIN_LIT was therefore solely rather reliable - to be discussed further in limitations. We initially had two questions related to financial knowledge. However, after reviewing survey responses, we found that one of these questions were unreliable and had no correlation to the other financial knowledge question. This was confirmed by reviewing the participants' responses to the question. This review showed that seemingly financially literate participants (i.e., high scores for financial attitude and with a correct answer for the first knowledge question) answered the question wrongly to such a degree that wrongful answer became the norm of the sample. Due to the apparent ambiguity of the question, we decided to cut it from our dataset.

5.3 One-way analysis of variance

We conducted seven ANOVAs to explore whether there was a significant difference between the means of the two groups (BNPL vs. credit card) in terms of their willingness to incur debt, as well as the perceived convenience, pain of paying and transparency associated with the payment option they were conditioned to. The mean difference between groups, i.e., willingness to incur debt with BNPL relative

to credit card, is 0.514. This difference, although leaning towards the expected direction, was not statistically significant ($F = .193$, n.s). The mean for pain of paying was lower for BNPL relative to credit card (Mean diff: -1.1625), and the between group means were statistically significant at a 0.001 level ($F = 10.748$, $p < .001$). The mean transparency of BNPL was significantly lower than that of credit card at a 0.05 significance level (Mean diff: -.881, $F = 5.039$, $p < .05$), in accordance with our expectations. Similarly, the mean difference for convenience, found significant at a 0.1 significance level, suggests BNPL as the most convenient payment option (Mean diff: 0.598, $F = 3.423$, $p < 0.1$).

Table 5: One-sample ANOVAs

Condition	Payment Method	Mean	Standard Deviation	t	p
WILLDBT	Credit card	3.1552	1.95162		
	BNPL	3.6696	2.00517		
	Between groups			1.927	.168
POP	Credit card	4.4483	1.93239		
	BNPL	3.2857	1.85094		
	Between groups			10.748****	.001
TRAN	Credit card	5.3448	1.89692		
	BNPL	4.4643	2.28007		
	Between groups			5.039**	.027
CONV	Credit card	4.3707	1.82829		
	BNPL	4.9688	1.61179		
	Between groups			3.423*	0.67

*Significant at a significance level of 0.1, **Significant at a significance level of 0.05, ***Significant at a significance level of 0.01, ****Significant at a significance level of 0.001

5.4 Sequential mediation analyses

H1 and H2 were tested using Andrew F. Hayes model 6 (PROCESS in SPSS). Andrew F. Hayes models assume with-in variable accuracy (i.e., that there are no significant outliers or missing values). The occurrence of outliers (i.e., responses outside the “norm”) was discussed as a part of our data cleaning process. Based on this discussion, the authors have concluded that the presence of outliers would

solely cause a slight, non-detrimental problem in terms of the reliability of the analyses we conduct. Thus, we will continue to conduct all of our analyses based on the assumption that there are no significant nor detrimental outliers in our dataset, and rather discuss the matter further in our limitations. The analyses were conducted at a 95 % confidence interval with a bootstrap sample of 5000.

The following analyses were conducted to test two mediating relationships; (1) whether transparency and convenience mediates the effect of the condition, payment method, on pain of paying, and (2) whether the effect of the condition, payment method, on willingness to incur debt is mediated by pain of paying. For our first analysis, the independent variable was set as PAYMENT, the first and second mediating variable was set as TRAN and POP respectively, and the dependent variable was set as WILLDBT (see Figure 5 of the conceptual model for H1, including expected path directions). For our second analysis, TRAN was switched out with CONV.

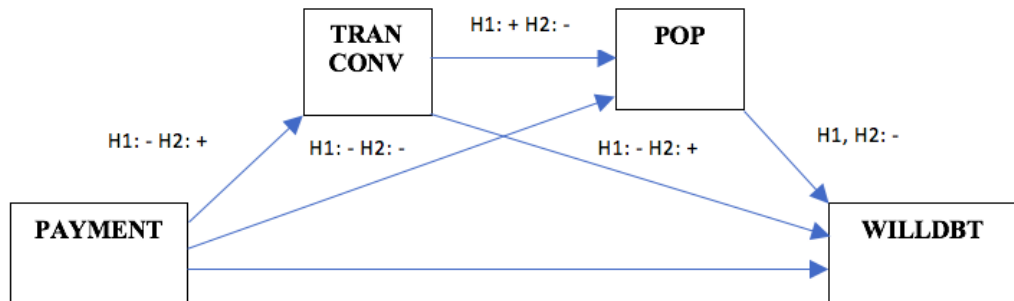


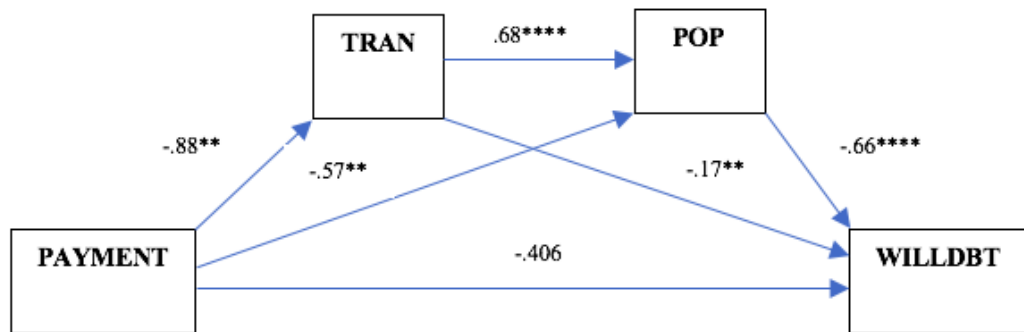
Figure 5: Conceptual model (sequential mediation analysis, Model 6, by Andrew F. Hayes)

5.4.1 The mediating effect of transparency and pain of paying on the willingness to incur debt with BNPL

H1: less transparent payment methods (BNPL relative to credit card) reduce perceived pain of paying and thereby increases willingness to incur debt.

The first model, with TRAN as the outcome variable (see Model 1, Table 6, Model statistics for H1), showed that payment method has a significant effect on

transparency. This indicates that there is a negative, linear relationship between the independent variable, PAYMENT, and the mediating variable, TRAN, of the model - i.e., BNPL decreases the participant’s perceived level of transparency (-.880, $t = -2.245$, $p < .05$). The second model (see Model 2, Table 6, Model Statistics for H1), in which POP is the outcome variable, indicates that BNPL decreases the pain of paying (-.567, $t = -2.346$, $p < .05$). It also indicates that transparency has a mediating effect on pain of paying, such that increased transparency causes increased pain of paying (.676, $t = 11.880$, $p < .001$). The final model (see Model 3, Table 6, Model statistics for H1), in which WILLDBT is the outcome variable, suggests that both transparency and pain of paying decreases the willingness to incur debt (TRAN: -.172 $t = -2.014$ $p < .05$; POP: -.662 $t = -7.019$, $p < .001$). See Figure 6 below.



*Significant at a significance level of 0.1, **Significant at a significance level of 0.05, ***Significant at a significance level of 0.01, ****Significant at a significance level of 0.001

Figure 6: Conceptual model with statistical outputs from mediation analysis (H1)

The direct effect of PAYMENT on WILLDBT, in which mediation is included, is significant at a 0.1 significance level ($-.406$, $t = -1.650$, $p = .1$). The total effect, on the other hand, is not found significant ($.515$, $t = 1.388$, n.s). Ultimately, this indicates that the double mediation indeed has increased the significance of the relationship between payment method and the willingness to incur debt.

Table 6: Model statistics for H1

	Outcome Variable						
	TRAN	R	R-sq	F	p		

Model summary		.207	.043	5.039	.027		
Model 1		coeff	se	t	p	LLCI	ULCI
constant		5.345****	.275	19.440	.000	4.800	5.890
PAYMENT		-.881**	.392	-2.245	.027	-1.658	-.103
	POP	R	R-sq	F	p		
Model summary		.774****	.598	82.666	.000		
Model 2		coeff	se	t	p	LLCI	ULCI
constant		.833**	.346	2.405	.018	.147	1.520
PAYMENT		-.567**	.242	-2.347	.021	-1.046	-.088
TRAN		.676****	.057	11.880	.000	.564	.789
	WILLDBT	R	R-sq	F	p		
Model summary		.783****	.613	57.988	.000		
Model 3 (total effect)		coeff	se	t	p	LLCI	ULCI
constant		7.016****	.353	19.878	.000	6.316	7.715
PAYMENT		-.406	.246	-1.651	.102	-.893	.081
TRAN		-.172**	.085	-2.014	.046	-.341	-.003
POP		-.662****	.094	-7.019	.000	-.848	-.475
	WILLDBT	R	R-sq	F	p		
Model summary		.130	.017	1.927	.168		
Model 4 (direct effect)		coeff	se	t	p	LLCI	ULCI
constant		3.155****	.260	12.148	.000	2.641	3.670
PAYMENT		.514	.371	1.388	.168	-.220	1.249

*Significant at a significance level of 0.1, **Significant at a significance level of 0.05, ***Significant at a significance level of 0.01, ****Significant at a significance level of 0.001

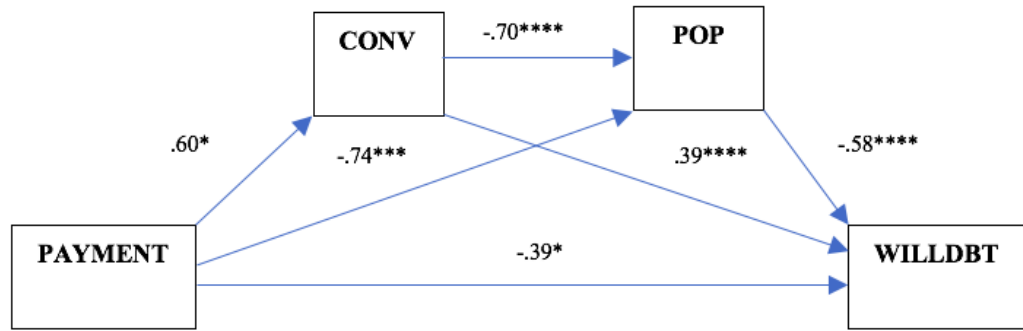
Bootstrapping does not support the notion of singular mediation with transparency as the sole mediator (Ind1: BootLLCI = -.049, BootULCI = .423). Thus, decreased transparency in reaction to BNPL cannot explain an increase in willingness to incur debt on its own. Singular mediation with pain of paying, however, is found

significant (Ind2: BootLLCI = .053, BootULCI = .747), whilst double mediation has the bootstrap confidence intervals that are the farthest from zero, making it even more significant (Ind3: BootLLCI = .060, BootULCI = .814). This supports our hypothesis in which transparency is assumed to mediate pain of paying, whereas the perceived transparency of BNPL is lower than that of credit card. It also supports the mediating effect of pain on paying on the relationship between payment method and willingness to incur debt, such that BNPL, a less transparent payment method, reduces perceived pain of paying and thereby increases willingness to incur debt. Thus, H1 is found to be supported. See Table 8, indirect effects of PAYMENT on WILLDBT, for all bootstrap values for testing of H1.

5.4.2 The mediating effect of convenience and pain of paying on the willingness to incur debt with BNPL

H2: *More convenient payment methods (BNPL relative to credit card) reduce perceived pain of paying and thereby increases willingness to incur debt.*

The first model (see Model 1, Table 7, Model statistics for H2), with CONV as the outcome variable, showed that payment method has a significant effect on convenience on a 0.1 significance level. This indicates that there is a positive, linear relationship between the independent variable, PAYMENT, and the mediating variable, CONV, of the model - i.e., BNPL increases the participants' perceived level of convenience (.598, $t = 1.850$, $p < .1$). The second model (see Model 2, Table 7, Model statistics for H2), in which POP is the outcome variable, indicates that BNPL decreases the pain of paying (-.744, $t = -2.672$, $p < .01$). It also indicates that convenience has a mediating effect on pain of paying, such that increased convenience causes decreased pain of paying (-.700, $t = -8.730$, $p < .001$). The final model (see Model 3, Table 7, Model statistics for H2), in which WILLDBT is the outcome variable, suggests that convenience increases the willingness to incur debt (0.386, $t = 4.651$, $p < .001$), whilst increased pain of paying reduces the willingness to incur debt (-.579, $t = -7.661$, $p < .001$). See Figure 7.



Significant at a significance level of 0.1, **Significant at a significance level of 0.05, ***Significant at a significance level of 0.01, ****Significant at a significance level of 0.001

Figure 7: Conceptual model with statistical outputs from mediation analysis (H2)

The direct effect of PAYMENT on WILLDBT, in which mediation is included, relative to the total effect, is found slightly more significant (direct effect: -0.390, $t = -1.703$, $p < .1$; total effect: 0.515, $t = 1.388$, $p = 0.168$, n.s). This gives an indication, although quite weak, that the double mediation indeed has increased the significance of the relationship between payment method and the willingness to incur debt.

Table 7: Model statistics for H2

	Outcome Variable						
	CONV	R	R-sq	F	p		
Model summary		.172*	.030	3.423	.067		
Model 1		coeff	se	t	p	LLCI	ULCI
constant		4.371****	.227	19.292	.000		
PAYMENT		.598*	.323	1.850	.067		
	POP	R	R-sq	F	p		
Model summary		.678****	.459	47.096	.000		
Model 2		coeff	se	t	p	LLCI	ULCI
constant		7.508****	.400	18.784	.000	6.716	8.300
PAYMENT		-.744***	.278	-2.672	.009	-1.296	-.192

CONV		-.700****	.080	-8.731	.000	-.859	-.541
	WILLDBT	R	R-sq	F	p		
Model summary		.815****	.664	72.573	.000		
Model 3 (total effect)		coeff	se	t	p	LLCI	ULCI
constant		4.046****	.651	6.216	.000	2.756	5.336
PAYMENT		-.390***	.229	-1.703	.091	-.843	.064
CONV		.386****	.083	4.651	.000	.221	.550
POP		-.579****	.076	-7.661	.000	-.729	-.429
	WILLDBT	R	R-sq	F	p		
Model summary		.130	.017	1.927	.168		
Model 4 (direct effect)		coeff	se	t	p	LLCI	ULCI
constant		3.155****	.260	12.148	.000	2.641	3.670
PAYMENT		.514	.371	1.388	.168	-.220	1.249

*Significant at a significance level of 0.1, **Significant at a significance level of 0.05, ***Significant at a significance level of 0.01, ****Significant at a significance level of 0.001

Bootstrapping does not support the notion of singular mediation with convenience as the sole mediator (Ind1: BootLLCI = -.011, BootULCI = .513). Thus, increased convenience in reaction to BNPL cannot explain an increase in willingness to incur debt on its own. Singular mediation with pain of paying, however, is yet again found significant (Ind2: BootLLCI = .117, BootULCI = .794). Double mediation, however, is not found significant (Ind3: BootLLCI = -.011, BootULCI = .533), as the bootstrap confidence intervals include zero. Thus, the analysis supports the notion that convenience mediates pain of paying, whereas the perceived convenience of BNPL is lower than that of credit card. However, it does not support the notion of a double mediating relationship, in which convenience has a mediating effect on pain of paying which in return mediates the relationship between payment method and willingness to incur debt. Thus, H2 is only partially supported. See Table 8, Indirect effects of PAYMENT on WILLDBT, for all bootstrap values for testing of H2.

Table 8: Indirect effects of PAYMENT on WILLDBT

Hypothesis	Label	Path	Effect	BootLLCI	BootULCI
H1	Total		0.920*	0.358	1.518
	Ind1	PAYMENT -> TRAN -> WILLDBT	0.151	-0.049	0.423
	Ind2	PAYMENT -> POP -> WILLDBT	0.375*	0.053	0.747
	Ind3	PAYMENT -> TRAN -> POP -> WILLDBT	0.394*	0.060	0.814
H2	Total		0.904*	0.314	1.544
	Ind1	PAYMENT -> CONV -> WILLDBT	0.231	-.011	.513
	Ind2	PAYMENT -> POP -> WILLDBT	0.431*	.117	.794
	Ind3	PAYMENT -> CONV -> POP -> WILLDBT	0.243	-.011	.533

*The effect is found significant as the bootstrap-CI does not include zero

5.5 Moderated mediation analyses

We conducted three tests, to test hypotheses H3, H4, H5, using Andrew F. Hayes Model 7 (PROCESS in SPSS). The independent variable was set as PAYMENT, the mediating variable was set as POP, the moderating variable was set as an interchange of AGE, SELF_C and FIN_LIT, whilst the dependent variable was set as WILLDBT (see Figure 8 of the conceptual model for H1, including expected path directions). The analyses were conducted at a 95 % confidence interval with a bootstrap sample of 5000. 16th, 50th and 84th percentiles were used as conditioning values, and the analyses included Johnson-Neyman outputs.

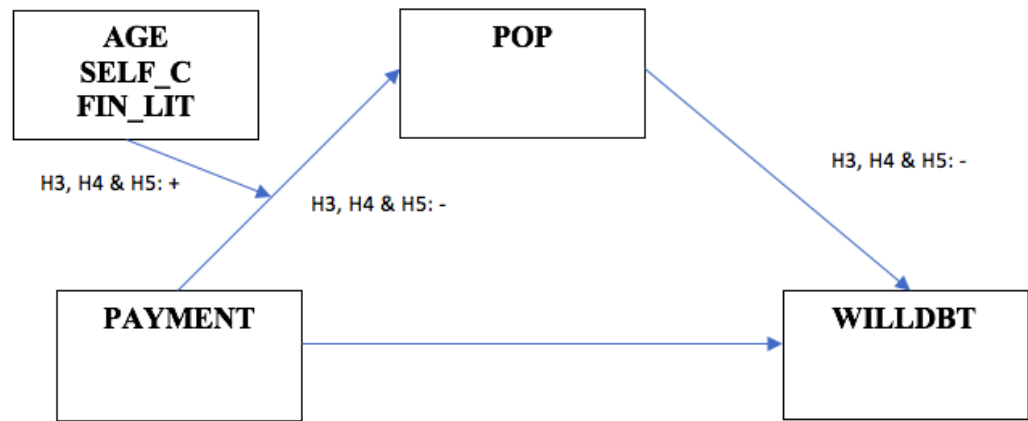


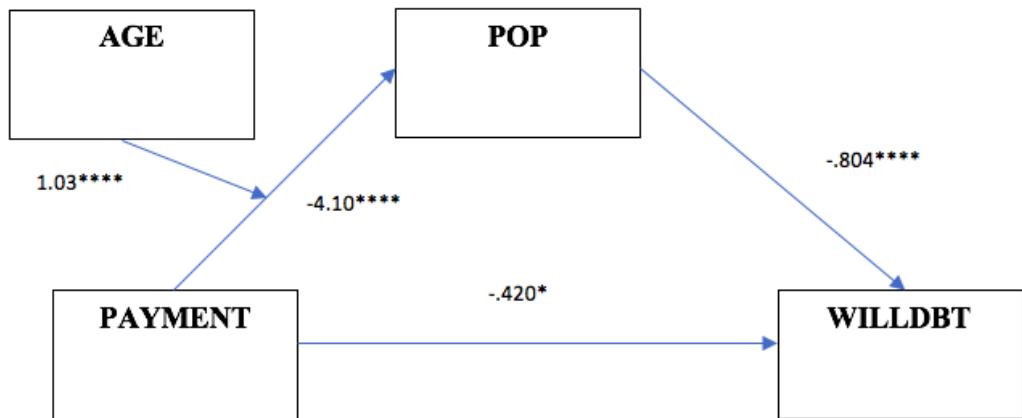
Figure 8: Conceptual model (moderation analysis, Model 7, by Andrew F. Hayes)

5.5.1 The impact of age on the pain of paying and willingness to incur debt with BNPL

H3: *The mediating effect of pain of paying on the willingness to incur debt is moderated by the age of the consumer, such that lower age leads to decreased pain of paying and increased willingness to incur debt.*

In H3, the effect of paying with BNPL on the willingness to incur debt is hypothesized to be mediated (i.e., decreased) by pain of paying, and the age of the participant is expected to moderate this mediating relationship. The assumption of the hypothesis is therefore, in simpler terms; lower age decreases pain of paying and, in return, increases the willingness to incur debt with BNPL. The index of the moderated mediation tells us whether we have an indirect effect that is moderated by AGE. As the index test is significant (index: $-.826$, BootLLCI = -1.240 , BootULCI = $-.370$), we can conclude that we have a case of moderated mediation. In the first model (see Model 1, Table 9, Model statistics for H3), in which POP is the outcome variable, the interaction term, PAYMENT \times AGE, is significant at a 0.001 level (1.028 , $p = 0.001$). This is yet another indicator that points to AGE as a moderator in the relationship between BNPL and the pain of paying. The interaction term suggests that the pain of paying with BNPL increases with higher age. The coefficient for AGE, on the other hand, tells us that the pain of paying is decreased with higher age if the participant is paying with a credit card rather than BNPL (-

.899, $p < 0.001$). The R2-chng of the interaction term is 0.089 ($p = .001$). This tells us that 8.9 % of the variance in pain of paying can be explained by the interaction between BNPL and AGE. In the second model (see Model 2, Table 9, Model statistics for H3), in which WILLDBT is the outcome variable, the effect of higher levels of pain on paying is found to have a negative, significant effect on the willingness to incur debt (-.804, $p < 0.001$), whilst the direct effect of BNPL on the willingness to incur debt is significant at a 0.1 level (-.420, $p < 0.1$). See Figure 9 below.



*Significant at a significance level of 0.1, **Significant at a significance level of 0.05, ***Significant at a significance level of 0.01, ****Significant at a significance level of 0.001

Figure 9: Conceptual model with statistical outputs from mediated moderation analysis (H3)

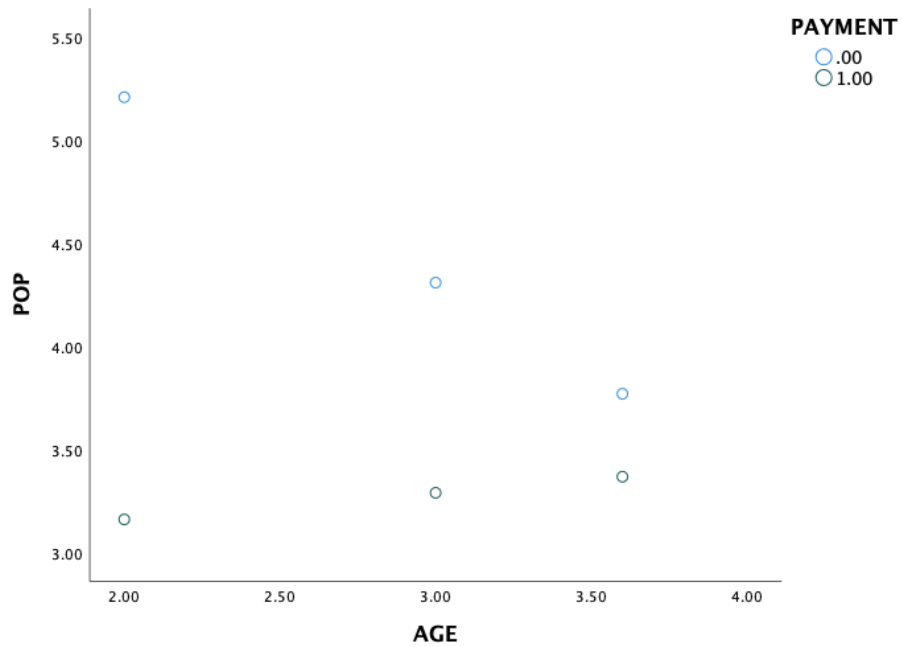
Table 9: Model statistics for H3

	Outcome Variable						
	POP	R	R-sq	F	p		
Model summary		.460****	.211	9.824	.000		
Model 1		coeff	se	t	p	LLCI	ULCI
constant		7.005****	.666	10.521	.000	5.686	8.325
PAYMENT		-4.101****	.907	-4.524	.000	-5.898	-2.305
AGE		-.899****	.219	-4.100	.000	-1.333	-.464
Int_1		1.028****	.291	3.530	.001	.451	1.605

	WILLDBT	R	R-sq	F	p		
Model summary		.774****	.598	82.676	.000		
Model 2		coeff	se	t	p	LLCI	ULCI
constant		6.730****	.328	20.541	.000	6.081	7.379
PAYMENT		-.420*	.249	-1.686	.095	-.913	.074
POP		-.804****	.063	-12.676	.000	-.929	-.678

*Significant at a significance level of 0.1, **Significant at a significance level of 0.05, ***Significant at a significance level of 0.01, ****Significant at a significance level of 0.001

The conditional effects at different values of AGE are significant for age groups 1, 2 and 3 (i.e., participants within the ages of 18-21, 22-25 and 26-30) at a 0.001 significance level (age group 1: BootLLCI = -4.352, BootULCI = -1.796; age group 2: BootLLCI = -2.885, BootULCI = -1.208; age group 3: BootLLCI = -1.681, BootULCI = -.356). There are also significant conditional effects for age group 6 (i.e., participants of 50 years of age or above), but only at a significance level of 0.05. These effects indicate a trend in which the pain of paying with BNPL is lesser when the participant is younger (age group 1: effect = -3.074; age group 2: effect = -2.046; age group 3: effect = -1.019). For participants of 50 years of age or above, the pain of paying with BNPL is actually increased relative to credit card (age group 6: effect = 2.064). Plot 1, The Conditional effects of AGE, visualizes the moderated effect of age on pain of paying for both BNPL and credit card. The pain of paying with a credit card is very high for young participants (i.e., below the age of 25), whilst it is much lower for participants above 30 years of age. The pain of paying with BNPL, on the other hand, is at its lowest when the participant is below 25 years of age, whilst it increases for ages above 25.



Plot 1: The Conditional effects of AGE

*PAYMENT = 1.00 indicates that the participant was conditioned to BNPL, PAYMENT = .00 indicates that the participant was conditioned to credit card.

The conditional effects of AGE on the willingness to incur debt are higher for younger age groups, with a significant effect for age groups 2 and 3 (age group 2: effect = 1.644, BootLLCI = 1.012, BootULCI = 2.314; age group 3: effect = 0.819, BootLLCI = .290, BootULCI = 1.403; age group 3.6: effect = 0.323, BootLLCI = -.258, BootULCI = 1.007). These effects indicate a trend in which the pain of paying with BNPL is lesser when the participant is younger, and furthermore, that the willingness to incur debt therefore is higher with lower age. All findings support our hypothesis, which assumes that lower age leads to lower levels of pain when paying with BNPL, whilst decreased pain of paying leads to increased willingness to incur debt. Thus, H3 is supported. See Table 10, Conditional effects of AGE, for all bootstrap values for testing of H3.

Table 10: Conditional effects of AGE

Conditional effect group	Outcome variable					
AGE	POP	Effect	t	p	BootLLCI	BootULCI
1		-3.074****	-4.767	.000	-4.352	-1.796
2		-2.046****	-4.835	.000	-2.885	-1.208

3		-1.019***	-3.045	0.003	-1.681	-.356
3.6		-.402	-1.028	0.306	1.177	.373
4		.009	.020	.984	-.908	.926
5		1.037	1.487	.140	.345	2.418
5.8		1.808**	2.020	.046	.034	3.581
6		2.064**	2.144	.034	.156	3.973
AGE (indirect)	WILLDBT	Effect		BootSE	BootLLCI	BootULCI
2		1.644*****		.341	.985	2.315
3		.819*****		.284	.280	1.400
3.6		.323*****		.322	-.284	.955

*Significant at a significance level of 0.1, **Significant at a significance level of 0.05, ***Significant at a significance level of 0.01, ****Significant at a significance level of 0.001, *****The effect is found significant as the bootstrap-CI does not include zero

5.5.2 The impact of self-control on the pain of paying and willingness to incur debt with BNPL

H4: *The mediating effect of pain of paying on the willingness to incur debt is moderated by the level of the self-control of the consumer, such that lesser self-control leads to decreased pain of paying and increased willingness to incur debt.*

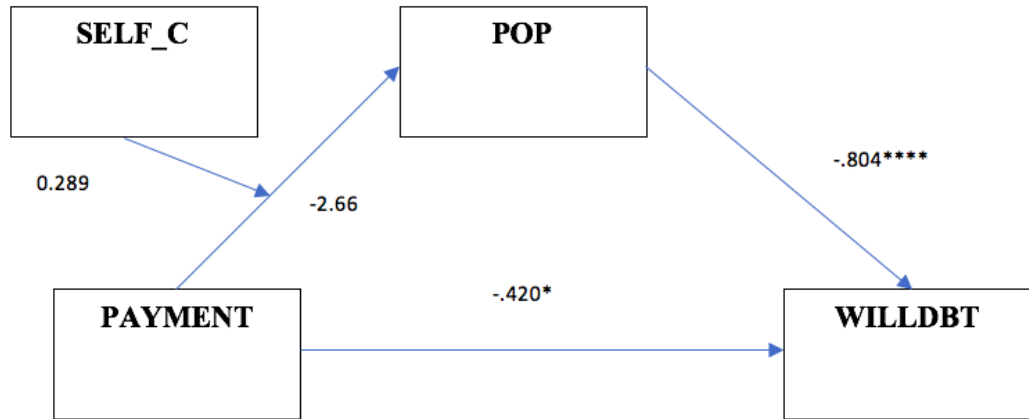
In H4, the effect of paying with BNPL on pain of paying is hypothesized to be moderated by the participant’s level of self-control, whereas lower levels of self-control decrease the pain of paying which in return increases the participant’s willingness to incur debt. The index of the moderated mediation is not found significant, as the bootstrap confidence intervals include zero (index: -.232, BootLLCI = -.729, BootULCI = .335). This would suggest that we do not have a case of moderated mediation. The R²-chng is 0.006, which would suggest that solely 0.6 % of the variance in pain of paying can be explained by the interaction between BNPL and participant’s level of self-control. The R²-chng is also not significant (p > 0.1, n.s). In the first model (see Model 1, Table 11, Model statistics for H4), in which POP is the outcome variable, the interaction term, PAYMENT x

SELF_C, has a coefficient of .289 ($p > 1$, n.s). This suggests that the pain of paying with BNPL increases with higher levels of self-control. In the second model (see Model 2, Table 11, Model statistics for H4), in which WILLDBT is the outcome variable, the effect of higher levels of pain on paying is yet again found to have a negative, significant effect on the willingness to incur debt (-.804, $p < 0.001$). Ultimately, this indicates that we do indeed have a mediated relationship between BNPL and the willingness to incur debt through pain of paying. However, there is not enough evidence to suggest a moderation, by the participant's level of self-control, that significantly affects the mediating role of pain of paying.

Table 11: Model statistics for H4

	Outcome Variable						
	POP	R	R-sq	F	p		
Model summary		.329***	.108	4.438	.006		
Model 1		coeff	se	t	p	LLCI	ULCI
constant		3.871****	1.187	3.262	.001	1.519	6.224
PAYMENT		-2.663	1.837	-1.450	.150	-6.303	.978
SELF_C		.109	.220	.497	.620	-.326	.545
Int_1		.289	.344	.840	.403	-.392	.970
	WILLDBT	R	R-sq	F	p		
Model summary		.774	.598	82.676	.000		
Model 2		coeff	se	t	p	LLCI	ULCI
constant		6.730****	.328	20.541	.000	6.081	7.379
PAYMENT		-.420*	.249	-1.686	.095	-.913	.074
POP		-.804****	.063	-12.676	.000	-.929	-.678

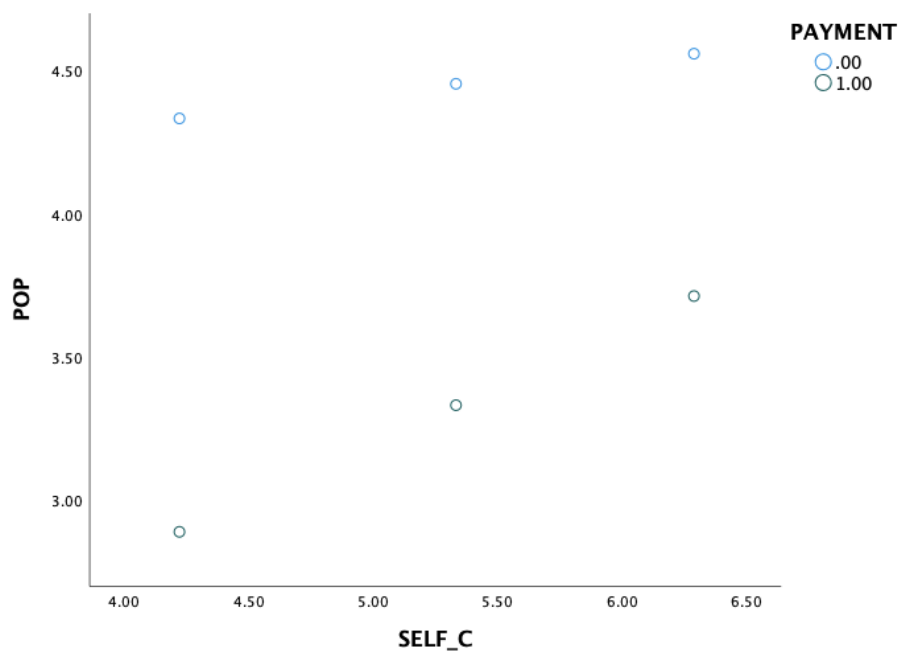
*Significant at a significance level of 0.1, **Significant at a significance level of 0.05, ***Significant at a significance level of 0.01, ****Significant at a significance level of 0.001



*Significant at a significance level of 0.1, **Significant at a significance level of 0.05, ***Significant at a significance level of 0.01, ****Significant at a significance level of 0.001

Figure 10: Conceptual model with statistical outputs from mediated moderation analysis (H4)

Plot 2, The Conditional effects of SELF_C, visualizes the moderated effect of self-control on pain of paying for both BNPL and credit card. The pain of paying with a credit card is very high for participants with high levels of self-control (5.5 and above on a 7-point Likert scale), whilst it decreases slightly with decreased levels of self-control. The pain of paying with BNPL, on the other hand, is much lower for low to moderate levels of self-control (between 4 and 5 on a 7-point Likert scale), whilst it increases rapidly with higher levels of self-control (5.5 and above on a 7-point Likert scale). The pain of paying with BNPL is consistently lower than the pain of paying with a credit card, regardless of the participants' level of self-control.



Plot 2: The Conditional effects of SELF_C

*PAYMENT = 1.00 indicates that the participant was conditioned to BNPL, PAYMENT = .00 indicates that the participant was conditioned to credit card

The indirect conditional effects of self-control suggests that the willingness to incur debt does indeed increase when the participants level of self-control decreases (from 6.3 to 4.2 on a 7-point Likert scale). These effects are found significant for low to moderate levels of self-control (from to 4.2 to 5.3 on a 7-point Likert scale). The outputs of the conditional effects of self-control, both on pain of paying and willingness to incur debt, points to a decrease in pain of paying and an increase in the willingness to incur debt at lower levels of self-control. In other words, they do indeed point to a trend in which our hypothesis is supported (see Table 12, Conditional effects of SELF_C, for all bootstrap values for testing of H4). Regardless, as we lack significant outputs, we cannot conclude that H4 is supported. Partial support could be argued based on Plot 2, however this plot is based on an interaction between PAYMENT and SELF_C that was not found significant. The conditional effects of SELF_C on the willingness to incur debt are solely significant for levels of self-control over 4.2 and under 5.4, and do not alone justify partial support for the hypothesis. Thus, the hypothesis is rejected. The lack of significance results from Andrew F. Hayes model 7 might stem from the fact there is in fact an effect of self-control on willingness to incur debt, but not through a mediated moderation with payment method and pain of paying. The lack of significant results

may also be a result of a sample size that is not representative for a larger population. This will be discussed further in limitations.

Table 12: Conditional effects of SELF_C

Conditional effect group	Outcome variable				
SELC_C (indirect)	WILLDBT	Effect	BootSE	BootLLCI	BootULCI
4.222		1.160*	.359	.423	1.847
5.333		.902*	.301	.315	1.490
6.289		.680	.447	-.197	1.581

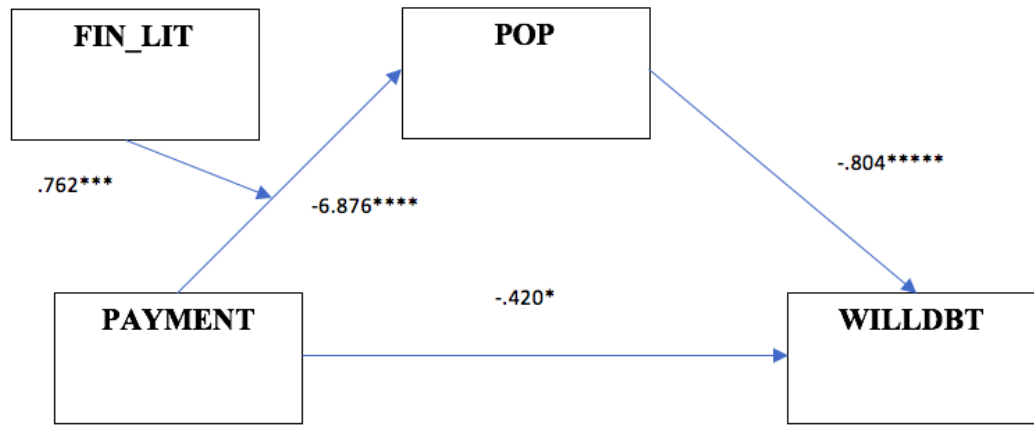
*Significant at a significance level of 0.1, **Significant at a significance level of 0.05, ***Significant at a significance level of 0.01, ****Significant at a significance level of 0.001, *****The effect is found significant as the bootstrap-CI does not include zero

5.5.3 The impact of financial literacy on the pain of paying and willingness to incur debt with BNPL

H5: *The mediating effect of pain of paying on the willingness to incur debt is moderated by the level of the financial literacy of the consumer, such that lesser financial literacy leads to decreased pain of paying and increased willingness to incur debt.*

In H5, the effect of paying with BNPL on the willingness to incur debt is hypothesized to be mediated (i.e., decreased) by pain of paying, and the participant’s level of financial literacy is expected to moderate this mediating relationship. The assumption of the hypothesis is therefore, in simpler terms; lower levels of financial literacy decrease pain of paying and, in return, increases the willingness to incur debt with BNPL. The index of the moderated mediation tells us whether we have an indirect effect that is moderated by FIN_LIT. As the index test is significant (index: -.613, BootLLCI = -1.057, BootULCI = -.155), we can conclude that we do indeed have a case of moderated mediation. In the first model (see Model 1, Table 13, Model statistics for H5), in which POP is the outcome variable, the interaction term, PAYMENT x FIN_LIT, is significant at a 0.01 level (.762, $p < 0.01$). This is yet another indicator that points to FIN_LIT as a moderator

in the relationship between BNPL and the pain of paying. The interaction term suggests that the pain of paying with BNPL increases with higher levels of financial literacy. The coefficient for FIN_LIT, on the other hand, tells us that the pain of paying is decreased with higher levels of financial literacy if the participant is paying with a credit card rather than BNPL (-.354, $p < 0.1$). The R2-chng of the interaction term is 0.056 ($p < .01$). This tells us that 5.6 % of the variance in pain of paying can be explained by the interaction between BNPL and FIN_LIT. See Figure 11 below.



*Significant at a significance level of 0.1, **Significant at a significance level of 0.05, ***Significant at a significance level of 0.01, ****Significant at a significance level of 0.005, *****Significant at a significance level of 0.001

Figure 11: Conceptual model with statistical outputs from mediated moderation analysis (H5)

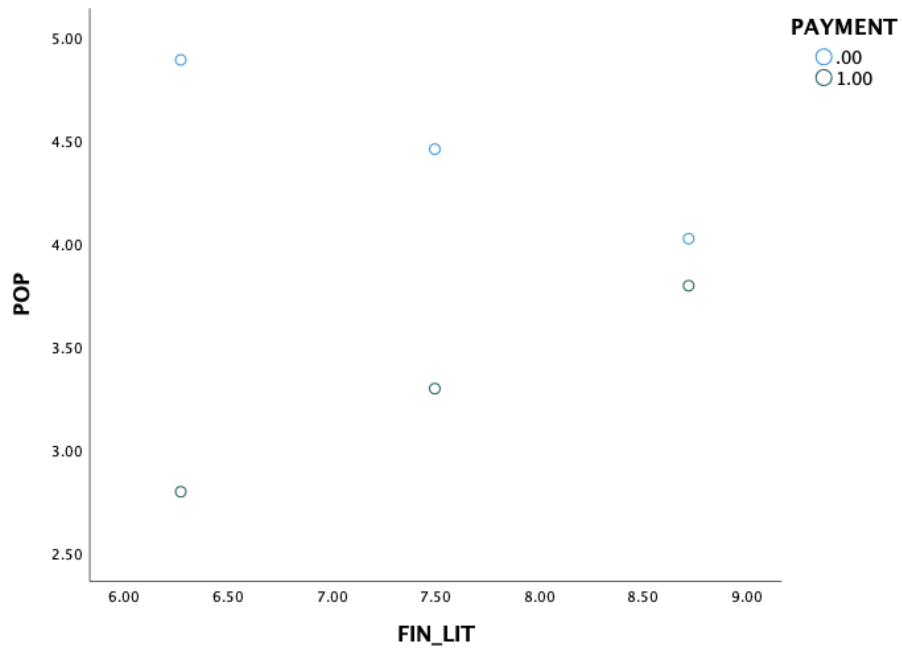
Table 13: Model statistics for H5

	Outcome Variable						
	POP	R	R-sq	F	p		
Model summary		.380*****	.144	6.188	.001		
Model 1		coeff	se	t	p	LLCI	ULCI
constant		7.111*****	1.598	4.450	.000	3.944	10.278
PAYMENT		-6.876***	2.167	-3.172	.002	-11.171	-2.580
FIN_LIT		-.354*	.210	-1.686	.095	-.771	.062
Int_1		.762***	.285	2.671	.009	.197	1.328
	WILLDBT	R	R-sq	F	p		

Model summary		.774	.598	82.676	.000		
Model 2		coeff	se	t	p	LLCI	ULCI
constant		6.730***	.328	20.541	.000	6.081	7.379
PAYMENT		-.420*	.249	-1.686	.095	-.913	.074
POP		-.804****	.063	-12.676	.000	-.929	-.678

Significant at a significance level of 0.1, **Significant at a significance level of 0.05, *Significant at a significance level of 0.01, ****Significant at a significance level of 0.001*

The conditional effects at different levels of financial literacy indicate a trend in which the pain of paying with BNPL decreases as participants' level of financial literacy decreases (3 on a 9-point scale: effect = -4.588; 4.2 on a 9-point scale: effect = -3.674; 5.1 on a 9-point scale: effect = -2.987; 6 on a 9-point scale: effect = -2.301; 7.5 on a 9-point scale: effect = -1.158). Plot 3, The Conditional effects of FIN_LIT, visualizes the moderated effect of financial literacy on pain of paying for both BNPL and credit card. The pain of paying with a credit card is very high for lower levels of financial literacy (6.5 or less on a 9-point scale), whilst it decreases with higher levels of financial literacy. However, the pain of paying with a credit card is also quite high for moderate levels of financial literacy (close to 7.5 on a 9-point scale). The pain of paying with BNPL, on the other hand, is at its lowest when the participants have lower levels of financial literacy (6.5 or less on a 9-point scale), whilst it increases with increased literacy. With high levels of financial literacy (8.5 or more on a 9-point scale), the pain of paying is similar for the two payment methods.



Plot 3: The Conditional effects of FIN_LIT

*PAYMENT = 1.00 indicates that the participant was conditioned to BNPL, PAYMENT = .00 indicates that the participant was conditioned to credit card.

The conditional effects of FIN_LIT on WILLDBT indicate that the willingness to incur debt with BNPL is much higher than the willingness to incur debt with a credit card for low and moderate levels of financial literacy. They also indicate a trend in which the willingness to incur debt is higher for lower levels of financial literacy (6.3 on a 9-point scale, BootLLCI = .953, BootULCI = 2.409; 7.5 on a 9-point scale, BootLLCI = .365, BootULCI = 1.489; 8.7 on a 9-point scale, BootLLCI = -.682, BootULCI = 1.045, n.s).

All findings support our hypothesis, which assumes that lower levels of financial leads to lower levels of pain when paying with BNPL, whilst decreased pain of paying leads to increased willingness to incur debt. Thus, H5 is supported. See Table 14, Conditional effects of FIN_LIT, for all bootstrap values for testing of H5.

Table 14: Conditional effects of FIN_LIT

Conditional effect group	Outcome variable					
FIN_LIT	POP	Effect	t	p	BootLLCI	BootULCI
3		-4.588*****	-3.452	.001	-7.223	-1.954

3.6		-4.131****	3.546	.001	-6.440	-1.822
4.2		-3.674****	-3.664	.000	-5.661	-1.686
4.8		-3.216****	-3.810	.000	-4.889	-1.543
5.1		-2.987****	-3.896	.000	-4.507	-1.468
5.7		-2.530****	-4.087	.000	-3.757	-1.303
6		-2.301****	-4.183	.000	-3.392	-1.211
6.6		-1.844****	-4.279	.000	-2.698	-.990
7.2		-1.386****	-3.886	.000	-2.093	-.679
7.5		-1.158****	-3.341	.001	-1.845	-.471
8		-.751*	-1.982	.050	-1.502	.000
8.4		-.472	-1.092	.277	-1.327	.384
9		-0.14	-.026	.980	-1.107	1.079
FIN_LIT (indirect)	WILLDBT	Effect	BootSE		BootLLCI	BootULCI
6.272		1.683*			.953	2.409
7.496		.933*			.365	1.489
8.719		.183			-.682	1.045

*Significant at a significance level of 0.1, **Significant at a significance level of 0.05, ***Significant at a significance level of 0.01, ****Significant at a significance level of 0.001, *****The effect is found significant as the bootstrap-CI does not include zero.

Table 15: Summary of hypotheses results

Hypothesis	Expectation	Outcome
H1: <i>Less transparent</i> payment methods (BNPL relative to credit card) reduce perceived pain of paying and thereby increases willingness to incur debt.	Support	<i>Supported</i>
H2: <i>More convenient</i> payment methods (BNPL relative to credit card) reduce perceived pain of paying and thereby increases willingness to incur debt.	Support	<i>Partially supported</i>

<p>H3: <i>The mediating effect of pain of paying on the willingness to incur debt is moderated by the age of the consumer, such that lower age leads to decreased pain of paying and increased willingness to incur debt.</i></p>	Support	<i>Supported</i>
<p>H4: <i>The mediating effect of pain of paying on the willingness to incur debt is moderated by the level of the self-control of the consumer, such that lesser self-control leads to decreased pain of paying and increased willingness to incur debt.</i></p>	Support	<i>Rejected</i>
<p>H5: <i>The mediating effect of pain of paying on the willingness to incur debt is moderated by the level of the financial literacy of the consumer, such that lesser financial literacy leads to decreased pain of paying and increased willingness to incur debt.</i></p>	Support	<i>Supported</i>

6.0 Discussion and implications

The main purpose of our study was to investigate how BNPL payment options influence consumers' willingness to incur debt, and if consumers with certain consumer characteristics representing vulnerable consumer groups were more inclined to incur debt with BNPL. We therefore formulated the following research question as the basis for our study:

How does buy now-pay later (BNPL) payment options influence consumers' willingness to incur debt? Are young consumers and consumers with low self-control and/or financial literacy more likely to incur debt with online BNPL than with traditional forms of payment (e.g., credit cards)?

Our impressions before we conducted this study was that BNPL (a less transparent and more convenient payment method) reduced the pain of paying and thereby increased the consumers' willingness to incur debt. Followingly, we believed that the mediating effect of pain of paying on BNPL and the willingness to incur debt is moderated by age, self-control and financial literacy, such that lower levels of these

characteristics lead to decreased pain of paying and increased willingness to incur debt.

To test these assumptions, we conducted an experiment where the participants were asked about their willingness to incur debt when financing a good with either BNPL or credit card (a more traditional credit payment option), followed by questions measuring their level of self-control and financial literacy, in addition to demographics, such as age.

General discussion

H1, related to the effect of transparency and pain of paying on the willingness to incur debt with BNPL, was supported. Our findings suggest that payment method has a significant effect on transparency - i.e., BNPL decreases consumers' perceived level of transparency. They also indicate that decreased transparency causes consumers' pain of paying to decrease. Thus, evidence suggests that BNPL, a less transparent payment method, reduces the consumer's pain of paying and thereby increases the consumer's willingness to incur debt. Our findings are in alignment with the payment transparency theory, which states that payment options which are less transparent are more likely to lower the pain of paying for the consumer and facilitate increased spending compared to more transparent payment options (Ariely & Kreisler, 2018; Gafeeva et al., 2018; Pisani & Atalay, 2018; Prelec & Loewenstein, 1998).

The results for H2 did not support the notion of double mediation with convenience and pain of paying as mediators. BNPL was, however, proven significantly more convenient than credit cards (i.e., traditional payment methods), in accordance with our expectations. Convenience also had a significant, negative effect on the pain of paying. Additionally, analyses of H1 and H2 both showed that pain of paying indeed has a mediating effect on BNPL and the willingness to incur debt, such that BNPL was linked to less pain of paying in the eyes of the participants. All aspects considered, H2 was only partially supported due to lack of significant results. However, from the effects that were significant, we were able to draw a good map of convenience in connection to the pain of paying with BNPL. In accordance with preliminary assumptions and the research of Xing et al. (2019), Teo et al. (2015)

and Taylor and Todd (1995), evidence suggests that the willingness to incur debt increases with higher levels of convenience and decreases with higher levels of lower pain of paying.

Both H3 and H5 were supported. Thus, our evidence suggests that consumers of lower age, in accordance with the research of Majamaa et al. (2019) and Oksanen et al (2015), and lower levels of financial literacy have increased willingness to incur debt with BNPL due to lower levels of pain. This implies that consumers who possess certain characteristics, such as young age and lack of financial literacy (i.e., vulnerable consumers), are indeed more inclined to incur debt when offered to finance a purchase with BNPL.

Contradictory to our expectations, we did not find enough evidence to support H4. Our findings did, in accordance with our assumptions, suggest that consumers of lower levels of self-control (i.e., consumers who lack self-control) have increased willingness to incur debt with BNPL due lower levels of pain. However, these findings were not significant. Thus, the implications of a supported hypothesis may be further discussed, as it is not fully rejected (i.e., proved otherwise), but further research should be conducted to solidate the true underlying factors of these implications.

Conclusion and implications for business practices and public policy makers

Based on the results of our study, we encourage BNPL providers to provide users and consumers in general with clear information about the services provided. When a consumer chooses to make a purchase using BNPL, there is indeed a debt that is being incurred. Contradictorily to that, our findings suggest that consumers in general, and vulnerable consumers in particular, view BNPL as a more convenient and less transparent and painless payment option than traditional forms of credit. Despite the presence of regulations for marketing of consumer credit in Norway, BNPL actors are allowed to direct their marketing efforts towards younger age groups. Many BNPL providers invest heavily in marketing in which their payment solutions are portrayed as “smart” and “smooth”, when it in reality is an encouragement to take up unsecured debt. This image is upheld due to the fact that

BNPL providers are not required to provide information about what their services actually entails in terms of financial obligations (Holm et al., 2021).

The pain of paying plays an important role in consumer self-regulation to keep spending in check, but when debt becomes less transparent and more convenient and the pain of incurring debt is diminished, it becomes a potential propeller for increased consumer debt problems among vulnerable consumers (e.g., young adults) and, potentially, the population in general. As mentioned in the literature review for transparency, previous research has shown that the salience (i.e., transparency) of individual payments are lower for credit cards relative to cash. The difference in spending behavior, however, will presumably diminish if the salience of parting with money is increased at the time of purchase (Raghubir & Srivastava, 2002). By requiring that BNPL providers inform their consumers that BNPL is a form of credit and explaining what that entails in every part of the consumer journey, higher levels of salience might be attained. Another measure that might increase the salience of BNPL further is e.g., requiring BNPL providers to ask for the customers to use BankID to confirm their purchase.

Our concerns about BNPL and its effect on consumerism are reflected in the study of Johnson, 2021, in which the increasing complexity of financial fintech services in today's consumer market is addressed. The worry is that the complexity of financial tech might not reflect the financial literacy of many consumer groups. For this reason, regulators must ensure greater protection of consumers in reaction to the development of new, less transparent, more convenient and less painful forms of credit. Such regulations may also ensure that BNPL providers are pushed into a more sustainable direction in terms of caring for and contributing to the well-being of consumers.

In Norway, in similarity to other EEA countries, the main responsibility for the supervision of financial markets and institutions lies with the Financial Supervisory Authority. Norwegian consumers have access to the European single market for financial services through the EEA Agreement. In 2019, Norway took part in the Revised Payment Services Directive (PSD2) in order to enhance consumer protections in the payment sector, as well as facilitate innovation for payment

providers (Finans Norge, 2019; The Financial Supervisory Authority, 2020). Regardless, as of June 2021, we find there to be a lack of regulations directed towards the BNPL sector. In the UK, the Financial Conduct Authority is currently addressing the lack of regulation of BNPL payments. Followingly, the Financial Conduct Authority is proposing to place BNPL providers under the same FCA regulations that applies to lenders rather than payment providers (Johnson et al., 2021; Trivedi, 2021). It was acknowledged by the review that the "*Buy now, Pay Later*" (BNPL) business was convenient for some, but for others, a really easy way to fall into problem debt" (Cater, 2021). Furthermore, it is proposed that general terms and conditions for BNPL payments in the UK will be promoted along with the potential negative consequences of consumer debt (Holm et al., 2021). We see no such regulations proposed in Norway as of now.

Comparatively, In Sweden, the home country of Klarna, regulators have acknowledged the potential harm the BNPL industry can cause, especially to younger shoppers. Secretary-General of the Swedish Consumers' Association, Jan Bertoft, accused Klarna of misleading customers and wrongfully handling customer data by not sufficiently informing the customers of the risks involved when using their credit services. In addition, he addressed the excessive marketing of BNPL that drives consumers to take on loans that they initially would not have taken on (Cater, 2021). Sweden accepted the BNPL law in July 2020, which i.a. determined that direct payment (i.e., debit or credit card), and not BNPL, should be the automatically suggested option in online payment situations. The Swedish Consumers' Agency has found evidence that Klarna is failing to comply with this regulation, and the two parties are yet to find an agreement on the interpretation of the law (Cater, 2021). There is currently being conducted a review of the EU's Consumer Credit Directive, in which the commission considers whether to put all BNPL products within this directive. If this was to happen, BNPL providers, such as Klarna, would be committed to provide the consumer with specific information at each stage of the creditor-consumer relationship for all their financial services. This would also apply to marketing campaigns (Cater, 2021; The European Banking Federation, 2021).

Our goal for this research study is to encourage, and hopefully fast track, the imposition of BNPL regulations in Norway. Our findings suggest that there is a link between BNPL and higher willingness to incur debt, especially among young adults and consumers who lack financial literacy - i.e., consumers who are particularly vulnerable to incurring detrimental financial issues (Brougham et al., 2011; Frigerio et al., 2020; Gathergood, 2012; Majamaa et al., 2019). Today, BNPL providers target mainly young Norwegian consumers through their marketing efforts - consumers who are already responsible for a large portion of the increased numbers of yearly debt collection cases in Norway (Dinero, 2019; Kreditor, 2018). Thus, we argue that regulations are in desperate need. Regulations, such as those that have been proposed in the UK and imposed in Sweden, could positively affect (i.e., counteract) the trend of increasing consumer debt in Norway.

Notably, BNPL does not have to impose a threat on society. BNPL can in many cases make responsible consumerism more effective and ensure that the availability of payment options in the consumer market is varied (i.e., fit to the needs of different consumer types) and forward leaning. However, as BNPL is a form of innovation within the field of payment options; with innovation comes responsibility. The goal would be for consumers, on a general basis, to become more aware and critical of BNPL and for BNPL providers to take responsibility in ensuring sustainable consumerism. Luckily, this goal is not too far-fetched. The increasing attention to BNPL, and its pitfalls, in the media space during recent months is indeed likely to cause consumers to pay more attention to BNPL. However, it has yet to affect the way BNPL providers conduct themselves. Also, as consumers can i.a. lack self-control, we yet again point to the need for intervention from regulators.

7.0 Limitations and future research

Limitations

A limitation to our study is that we used an online survey tool to conduct our experiment. Due to Covid-19 restrictions, this was our only option. This entailed that we had to present our participants with hypothetical financing situations instead of involving them in a physical experiment. A physical experiment would allow us

to monitor our participant's engagement and concentration levels throughout the duration of the experiment. It would also allow us to present our participants with a more realistic financing situation that would likely give more realistic responses. Our online study might also have made it challenging for the participants to truly feel the different levels of pain, transparency and convenience for the payment method they were conditioned to. As our study concerned sensitive topics, such as personal financing behavior, the social desirability bias might also have affected the outcome of the experiment.

Secondly, we used a non-probability convenience sampling technique to collect responses, which could have caused an uneven selection of participant groups such that the sample does not accurately represent the population. In our sample, we saw an overrepresentation of females (64 % females) and respondents in the age groups between (22-25) and (26-30), whereas 48.2 % of the participants represented the age group (26-30). Additionally, our sample mainly consisted of students with high levels of education, and presumably in relation to that, the means for financial literacy and self-control were quite high. Thus, there is a chance that our sample lacks representation among the consumer groups that we aimed to measure, i.e., vulnerable consumers. However, this arguably points to the fact that the results of our study might have been subdued, due to lack of representation in minor consumer groups, rather than being wrongfully enhanced. Lastly, and in relation to the discussion above, our sample size of 114 respondents should ideally have been bigger.

The fact that the complexity (i.e., scale validity) of certain constructs (e.g., self-control relative to financial literacy) were higher than others, might have affected the validity of content for the variables that were measured with less complexity. Also, the reliability and validity of both scale and content might have been affected by the fact that we combined a scale variable and a binomial variable, that had not been combined in previous research, to construct a measure for financial literacy. Initially, we were uncertain of how to weight the binomial variable relative to the scale variable (on a 7-point Likert scale). Our decision to weight a correct answer for the binomial variable as 2 and a wrong answer as 0, was made based on a review of the dataset. We reviewed whether the variable in question made sense when financial attitude and financial knowledge were looked at alone and in conjunction,

and whether the final financial literacy variable made sense as an interpretable independent variable. Another concern for the reliability of scale for financial literacy was that the two underlying questions for financial attitude had a rather low Cronbach's Alpha of 0.318. Thus, our financial attitude questions had quite different responses. Also, as one of our financial knowledge questions were cut, the reliability of the financial knowledge part of financial literacy might be questioned (i.e., how well can financial knowledge be measured with solely one question?). Due to the overall high complexity of our study, and the number of constructs we aimed to measure, we chose to keep each construct, such as financial literacy, as compact as possible. Ideally, future research on the connection between BNPL and financial literacy on willingness to incur debt should include more questions and higher inter-variable complexity. Lastly, the lack of financial behavior measures also implies a slightly incomplete measure of financial literacy as a complete construct.

Future Research

In future research on consumer behavior in relation to BNPL, it would be interesting to analyze historical data directly from a BNPL provider, such as Klarna. This would give researchers an accurate numerical basis for analyzing actual purchasing behavior. Also, it would also be interesting to build upon the research of Bauer et al (2021) even further and look at whether there is a difference in willingness to incur debt when purchasing material versus experiential goods with BNPL solutions. This is likely to be very relevant in the future, as BNPL providers are increasingly starting to collaborate with merchants that offer experiences, such as travels, flights and restaurants. Another interesting area of further research is the differences in BNPL usage within different age groups and between genders.

Other potentially interesting constructs for future research lay within the different aspects of BNPL that customers value. This could for instance be the effect of paying in interest-free instalments, which is a feature that has gotten great mention in other European countries. Additionally, BNPL apps (e.g., Klarna) offers an entire shopping browser straight to the user's phone, with an inspiration page, featured stores, wish lists, among other things - all wrapped in a pink and pretty design. It

would be interesting to look closer into these elements and how they are perceived by the customer, and ultimately, if this multisensory experience makes consumers more inclined to incur debt. It would also be interesting to test different types of measures and regulations that can be imposed on BNPL providers with the intent of increasing the salience of BNPL - which measures are the most effective and do they moderate consumers behaviour in relation to BNPL options as desired?

Lastly, our study measures characteristics identified by previous researchers to describe consumer groups that are particularly vulnerable to over-indebtedness. However, it does not measure over-indebtedness in itself. Despite this being a concept that might be more challenging to measure, there are recognized scales of over-indebtedness that are mentioned in previous literature, such as the scale proposed by Frigerio et al (2020). It would be interesting for researchers in future research to utilize these scales to measure over-indebtedness directly, in relation to BNPL. Additionally, examining whether vulnerable consumer groups can be trained to avoid the negative side effects of easy access to consumer credit through BNPL solutions could also be an interesting field of research with potentially beneficial implications for society as a whole.

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9.0 Appendices

Appendix A

Survey - BNPL version

This survey is conducted by two students at BI Norwegian Business School, as a part of our master thesis research. The survey is completely voluntary, anonymous and confidential, and will take approximately 5 minutes to finish.

We ask you to read each question carefully and answer to the best of your ability. There are no right or wrong answers - please respond according to what feels right to you.

Electronic consent:

Clicking on the "Agree" button indicates that:

- **You have read the information above**
- **You are at least 18 years of age**
- **You agree to participate on a voluntary basis**

If you do not wish to participate in this research study, please click the "Disagree" button.

- Agree
- Disagree

Imagine the following scenario:

For a long time, you have been thinking about buying a new stereo system. The stereo system costs a total of 2500 Norwegian kroner. You happen not to have the money at this time, but you expect to be able to pay it off within 30 days.

A local retailer, with an online store where you have shopped before, lets you pay for the purchase using Buy Now Pay Later. Thus, you are able to get the stereo system now and pay it off in 30 days.



Terms and conditions



Buy now. Pay later.

Receive your purchase first. Pay 30 days later.



mastercard



Credit card

Fill in your card details.



Debit card

Fill in your card details.



Paypal

There are no additional costs associated with this payment option and it is interest-free.

You will not be able to buy and get the stereo system now with the amount currently available in your bank account.

How willing would you be to finance this stereo system using Buy Now Pay Later?

	1 (Extremely unwilling)	2	3	4 (Neither nor)	5	6	7 (Extremely willing)
On a scale from 1 (Extremely unwilling) to 7 (Extremely willing)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How likely are you to wait for 30 days to buy the stereo system with money from your account, rather than using Buy Now Pay Later?

	1 (Extremely unlikely)	2	3	4 (Neither nor)	5	6	7 (Extremely likely)
On a scale from 1 (Extremely unlikely) to 7 (Extremely likely)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer the following questions in terms of how much you agree/disagree with the statements.

Paying this purchase with Buy Now Pay Later...

	1 (Strongly disagree)	2	3	4 (Neither nor)	5	6	7 (Strongly agree)
enables me to shop quickly and without much contemplation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
feels convenient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
feels hassle-free and effortless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is efficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This is an attention check. Please mark "Strongly disagree" as your answer. Thank you for paying attention.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
bothers me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
feels painful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
makes me feel like I'm in debt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How frequently have you so far used Buy Now Pay Later (approximately)?

- Never
- Once before
- Once per year
- Once every six months
- Once per month
- More than once per month

How likely is it that you would use Buy Now Pay Later at some point in the future?

	1 (Extremely unlikely)	2	3	4 (Neither nor)	5	6	7 (Extremely likely)
On a scale from 1 (Extremely unlikely) to 7 (Extremely likely)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer the following questions in terms of how much you agree/disagree with the statements.

	1 (Strongly disagree)	2	3	4 (Neither nor)	5	6	7 (Strongly agree)
I am impulsive and tend to buy things even when I can't afford them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am prepared to spend now and let the future take care of itself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I closely monitor my spending behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to work effectively toward long-term financial goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I carefully consider my needs before making purchases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often delay taking action until I have carefully considered the consequences of my purchase decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I go out with friends, I keep track of what I am spending	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to resist temptation in order to achieve my budget goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Setting long-term financial goals and having objectives related to spending is important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am responsible when it comes to how much I spend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making sure that my bills are paid on time is important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Choose the two best alternatives that would allow you to build and maintain a good credit rating.

- Protect against identity theft and put money in savings
- Pay my bills on time and avoid debt
- Set clear financial goals and make safe investments

You are allowed to use a calculator to answer the following question. Please do not search for answers on e.g. Google.

All numbers are in Norwegian kroner.

If you put 1500 kroner in a high interest rate account, and that money earns a 3,6 % annual return, how much will you have after 5 years (approximately)?

- 6900 kroner
- 1790 kroner
- 3554 kroner
- None of the above

What is your age?

- 18 - 21
- 22 - 25
- 26 - 30
- 31 - 40
- 41 - 50
- Over 50

What is your gender?

- Male
- Female
- Non-binary / third gender
- Prefer not to say

What is your highest level of education?

- No formal education
- High school diploma (videregående)
- College degree
- Vocational training (yrkesfag)
- Bachelor's degree
- Master's degree
- Professional degree
- Doctorate (PhD) degree
- Other

What is your current job situation?

You can tick off two boxes (i.e. option 1-5 and 6), if you find that more than one of the alternatives fit your situation.

- Part-time employment
- Full-time employment
- Unemployed
- Outside the labour force (e.g. due to sickness)
- Retired
- Student/internship

What is your income level (yearly)?

- 99.999 kroner or less
- 100.000 - 199.999 kroner
- 200.000 - 299.999 kroner
- 300.000 - 399.999 kroner
- 400.000 - 499.999 kroner
- 500.000 - 599.999 kroner
- 600.000 - 699.999 kroner
- 700.000 kroner or more
- Prefer not to say

You are almost done!

**Thank you for completing our survey - it means a lot to us.
Please take a few seconds to reflect upon the survey before you leave us.**

Did any of the questions confuse you, did you feel like you lacked answer options and/or do you have any other concerns, feelings or remarks that might be useful to us?

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**Mari Anette Hjorthol (mari.a.hjorthol@student.bi.no)
Ida Helene Grøtan (ida.h.grotan@student.bi.no)**

If you do not have any comments, you may leave the textbox blank.

Appendix B

Survey - credit card version

This survey is conducted by two students at BI Norwegian Business School, as a part of our master thesis research. The survey is completely voluntary, anonymous and confidential, and will take approximately 5 minutes to finish.

We ask you to read each question carefully and answer to the best of your ability. There are no right or wrong answers - please respond according to what feels right to you.

Electronic consent:

Clicking on the "Agree" button indicates that:

- You have read the information above
- You are at least 18 years of age
- You agree to participate on a voluntary basis

If you do not wish to participate in this research study, please click the "Disagree" button.

- Agree
- Disagree

Imagine the following scenario:

For a long time, you have been thinking about buying a new stereo system. The stereo system costs a total of 2500 Norwegian kroner. You happen not to have the money at this time, but you expect to be able to pay it off within 30 days.

A local retailer, with an online store where you have shopped before, lets you pay for the purchase using a credit card. Thus, you are able to get the stereo system now and pay it off in 30 days.



[Terms and conditions](#)



Buy now. Pay later.

Receive your purchase first. Pay 30 days later.



mastercard



Credit card

Fill in your card details.



Debit card

Fill in your card details.



Paypal

There are no additional costs associated with this payment option and it is interest-free.

You will not be able to buy and get the stereo system now with the amount currently available in your bank account.

How willing would you be to finance this stereo system using a credit card?

	1 (Extremely unwilling)	2	3	4 (Neither nor)	5	6	7 (Extremely willing)
On a scale from 1 (Extremely unwilling) to 7 (Extremely willing)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How likely are you to wait for 30 days to buy the stereo system with money from your account, rather than using a credit card?

	1 (Extremely unlikely)	2	3	4 (Neither nor)	5	6	7 (Extremely likely)
On a scale from 1 (Extremely unlikely) to 7 (Extremely likely)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer the following questions in terms of how much you agree/disagree with the statements.

Paying this purchase with a credit card...

	1 (Strongly disagree)	2	3	4 (Neither nor)	5	6	7 (Strongly agree)
enables me to shop quickly and without much contemplation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
feels convenient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
feels hassle-free and effortless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is efficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This is an attention check. Please mark "Strongly disagree" as your answer. Thank you for paying attention.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
bothers me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
feels painful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
makes me feel like I'm in debt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How frequently have you so far used credit card(s) (approximately)?

- Never
- Once before
- Once per year
- Once every six months
- Once per month
- More than once per month

How likely is it that you would use a credit card at some point in the future?

	1 (Extremely unlikely)	2	3	4 (Neither nor)	5	6	7 (Extremely likely)
On a scale from 1 (Extremely unlikely) to 7 (Extremely likely)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer the following questions in terms of how much you agree/disagree with the statements.

	1 (Strongly disagree)	2	3	4 (Neither nor)	5	6	7 (Strongly agree)
I am impulsive and tend to buy things even when I can't afford them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am prepared to spend now and let the future take care of itself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I closely monitor my spending behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to work effectively toward long-term financial goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I carefully consider my needs before making purchases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often delay taking action until I have carefully considered the consequences of my purchase decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I go out with friends, I keep track of what I am spending	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to resist temptation in order to achieve my budget goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Setting long-term financial goals and having objectives related to spending is important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am responsible when it comes to how much I spend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making sure that my bills are paid on time is important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Choose the *two best* alternatives that would allow you to build and maintain a good credit rating.

- Protect against identity theft and put money in savings
- Pay my bills on time and avoid debt
- Set clear financial goals and make safe investments

You are allowed to use a calculator to answer the following question. Please do not search for answers on e.g. Google.

All numbers are in Norwegian kroner.

If you put 1500 kroner in a high interest rate account, and that money earns a 3,6 % annual return, how much will you have after 5 years (approximately)?

- 6900 kroner
- 1790 kroner
- 3554 kroner
- None of the above

What is your age?

- 18 - 21
- 22 - 25
- 26 - 30
- 31 - 40
- 41 - 50
- Over 50

What is your gender?

- Male
- Female
- Non-binary / third gender
- Prefer not to say

What is your highest level of education?

- No formal education
- High school diploma (videregående)
- College degree
- Vocational training (yrkesfag)
- Bachelor's degree
- Master's degree
- Professional degree
- Doctorate (PhD) degree
- Other

What is your current job situation?

You can tick off two boxes (i.e. option 1-5 and 6), if you find that more than one of the alternatives fit your situation.

- Part-time employment
- Full-time employment
- Unemployed
- Outside the labour force (e.g. due to sickness)
- Retired
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What is your income level (yearly)?

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