

How mindfulness reduces BNPL usage and how that relates to overall well-being

BNPL usage

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Abstract

Purpose – The purpose of this study is to examine how mindfulness reduces consumers' buy-now-pay-later (BNPL) payment scheme usage and how that relates to their overall well-being.

Design/methodology/approach – This study uses partial least squares structural equation modeling to test the hypotheses of a conceptual framework which is rooted in the extant literature, using an approximately representative sample of Australian consumers ($N = 275$).

Findings – This study finds empirical evidence for the ability of mindfulness to reduce BNPL usage through increasing consumers' financial self-control and decreasing their impulse buying tendency. This study also obtains empirical evidence that greater BNPL usage is associated with lower subjective evaluations of consumers' overall well-being by increasing their current money management stress and decreasing their expected future financial security.

Research limitations/implications – Future research could build on the effect of mindfulness that the authors find in this study and how it could be leveraged as a protective mechanism for consumers' financial decision-making. Such research could involve mindfulness-based interventions, such as instant messaging within smartphone applications. Doing so would also help assess causality, thus addressing the limitation of the cross-sectional nature of this study.

Practical implications – The findings have implications for public policymakers and business practitioners. Financial counselors are encouraged to include the measurement of personality traits such as impulse buying tendency and financial self-control in intake meetings with clients and consider the benefits of offering short mindfulness training. Given the negative effect of BNPL usage on consumers' financial and overall well-being, and the reputational risks this implies, BNPL providers are recommended to take more responsibility to ensure consumers do not fall into a debt trap, while retailers are advised to take steps to make payment processes more "mindful."

Originality/value – Although mindfulness has established effects on consumer behavior, its beneficial influence on consumer financial decision-making has rarely been explored. This study also contributes to a better understanding of the antecedents and consequences of consumers' BNPL payment scheme usage. Although its prominence is increasing in daily life, and despite the concerns of consumer advocates, policymakers and regulators regarding its risks, the topic of consumers' BNPL usage has received little attention in academic research so far. Finally, this study extends the emerging financial well-being literature by demonstrating how BNPL usage can reduce consumers' overall well-being through the mediating effect of increasing current money management stress and decreasing expected future financial security.

Keywords Buy-now-pay-later payment schemes, Mindfulness, Financial self-control, Impulse buying tendency, Financial well-being, Overall well-being

Paper type Research paper



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1. Introduction

“Buy-now-pay-later” (BNPL) payment schemes allow consumers to immediately purchase goods and services and pay them off in regular installments, typically within 12 months. As no interest is charged, BNPL is not formally considered credit and providers are thus not bound by financial hardship and responsible lending standards (ASIC, 2018). As a consequence, BNPL is more accessible than regular credit (The Guardian, 2021), which is concerning since credit availability increases consumers’ willingness to use it (Soman and Cheema, 2002). Given that, unlike other forms of short-term credit, BNPL is not regulated, it does not involve credit checks. Hence, the accessibility of BNPL means that consumers are at risk of getting into debt which they may be unable to pay back. Although, in theory, BNPL schemes could be used as a budgeting tool, in practice they are often used as a way to make ends meet for vulnerable people (Choice Magazine, 2021). Hence, consumer advocates, policymakers and regulators around the world are increasingly concerned about the rapid growth of these payment schemes.

In this regard, the US Consumer Financial Protection Bureau (CFPB) (CFPB, 2021) recently opened an inquiry about accumulating debt associated with BNPL schemes, whose technology differs from traditional credit or installment plans. It noted that:

Whereas the old-style layaway installment loans were typically used for the occasional big purchase, people can quickly become regular users of BNPL for everyday discretionary buying, especially if they download the easy-to-use apps or install the web browser plugins.

Aforementioned technological innovation also encourages impulse buying (Which?, 2020), with reports commissioned by BNPL providers stating how “lapses of self-control” can be “lucrative for retailers” (Klarna, 2017, p. 6).

Furthermore, the UK Financial Conduct Authority (FCA) (FCA, 2018) is worried about BNPL schemes because although they do not charge interest, around 50% of consumers do not repay the full balance within the required period, incurring substantial late fees as a result. Many consumers do not view BNPL as credit (The Guardian, 2021) and are harmed as they do not fully appreciate the need to repay or the effect on their credit scores (FCA, 2018). Moreover, in comparison to credit cards, BNPL schemes do not have the same built-in safety features, such as cutting off access to the card, putting consumers at greater risk of harm (CNBC, 2021a).

Indeed, the Australian Securities and Investments Commission (ASIC, 2020) found that 21% of BNPL users missed a payment, 20% had to reduce or forego essentials, such as a meal, and 15% had to obtain an additional loan to make their repayments. BNPL users have been found to be almost twice as likely to experience financial stress as the general population (ABC, 2021), suggesting that its unbridled use can negatively affect consumers’ financial well-being. Against this background, there is an urgent need for research increasing our understanding of the antecedents and consequences of consumers’ BNPL usage. Importantly, aforementioned differences between today’s technology-driven BNPL schemes and traditional forms of consumer credit mean that we cannot assume prior findings to translate one-on-one to this new context. Table 1 summarizes the differences between BNPL and similar payment schemes and outlines their implications, differentiating between differences related to the nature of the user interface, the regulatory environment, user characteristics and market characteristics [1].

Given the concerns that BNPL usage can negatively affect consumers’ (financial) well-being, we leverage the seminal framework by Brügger *et al.* (2017) to inform our study. These authors present a conceptualization and research agenda that calls for an inquiry into the antecedents of financial well-being, such as financial behaviors and its consequences, such as general well-being. Furthermore, Brügger *et al.* (2017) call for an investigation of

| Dimension of payment scheme | Pay-day loans | Layaway plans | Credit cards | BNPL | Implications of identified differences |
|--|-----------------------|-----------------------|------------------|--------------------|---|
| <i>Nature of user interface</i> | | | | | The popularity of BNPL lies in its ability to satisfy a need for instant gratification at the point of sale. Unlike traditional forms of credit, through innovations in financial technology, the consumer must use an application (either online or in store) to use a BNPL service. In contrast to traditional lines of credit, the consumer applies at the point of sale where they receive an instant credit decision, and then must make a down payment, with the rest of their payments predetermined (i.e. pay in four terms). Given the ability for financing at the checkout process (with instant decision), BNPL services tap into lack of self-control, desire for immediate possession and impulsive buying. For example, research commissioned by a BNPL provider encourages retailers to reduce customer friction through an easier transaction process, such as including BNPL services as the default payment scheme, to promote unplanned purchasing (Klarma, 2017) |
| Involves point-of-sale financing where application, approval and usage all happen simultaneously | ✗ | ✗ | ✗ | ✓ | |
| Requires an application to use | ✗ ^(a) | ✗ | ✗ ^(b) | ✓ | |
| Predominantly used for online shopping | ✗ | ✗ | ✗ | ✓ | |
| Provides instant access to funds at point of sale | ✗ | ✓ | ✗ ^(c) | ✓ | |
| Requires initial (down-) payment for purchase | ✓ | ✓ | ✓ | ✓ | |
| Involves predetermined repayment schedules | ✓ | ✓ | ✓ | ✓ | |
| Provides immediate possession of goods | ✓ | ✓ | ✓ | ✓ | |
| Strongly integrated into the checkout process | ✗ | ✗ | ✓ | ✓ | |
| Transparency/physicality of payment medium | Medium ^(d) | Medium ^(d) | Medium | Low ^(e) | BNPL schemes mainly rely on mobile payments with low transparency in physical form and amount (Liu et al., 2021). These have a lower associated pain of paying (Liu and Dewitte, 2021), leading to one spending more than intended (Raghubar and Srivastava, 2008). Concerningly, frequent usage of lower-transparency payment methods is connected to costly credit behavior (e.g. paying late fees; Meyll and Walter, 2019) |
| <i>Regulatory environment</i> | | | | | As there is no interest charged, by definition, BNPL providers are not considered to be providing credit (ASIC, 2018). Consequently, they do not need to follow lending regulations and instead rely upon their own complex algorithms to decide who to offer their service to. Given the lack of regulatory oversight, consumers do not receive the same protection as they might with traditional forms of credit. Similarly, although these services are advertised as interest-free, there are hidden fees which can increase the total cost for a user (CNBC, 2021a). Importantly, these fees for BNPL services do not need to be advertised or disclosed as an annual percentage rate (APR) for borrowing, as is the case for credit cards |
| Repayments are interest free | ✗ | (N/A) | ✗ | ✓ ^(f) | |
| Exempt from hard credit checks | ✗ | (N/A) | ✗ | ✓ ^(g) | |
| Exempt from a strict application process | ✗ | (N/A) | ✗ | ✓ ^(g) | |
| Exempt from most credit lending regulations | ✗ | (N/A) | ✗ | ✓ | |
| Exempt from reporting annualized borrowing fees | ✗ | (N/A) | ✗ | ✓ | |
| Positive payment behavior (e.g. paying on time) does not benefit one's credit score | ✗ | (N/A) | ✗ | ✓ | Meeting repayments on BNPL schemes does not boost an individual's credit, but missed payments still can harm their credit score. Consequently, usage of BNPL payments schemes can never increase the future availability of credit to a consumer, which is intrinsically linked to their expected future financial security |
| Negative payment behavior (e.g. late payments) does hurt one's credit score | ✓ | (N/A) | ✓ | ✓ | |
| <i>User characteristics</i> | | | | | BNPL is popular among younger consumers, who often have lower levels of financial literacy and underestimate the potential damage to their financial well-being. Similarly, lenient regulations of BNPL schemes can attract vulnerable consumers who do not qualify for other forms of credit (e.g. credit cards); this may lead them to be stuck in a "debt trap" (Choice Magazine, 2021). Importantly, as BNPL services can have additional heavy charges (i.e. late fees), the costs can quickly spiral out of control (CNBC, 2021a, 2021b) |
| Predominantly targets younger generations (Millennials and Generation Z) | ✗ ^(h) | ✗ | ✗ | ✓ | |
| Adopted by more vulnerable consumers | ✓ | ✗ | ✗ | ✓ | |

(continued)

Table 1.
Comparing BNPL to similar payment schemes

Table 1.

| Dimension of payment scheme | Pay-day loans | | Layaway plans | Credit cards | BNPL | | Implications of identified differences |
|---|------------------|---|---------------|--------------|------|---|--|
| | | | | | | | |
| <i>Market characteristics</i> Developed by FinTech firms Advertised as budgeting tool | ✘ ^(a) | ✘ | ✘ | ✘ | ✓ | ✓ | As a FinTech innovation, BNPL providers advertise their product as a budgeting tool (ASIC, 2020). However, BNPL is often not seen as a form of debt (The Guardian, 2021); this can lead consumers to miss important terms and conditions, and not fully comprehend the potential effects upon their credit score |

Notes: ^(a)Not in the traditional sense but FinTech providers are beginning to provide related services. ^(b)Some payment systems relying on credit cards for the payment execution, such as Apple Pay or Google Pay, also require an application to use. ^(c)In response to the competition from BNPL payment schemes, credit card providers have launched their own installment plans such as Plan It by American Express and MasterCard Installments, which could potentially be even riskier than BNPL as they might not require a downpayment. ^(d)In comparison to cash. ^(e)Some BNPL providers now provide both the application and a physical card. (N/A) Layaway agreements do not involve “credit.” ^(f)Although BNPL providers typically do not charge interest, they may charge account fees, as well as late fees for missed payments. ^(g)BNPL providers typically conduct a “soft credit check,” which does not affect a credit score

contextual factors such as technological developments and the role of personal factors including sociodemographics, financial knowledge and personality traits. Finally, these authors call for an examination of financial well-being interventions that can break financially destructive behaviors.

We answer this call for research by [Brüggen *et al.* \(2017\)](#) and, while acknowledging that our selection of variables is not exhaustive, address each of the factors highlighted by their framework. We focus on the role of mindfulness given concerns of the UK debt charity StepChange that “buy now, pay later services don’t give individuals enough time or protection to stop, pause, and understand the consequences of their purchase” ([The Guardian, 2021](#)). Since mindfulness relates to paying attention, on purpose, to the present moment ([Kabat-Zinn, 2003](#)), we believe it holds particular promise as a basis for future financial well-being interventions. Against this background, our study has the following research aims:

- to examine the relationship between mindfulness and BNPL usage as mediated by the personality traits of financial self-control and impulse buying tendency;
- to study the subsequent relationship between BNPL usage and overall well-being as mediated by financial well-being; and
- to account for the role of sociodemographic factors as well as financial knowledge measured by financial literacy.

Our study contributes both to marketing theory and practice. From a theoretical perspective, a novel approach is the relation of mindfulness to financial decision-making, which has received little academic attention to date. The current study extends prior literature by examining explanatory mechanisms which are directly related to key aspects of consumer financial decision-making, namely impulse buying tendency and financial self-control, which prior research on mindfulness and credit usage did not examine ([Pereira and Coelho, 2019](#)). This study also extends the work of [Strömbäck *et al.* \(2017\)](#), who found financial self-control to improve financial behavior, but did not consider its role explaining BNPL usage. Finally, we contribute to the financial well-being literature by answering [Brüggen *et al.*'s \(2017\)](#) call for research into its antecedents and consequences. In particular, while [Netemeyer *et al.* \(2018\)](#) showed a direct effect of current money management stress and expected future financial security on overall well-being, these authors did not examine the mediating effect of these dimensions of financial well-being on the relationship between BNPL usage and overall subjective well-being.

From a practical perspective, this study provides insights for the ability of mindfulness to alleviate consumers’ BNPL usage and protecting those with an impulse buying tendency or lack of financial self-control from the potential negative effect on their (financial) well-being. With the increasing popularity of BNPL payment schemes in the retail landscape, the drivers of its usage and its associated effects on consumer well-being are of vital importance. Innovative technological advances have driven rapid change in how consumers make payments, and this topic therefore is of increasing interest to policymakers around the world including the [CFPB \(2021\)](#), Reserve Bank of Australia (RBA) ([RBA, 2021a](#)) and [FCA \(2018\)](#). Indeed, we answer the call for research on the effect of technological factors such as FinTech developments on consumer (financial) well-being by [Brüggen *et al.* \(2017\)](#), which is important as such developments could be detrimental for consumer welfare ([Panos and Wilson, 2020](#)).

2. Research background

2.1 Mindfulness and financial decision-making

Mindfulness has been defined as “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding experience moment

by moment” (Kabat-Zinn, 2003, p. 145). Extant literature has conceptualized it either as a personality trait or state of being. Trait mindfulness is the permanent long-term ability of an individual, while state mindfulness is the temporary condition of an individual staying present (Sala *et al.*, 2020). In the current study, mindfulness will be investigated as a personality trait.

Research has shown a wide range of benefits of mindfulness for individuals. For example, studies have shown the positive effect of mindfulness on anxiety and mood symptoms (Hofmann *et al.*, 2010), subjective well-being (Brown *et al.*, 2009) and physical health (Grossman *et al.*, 2004). Akin to the present study, by bringing attention to the present moment, mindful individuals may be able to improve their decision-making process (Karelaia and Reb, 2015). However, this idea has received only scant attention in the financial decision-making literature.

As a basis for the relationship between mindfulness and financial decision-making, prior work has leveraged Michalos’ (1985, p. 348) multiple discrepancies theory, which posits that “satisfaction is a function of the perceived discrepancy or gap between what one has and wants.” Brown *et al.* (2009) used this theory to argue that mindfulness can lead to fewer financial desires, or less wants, reducing aforementioned gap, and thus increasing well-being. This idea is supported by Brown and Kasser (2005), who found that mindfulness is positively related to intrinsic values and negatively related to extrinsic values. Brown *et al.* (2007) expanded this thinking by suggesting that mindfulness, as living *in* the moment is inversely related to hedonism, as living *for* the moment. Ultimately, this line of thinking led to the growth of concepts within academia and practice to promote individual and societal well-being, including mindful consumption (Sheth *et al.*, 2011) and mindful finance (Pereira and Coelho, 2019).

2.2 Financial and overall well-being

While there are various conceptualizations of well-being, within the positive psychology literature it relates to “people’s cognitive and affective evaluations of their lives” (Diener, 2000, p. 34). As a broad concept, overall well-being is influenced by a variety of components or domains. Relevant for this study, a growing body of research supports the notion that financial well-being is a key driver of overall subjective well-being. Within public policy, interest in the concept of financial well-being increased following the 2007–2009 financial crisis (Center for Financial Service Innovation 2015; CFPB 2015). Based on the work of the CFPB, Netemeyer *et al.* (2018) developed a validated scale of financial well-being which conceptualizes it as comprising both current money management stress and expected future financial security.

Similarly, in related work, Brügger *et al.* (2017, p. 229) conceptualized financial well-being as individuals’ “perception of being able to sustain current and anticipated desired living standards and financial freedom.” As in Netemeyer *et al.* (2018), the definition of Brügger *et al.* (2017) captures individuals’ perceptions of their current and future financial situation. Importantly, based on their conceptualization, Brügger *et al.* (2017) present a seminal framework including a research agenda which we used as a foundation for our current study.

Brügger *et al.*’s (2017) framework includes five elements organized around the key concept of financial well-being. These elements are:

- (1) financial well-being interventions;
- (2) financial behavior;
- (3) contextual factors;

- (4) personal factors; and
- (5) consequences of financial well-being.

These authors identify interventions such as financial education, counseling and advice as means of improving consumers' financial behaviors to increase financial well-being which could ultimately translate into positive consequences, such as heightened overall well-being.

3. Conceptual framework and hypotheses development

Figure 1 presents our conceptual framework on the antecedents and consequences of consumers' BNPL usage, including an overview of our six hypotheses. Guided by aforementioned framework of Brüggen *et al.* (2017), our study examines how the concept of mindfulness can form a basis for financial well-being interventions by disrupting potentially financially destructive behaviors and habits, such as BNPL usage, which can harm consumers' financial and overall well-being. We address the importance of contextual factors through the technological setting of BNPL applications, while addressing the role of personal factors through the inclusion of sociodemographics, financial literacy, as well as individuals' impulse buying tendency and financial self-control. The following sections will develop the hypotheses, which are grounded in insights from the relevant literature as well as insights from practitioners.

3.1 Antecedents of buy-now-pay-later usage

3.1.1 *Effect of mindfulness on buy-now-pay-later usage.* Mindfulness involves individuals "[pausing] in their experience long enough to let the present moment sink in" (Kabat-Zinn, 1994, p. xiv). Through a focus on the present moment, mindfulness can allow individuals to question whether their consumption is essential, potentially limiting their usage of BNPL payment schemes, which thrive on factors such as impulsivity and lack of self-control (Klarna, 2017; Which?, 2020). Our line of thinking is grounded in the work of Brown *et al.* (2009), who used Michalos' (1985) multiple discrepancies theory to demonstrate that mindfulness can lead to a greater acceptance of what one already has. Mindfulness is

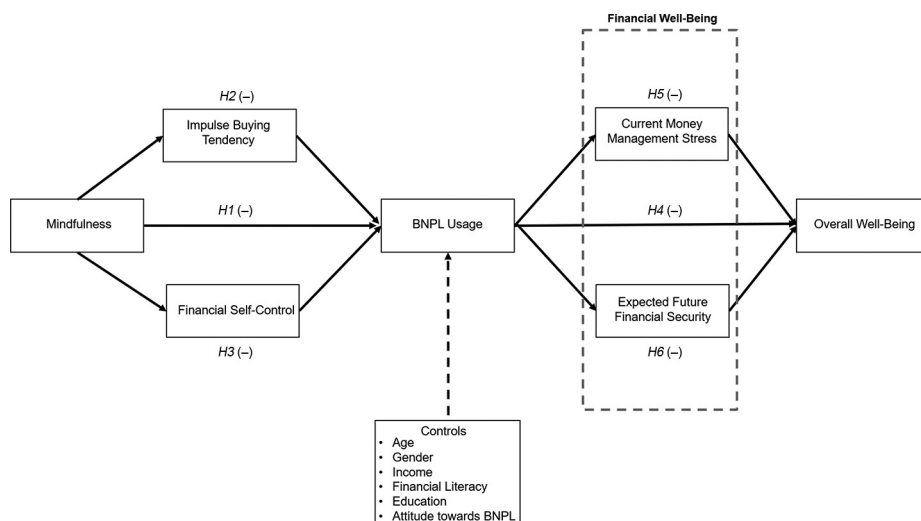


Figure 1.
Conceptual framework

associated with individuals displaying fewer extrinsic values, such as material acquisition and more intrinsic values, such as personal growth (Brown and Kasser, 2005; Kasser and Ryan, 1996). Importantly, extrinsic values are an important driver of BNPL usage, as it is often used as a tool for discretionary buying (CFPB, 2021). Hence, mindful individuals are less likely to use BNPL payment schemes, as it provides the awareness (and acceptance of one's current possessions) to question an emotional purchasing state and shift one's focus to intrinsic rather than extrinsic values. Moreover, mindfulness is associated with frugality-based lifestyles and behaviors (Kaur and Luchs, 2022). We therefore hypothesize:

H1. Mindfulness is negatively associated with consumers' BNPL usage.

As alluded to previously, impulsivity and lapses of self-control are important personal factors contributing to consumers' usage of BNPL payment schemes (Which?, 2020). We conjecture that mindfulness can be a circuit-breaker of the "emotional" spending through BNPL payment schemes (Klarna, 2017) by decreasing consumers' impulse buying tendency and increasing their financial self-control. The next sections will review the relevant literature on both personality traits and develop the associated hypotheses on how they are expected to mediate the relationship between mindfulness and consumers' BNPL usage predicted by *H1*.

3.1.2 Mediating role of impulse buying tendency. Impulse buying is recognized as more than a mere unplanned purchase. Impulse buying "occurs when a consumer experiences a sudden, often powerful and persistent urge to buy something immediately" (Rook, 1987, p. 191). Because of the inherent urge, impulsive buying is prone to occur without consideration of the consequences (Rook, 1987). Relevant for the current study, the in-store environment can play an important role in encouraging impulsive behavior (Mohan *et al.*, 2013). Virtual atmospheric cues, such as design and navigation, also influence online impulse-buying behavior (Floh and Madlberger, 2013). The latter is important given that BNPL payment schemes are often used for online transactions through "easy-to-use apps and web browser plugins" (CFPB, 2021), with research suggesting that 84% of transactions take place through online methods (Moza, 2021).

Indeed, in a report commissioned by a leading BNPL provider, retailers were recommended to enhance their website's vividness and social presence to encourage impulse purchases (Klarna, 2017). Importantly, in our study we focus on the chronic tendency of an individual to buy on impulse, which has been identified as a relevant precursor to the actual act of impulse buying behavior (Beatty and Elizabeth Ferrell, 1998). Consumers with a stronger impulse buying tendency are expected to be more frequent users of BNPL, as, similar to credit cards, these payment schemes facilitate the urge to buy something immediately (Bernthal *et al.*, 2005) and are thus associated with weaker impulse control (Thomas *et al.*, 2010). However, BNPL payment schemes are not governed by the traditional lending criteria and associated credit checks of credit cards which would normally put a brake on consumers' impulse buying tendency (CFPB, 2021). In fact, many BNPL providers actively encourage impulse purchasing (Which?, 2020).

Both mindfulness and impulsivity have a connection to the present moment. However, the actions relating to this present focus are vastly different, with impulsivity and mindfulness recognized as natural opposites (Murphy and MacKillop, 2012). Impulsivity is characterized as being urgent, lacking premeditation and perseverance and relating to sensation seeking (Peters *et al.*, 2011). Impulse buying is well-recognized as an unintended, unreflective and immediate decision (Jones *et al.*, 2003). Consequently, an impulse buying tendency suggests a lack of mindful attention and subsequently results in automated behavior. In contrast, mindfulness involves an awareness of one's actions and their potential

consequences (Kabat-Zinn, 2003). By increasing one's mindfulness, individuals could reduce their desire for material acquisition and the associated impulsive urges. With its inherent focus on the present moment, mindfulness is expected to lead to a greater consideration of whether a purchase is necessary and thus an individual becoming less likely to display an impulse buying tendency, which is again expected to reduce their BNPL payment scheme usage. We therefore hypothesize:

H2. Impulse buying tendency negatively mediates the relationship between mindfulness and consumers' BNPL usage.

3.1.3 Mediating role of financial self-control. Financial self-control refers to the ability to control one's thoughts, emotions, impulses and performance when making financial decisions (Haws *et al.*, 2016). It is particularly relevant for the current study given that it is linked to how consumers deal with "the opposing forces of attractive products that encourage spending versus a longer-term emphasis on saving and financial well-being" (Haws *et al.*, 2016, p. 40). It is well-established that individuals with greater self-control accumulate less debt (Wang *et al.*, 2011). More recently, Strömbäck *et al.* (2017) looked beyond debt and found that individuals with greater self-control are also more likely to save money. Indeed, work from Gathergood (2012) suggests that consumers with self-control problems may benefit from the restriction of credit.

One mechanism in which mindfulness exerts its beneficial effect on behavior is through self-regulation (Shapiro *et al.*, 2006). Although self-control is a part of self-regulation, research shows a positive correlation between mindfulness and self-control (Bowlin and Baer, 2012; Feltman *et al.*, 2009). Through enhanced awareness and attention, Elkins-Brown *et al.* (2017, p. 17) suggest that mindfulness "heightens our sensitivity to rapid and transient negative emotions, allowing [us] to mobilize self-control processes that realign our behavior with our goals." This close connection is likely to be a result of the features that mindfulness and self-control share. Masicampo and Baumeister (2007) discussed that both personality traits involve a careful regulation of one thoughts and actions, daily adherence and commitment to exercises. Importantly, through increasing financial self-control, individuals are likely to make more informed financial decisions (Strömbäck *et al.*, 2017). With the close connection between mindfulness and financial self-control, a more mindful individual is expected to exhibit greater self-control, which in turn is expected to result in lower BNPL usage. We therefore hypothesize:

H3. Financial self-control negatively mediates the relationship between mindfulness and BNPL usage.

3.2 Consequences of buy-now-pay-later usage

In their seminal work, both Brügggen *et al.* (2017) and Netemeyer *et al.* (2018) consider financial well-being as an intermediate outcome between consumers' financial behavior and their general well-being. Accordingly, in this study, we expect that consumers' BNPL usage will affect overall well-being through its effect on their financial well-being.

3.2.1 Effect of buy-now-pay-later usage on overall well-being. Overall subjective well-being is an umbrella term that includes "people's global judgements of life satisfaction" (Diener *et al.*, 1999, p. 277). Scholars recognize that consumers can obtain greater happiness, or life satisfaction, from being thrifter and more deliberate with purchases (Chancellor and Lyubomirsky, 2011; Dunn *et al.*, 2011). This finding can be explained by the concept of

hedonic adaption, or the hedonic treadmill, which has been widely studied in the positive psychology literature. This metaphor posits that humans often quickly return to their baseline level of happiness as they adapt to changing conditions (Diener *et al.*, 2006). Consequently, a focus on material acquisition and a rush toward purchasing the next product as facilitated by BNPL schemes might provide temporary positive emotions, but is unlikely to lead to increased overall happiness. Rather, BNPL usage might lead consumers to be stuck on a metaphorical treadmill.

BNPL schemes are often used as a medium for discretionary or nonessential spending, resulting in individuals spending beyond their means. Within the extant literature, this spending type has a negative relationship with overall well-being (Csikszentmihalyi, 2000; DeLeire and Kalil, 2010). Indeed, although the effect of BNPL usage on consumers' overall well-being has yet to be explored in the academic literature, there is growing evidence from consumer advocates, policymakers and regulators that usage of this payment scheme does not improve consumer well-being, but instead might be detrimental. For example, within Australia, BNPL users are almost twice as likely to experience financial stress compared to the general population (ABC, 2021). Similarly, consumer research in the UK indicates that more than one in three BNPL users cite their mental health as a concern, going as far as labeling the payment scheme "shop now, stress later" (Andrews, 2021). Consequently, with the encouraged material and nonessential spending associated with BNPL payment schemes, which is typically associated with lower evaluations of overall subjective well-being, we hypothesize:

H4. Consumers' BNPL Usage is negatively related to their overall well-being.

3.2.2 Mediating role of current money management stress. Across the various definitions of financial well-being, an individuals' perception of their current financial situation has been identified as a significant component (Brüggen *et al.*, 2017; CFSI, 2015; CFPB, 2015; Netemeyer *et al.*, 2018). Within their conceptualization of this present dimension, Netemeyer *et al.* (2018, p. 73) defined current money management stress as "anxiety, worry, and dissatisfaction with one's current financial situation." In the subjective well-being literature, an individual's financial situation is considered a key input of their overall well-being (Diener *et al.*, 1999). As the financial domain underpins various life realms, current money management woes likely have a negative spillover effect onto other parts of an individual's life. For example, financial stresses may limit the ability to engage in leisure activities, which the extant literature has clearly identified as an important factor in one's quality of life (Brajša-Žganec *et al.*, 2011). Indeed, individuals who have current money management stress, in the form of excessive debt (Brown *et al.*, 2005), or low liquid wealth in terms of cash on hand Ruberton *et al.* (2016), report lower levels of well-being. In the context of credit cards, prior literature indicates that having stress over debt is associated with having worse health outcomes (Drentea and Lavrakas, 2000). In other words, the unbridled usage of credit is likely to harm an individual's self-reported well-being, specifically through increasing their current money management stress.

As mentioned previously, the ease of access of BNPL payment schemes and their innate encouragement of material acquisition can lead some individuals to spend beyond their means. This is consistent with research suggesting that payment methods with lower rehearsal (the act of writing the price paid) and lower immediacy (delay before the consumer is charged), can lead to a greater number of discretionary purchases (Soman, 2001). As BNPL payment schemes involve automated deductions, with installments typically spread over many months, the consumer may not experience the impact of their payment until a later date. Thus, the low rehearsal and limited immediacy of BNPL payments may "lead consumers to underestimate past expenses and hence inflate the purchase intention for

additional products” (Soman, 2001, p. 461). This effect is further exacerbated by technological advancements leveraged by BNPL providers, such as one-click buying options decreasing the salience of payments (CFPB, 2021). Indeed, prior research finds that innovative payment methods with lower transparency, such as mobile payments, are associated with consumers experiencing a lower “pain of payment” (Liu and Dewitte, 2021; Liu *et al.*, 2021) and costly credit card behaviors such as only paying the minimum payment, paying late fees or incurring over the limit fees (Meyll and Walter, 2019).

Consequently, research indicates that more than one in five BNPL users miss a payment each year, while 15% of users have reported that they took out an additional loan to make their repayments (ASIC, 2020). A missed payment leads to late fees, potential dishonor fees and interest payments if using a credit card to make repayments. As a result, late payments can erode an individual’s liquid wealth and lead to debt accumulation, which Netemeyer *et al.* (2018) identified as a key antecedent of current money management stress. Hence, with the close connection between current money management stress and overall well-being, we hypothesize:

- H5.* Current money management stress negatively mediates the relationship between consumers’ BNPL usage and their overall well-being.

3.2.3 Mediating role of expected future financial security. As mentioned previously, the various definitions of financial well-being also distinguish a dimension of an individual’s perception of their future financial situation. Netemeyer *et al.* (2018, p. 71) labeled this dimension expected future financial security, “which encompasses perceptions of having a financially secure future and meeting future financial goals.” With the aforementioned importance of the financial domain for individual well-being (Diener *et al.*, 1999), a more financially secure individual is likely to evaluate their overall well-being more positively. In terms of the antecedents of expected future financial security, Netemeyer *et al.* (2018) highlight future-orientated financial behaviors indicating an individual’s ability to plan for money. In this regard, we expect consumers’ BNPL usage to be a relevant driver of their expected financial security, as these payment schemes are predominantly used by consumers who find it difficult to plan their finances and budget for such expenses as holiday gifts (Forbes, 2022).

The unregulated nature of the BNPL industry means that these payment schemes can encourage users to spend beyond their means. Doing so may lead consumers to incur late fees and, in turn, accumulate debt. This line of reasoning is supported by work finding that new payment methods such as mobile payments are strongly related to credit card debt accumulation (Meyll and Walter, 2019). Such unresolved debt can turn into a “debt trap” jeopardizing individuals’ ability to prepare for a financially secure future (Choice Magazine, 2021). For example, unresolved debt reduces one’s ability to save or invest for the future and can also jeopardize the future availability of credit (Netemeyer *et al.*, 2018). In particular, if an individual misses payments on their BNPL account, BNPL providers are able to report this information to credit rating agencies, which will harm consumers’ credit score (Seeto, 2020). Consequently, BNPL usage can reduce consumer’s expected future financial security, which in turn is expected to worsen their overall subjective well-being (van Praag *et al.*, 2003). We thus hypothesize:

- H6.* Expected future financial security negatively mediates the relationship between consumers’ BNPL usage and their overall well-being.

4. Data and methodology

4.1 Data collection

This study collected data through a cross-sectional survey administered through panel provider Qualtrics. Participants were required to live in Australia and be over the age of 18. Australia was selected as the target population because of the prominence and growth of BNPL usage within its retail landscape (Johnson *et al.*, 2021). Indeed, as of March 2021, there were 5 million active accounts according to the RBA (2021b), an almost 100% increase relative to the 2017/2018 financial year according to ASIC (2020). All participants passed an attention check included within the questionnaire based on Paas and Morren (2018), asking them “How interesting do you think this survey is? This is a quality check. Please choose ‘different.’” Given the lengthy nature of the survey, participants who completed it in less than 5 min were excluded from further analysis. Participants demonstrating straight-lining behavior were also removed. The final sample size was $N = 275$, which strived to be nationally representative of age, gender and income through the use of quotas embedded by Qualtrics. As a result of this aim, this study did not exclude individuals that had not used previously used BNPL schemes. Moreover, as the objective of this study was to explain the full range of variance in BNPL usage amongst Australians, from no usage at all to frequent usage, it is important to include both users and nonusers. Before commencement of the data collection, ethical approval was obtained for this study, which complies with the Australian National Statement on Ethical Conduct in Human Research [2].

4.2 Sample description

Table 2 shows that the sample consisted of 129 (146) males (females). With the Australian population having a near 50/50 gender split (Australian Bureau of Statistics, 2016), males are thus slightly underrepresented in the sample. However, the sample’s median age category of 35–44 years was consistent with the median age of the Australian population of 38 years. Although the sample strived to be nationally representative in regards to income, it was skewed toward higher income categories [3]. Nonetheless, the sample’s median gross annual income category of \$37,001–\$90,000 was consistent with the median personal income of the Australian population of \$49,805 (Australian Bureau of Statistics, 2016). Finally, 56% of participants completed a university degree and 71.9% held some form of employment, with a further 19.4% not looking for work, 6.5% looking for work and 2.2% still studying.

Of all participants, 50% (137) indicated that they had previously used a BNPL service (Table 3). It is estimated that there are over 5 million active BNPL accounts in Australia, which would constitute approximately 25% of the Australian adult population (RBA, 2021b). However, this figure is likely to be inflated as consumers may have accounts with more than one provider. This suggests that the sample has a greater proportion of BNPL users compared to the Australian population. This skewed proportion is an advantage for the present study as it allows for greater analysis of BNPL users. Of those individuals who previously used BNPL, 91.7% were active users (i.e. made at least one transaction in the past 12 months). Evident in Table 3, the adoption of BNPL has surged since 2017. Interestingly, the studied sample had relatively frequent BNPL usage, with 47.4% of participants using the payment service every few months or more frequently. Finally, clothing and shoes were the most frequently purchased goods using BNPL which is in line with media reports (CNBC, 2021b).

4.3 Measurement scales

This study only used established scales with demonstrated validity and reliability. The wording of some scales was modified to suit the BNPL context and, if applicable, adapted to seven-point Likert scales to maintain consistency. Table 4 presents the adapted scales with items, factor loadings and construct validity. Mindfulness was measured using five items of

| Variables | Indicator | Frequency (#) | (%) |
|--|---|---------------|--------------|
| Gender | Male | 129 | 46.9 (50.7) |
| | Female | 146 | 53.1 (49.3) |
| Age | 18–24 years old | 14 | 5.1 (8.87) |
| | 25–34 years old | 71 | 25.8 (19.08) |
| | 35–44 years old | 66 | 24.0 (17.8) |
| | 45–54 years old | 41 | 14.9 (17.6) |
| | 55–64 years old | 34 | 12.4 (15.6) |
| | Over 65 years old | 49 | 17.8 (20.9) |
| Gross annual income (AUD) (Categories align with Australian income tax brackets) | \$0–\$18,200 | 12 | 4.4 (15.5) |
| | \$18,201–\$37,000 | 35 | 12.7 (20) |
| | \$37,001–\$90,000 | 95 | 34.5 (34.5) |
| | \$90,001–\$180,000 | 109 | 39.6 (8.5) |
| | \$180,001 and over | 24 | 8.7 (3.1) |
| Education | Less than high school degree | 12 | 4.4 |
| | High school graduate (high school diploma or equivalent) | 54 | 19.6 |
| | Vocational training | 55 | 20.0 |
| | Bachelor's degree | 79 | 28.7 |
| | Master's degree | 35 | 12.7 |
| | Graduate certificate or graduate diploma | 39 | 14.2 |
| | Doctoral degree | 1 | 0.4 |
| Employment | Unemployed – looking for work | 18 | 6.5 |
| | Unemployed – not looking for work | 54 | 19.4 |
| | Student | 6 | 2.2 |
| | Internship | 0 | 0.0 |
| | Casual Employment | 9 | 3.2 |
| | Part-time Employment | 45 | 16.2 |
| | Full-time Employment | 124 | 44.6 |
| | Self-Employed/Freelance | 22 | 7.9 |

Table 2.
Socio-Demographics
(*N* = 275)

Note: Percentages within brackets refer to the respective numbers in the general Australian population (Australian Bureau of Statistics, 2016)

the cognitive and affective mindfulness scale-revised scale from [Feldman et al. \(2007\)](#) [4]. BNPL usage was measured through an ordinal scale assessing usage frequency of this payment scheme with 1 = never and 9 = more than once per week [5]. Financial self-control was measured using nine items from [Haws et al. \(2016\)](#), [6] while impulse buying tendency was measured using four items from [Weun et al. \(1998\)](#) [7]. Financial well-being was measured with five items of expected future financial security and four items of current money management stress from [Netemeyer et al. \(2018\)](#) [8]. To measure overall well-being, the satisfaction with life scale ([Diener et al., 1985](#)) was used. Finally, participants answered standard sociodemographic questions (gender, age, income, education, employment), were tested regarding their financial knowledge through four items from [Klapper et al.'s \(2015\)](#) financial literacy scale and indicated their attitude toward BNPL schemes using an item from [Hayhoe et al.'s \(1999\)](#) credit attitude scale adapted to the BNPL context by replacing “credit card” with “BNPL scheme.”

4.4 Common method variance

With the study using self-reported scales, there is the potential of common method variance (CMV) influencing the results, which is the “variance attributable to the measurement model

| Item | Indicator | Frequency | |
|--|---|-----------|------|
| | | (#) | (%) |
| Has used BNPL previously | Yes | 137 | 49.8 |
| | No | 138 | 50.2 |
| Has used BNPL how often | More than once a week | 10 | 3.6 |
| | Once a week | 19 | 6.9 |
| | More than once per month | 25 | 9.1 |
| | Once per month | 27 | 9.8 |
| | Once every few months | 35 | 12.7 |
| | At least once every six months | 11 | 4.0 |
| | Less than once a year | 13 | 4.7 |
| | Once a year | 6 | 2.2 |
| | Never used BNPL | 138 | 50.2 |
| Year of first BNPL use | 2021 | 19 | 6.9 |
| | 2020 | 32 | 11.6 |
| | 2019 | 46 | 16.7 |
| | 2018 | 19 | 6.9 |
| | 2017 | 14 | 5.1 |
| | 2016 | 5 | 1.8 |
| | 2015 | 2 | 0.7 |
| | 2014 | 1 | 0.3 |
| | Before 2014 | 1 | 0.3 |
| Products or services purchased with BNPL | Never used BNPL | 138 | 50.2 |
| | Clothing | 90 | 32.7 |
| | Shoes | 52 | 18.9 |
| | Household appliances (e.g. washing machine) | 48 | 17.5 |
| | Personal care | 42 | 15.3 |
| | Entertainment | 37 | 13.5 |
| | Mobile phone | 25 | 9.1 |
| | Audio visual equipment (e.g. headphones) | 24 | 8.7 |
| | Food and drink | 23 | 8.4 |
| | Holidays | 22 | 8.0 |
| | Other | 14 | 5.1 |
| | Medical and health expenses | 11 | 4.0 |
| | Animal expenses | 9 | 3.3 |
| | Fuel and power | 6 | 2.2 |
| | Child care | 5 | 1.8 |

Table 3.
BNPL Usage
(*N* = 275)

rather than to the constructs the measures represent” (Podsakoff *et al.*, 2003, p. 879). As recommended by Podsakoff *et al.* (2003), to minimize CMV concerns various procedural and statistical remedies were applied. Procedurally, the survey began with a reminder to participants that their answers were anonymous and an assurance that there were no right or wrong responses. In the survey, there was a time lag between the measurement of the dependent and independent variables to create temporal separation. Furthermore, to avoid bias from endpoint commonalities, the survey used verbal labels, rather than bipolar numerical scale values and altered scale end-points where appropriate (e.g. “very rarely” instead of “strongly disagree”).

Statistically, we conducted four different tests to assess the presence of CMV:

- (1) Harman’s single-factor test;
- (2) Lindell and Whitney’s (2001) marker variable check;

| Construct and source | Measurement item | Factor loading | Mean | SD | α | CR | AVE |
|---|---|----------------|------|------|--------------------|--------------------|--------------------|
| Mindfulness – cognitive and affective mindfulness scale – revised (CAMS-R) from Feldman et al. (2007) BNPL usage | M1 – It is easy for me to concentrate on what I am doing | 0.729 | 5.21 | 1.27 | 0.864 | 0.866 | 0.565 |
| | M2 – It is easy for me to keep track of my thoughts and feelings | 0.717 | 4.92 | 1.17 | | | |
| | M3 – I am able to accept the thoughts and feelings I have | 0.708 | 5.04 | 1.26 | | | |
| | M4 – I am able to focus on the present moment | 0.846 | 5.28 | 1.23 | | | |
| | M5 – I am able to pay close attention to one thing for a long period of time | 0.749 | 5.13 | 1.33 | | | |
| | How often do you use BNPL schemes to make a purchase? Nine-point Likert Scale; (1) Never used BNPL | 1.50 | 0.50 | | N/A ^(a) | N/A ^(a) | N/A ^(a) |
| | Less than once a year | | | | | | |
| | Once a year | | | | | | |
| | At least once every six months | | | | | | |
| | Once every few months | | | | | | |
| | Once per month | | | | | | |
| | More than once per month | | | | | | |
| | Once per week | | | | | | |
| | (9) More than once per week | | | | | | |
| Financial Self-Control – adapted from Haws et al. (2016) | FSC1 – I am good at resisting tempting purchases | 0.696 | 4.93 | 1.47 | 0.917 | 0.917 | 0.555 |
| | FSC2 – I have a hard time breaking bad spending habit (R) | 0.818 | 4.77 | 1.66 | | | |
| | FSC3 – I buy inappropriate things (R) | 0.737 | 5.04 | 1.56 | | | |
| | FSC4 – I buy certain things that are bad for my budget if they are very appealing (R) | 0.821 | 4.62 | 1.64 | | | |
| | FSC5 – I refuse to buy things that are bad for my finances | 0.663 | 4.67 | 1.55 | | | |
| | FSC6 – People would say that I have iron self-discipline with my spending | 0.612 | 4.18 | 1.56 | | | |
| | FSC7 – Sometimes I cannot stop myself from buying something even if I know it is very unnecessary (R) | 0.786 | 4.61 | 1.64 | | | |
| | FSC8 – I often spend money without thinking through the financial consequences (R) | 0.802 | 4.88 | 1.65 | | | |
| | FSC9 – I wish I had more self-discipline in spending my money (R) | 0.740 | 4.22 | 1.77 | | | |
| | IBT1 – When I go shopping, I buy things that I had not intended to purchase | 0.846 | 3.44 | 1.80 | 0.889 | 0.900 | 0.692 |
| Impulse Buying Tendency – adapted from Wean et al. (1998) | IBT2 – I am a person who makes unplanned purchases | 0.883 | 3.34 | 1.90 | | | |
| | IBT3 – When I see something that really interests me, I buy it without considering the consequences | 0.770 | 3.13 | 1.75 | | | |
| | IBT4 – It is fun to shop spontaneously | 0.824 | 3.74 | 1.74 | | | |
| | EPFS1 – I am becoming financially secure | 0.906 | 4.98 | 1.55 | 0.922 | 0.924 | 0.709 |
| Expected Future Financial Security – adapted from Netemeyer et al. (2018) | EPFS2 – I am securing my financial future | 0.935 | 5.01 | 1.51 | | | |
| | EPFS3 – I will achieve the financial goals that I have set for myself | 0.825 | 5.04 | 1.40 | | | |
| | EPFS4 – I have saved (or will be able to save) enough money to last me to the end of my life | 0.739 | 4.29 | 1.91 | | | |
| | EPFS5 – I will be financially secure until the end of my life | 0.791 | 4.48 | 1.84 | | | |
| | CMMS1 – I am behind with my finances | 0.760 | 2.85 | 1.83 | 0.882 | 0.883 | 0.655 |

(continued)

Table 4.
Measurement items,
factor loadings,
construct validity
and reliability

| Construct and source | Measurement item | Factor loading | Mean | SD | α | CR | AVE |
|--|--|----------------|------|--------------------|--------------------|--------------------|--------------------|
| Current Money | CMMS2 – My finances control my life | 0.863 | 3.35 | 1.79 | | | |
| Management Stress – adapted from Netemeyer et al. (2018) | CMMS3 – Whenever I feel in control of my finances, something happens that sets me back | 0.806 | 3.44 | 1.77 | | | |
| | CMMS4 – I am unable to enjoy life because I obsess too much about money | 0.804 | 2.97 | 1.75 | | | |
| Overall Well-Being – adapted from Diener et al. (1985) | OWB1 – In most ways my life is close to ideal | 0.841 | 4.43 | 1.41 | 0.902 | 0.909 | 0.668 |
| | OWB2 – The conditions of my life are excellent | 0.881 | 4.65 | 1.33 | | | |
| | OWB3 – I am satisfied with my life | 0.886 | 4.91 | 1.38 | | | |
| | OWB4 – So far, I have gotten the important things I want in life | 0.761 | 4.97 | 1.40 | | | |
| | OWB5 – If I could live my life over, I would change almost nothing | 0.700 | 4.04 | 1.72 | | | |
| Financial Literacy – adapted from Klapper et al. (2015) | FINLIT1 – Suppose you have some money. Is it safer to put your money into one business or investment or to put your money into multiple businesses or investments? [one business or investment; <i>multiple businesses or investments</i> ; do not know] | 0.73 | 0.52 | N/A ^(b) | N/A ^(b) | N/A ^(b) | N/A ^(b) |
| | FINLIT2 – Suppose over the next ten years the prices of the things you buy double. If your income also doubles, will you be able to buy less than you can buy today, the same as you can buy today, or more than you can buy today? [less; <i>the same</i> ; more; do not know] | 0.84 | 0.40 | | | | |
| | FINLIT3 – Suppose you need to borrow US\$100. Which is the lower amount to pay back? [US\$105; <i>US\$100 plus 3%</i> ; do not know] | 0.77 | 0.48 | | | | |
| | FINLIT4 – Suppose you put money in the bank for two years and the bank agrees to add 15% per year to your account. Will the bank add more money to your account the second year than it did the first year, or will it add the same amount of money both years? [<i>more</i> ; the same; do not know] | 0.78 | 0.58 | | | | |
| Marker Variable – adapted from Simmering et al. (2015) | MV1 – I prefer blue to other colors | 3.12 | 1.03 | | | | |
| | MV2 – I like the color blue | 4.77 | 1.66 | | | | |
| | MV3 – I like blue clothes | 5.63 | 1.23 | | | | |
| Attitude toward BNPL Schemes – adapted from Hayhoe et al. (1999) | I like using BNPL schemes | 5.21 | 1.41 | | | | |
| | | 3.35 | 2.13 | | N/A ^(c) | N/A ^(c) | N/A ^(c) |

Notes: SD = standard deviation; α = Cronbach's alpha; CR = composite reliability; AVE = average variance extracted; R = reverse coded; (a) and (c) = not applicable as they are single-item constructs; (b) = not applicable, as it is a formative construct, correct answers for financial literacy are indicated in italic

- (3) Podsakoff *et al.*'s (2003) marker variable partialling out method; and
- (4) Kock's (2015) full collinearity test.

Harman's single-factor test found that 33.8% of the variance was extracted by one factor, which is lower than the cutoff value of 50%. However, Podsakoff *et al.* (2003) suggest that although this procedure is widely used, other statistical remedies are required. Thus, a marker variable test was conducted with a variable that was theoretically unrelated to the study. In particular, participants were asked about their attitude to the color blue (Simmering *et al.*, 2015). Beginning with the Lindell and Whitney (2001) method, the correlation coefficients between the marker variable and latent constructs are presented in Appendix 1, showing that the marker variable was only correlated with the variables of expected future financial security ($r = 0.195, p < 0.05$) and mindfulness ($r = 0.206, p < 0.05$), but not very strongly. We then followed the recommendation of Podsakoff *et al.* (2003) using the partialling out method. We found no difference in R^2 of the key endogenous constructs after including the marker variable, further suggesting that CMV bias is not a concern. Finally, an emerging approach in the marketing literature is the full collinearity test (Kock, 2015), as evident in recent studies (Nath, 2020; Singh and Söderlund, 2020; Singh, 2021). We found the greatest variance inflation factor (VIF) for the latent variables used in the analysis to be 2.08, which is below the threshold of 3.30 that is claimed to be indicative of CMV (Kock, 2015). Together, all the results suggest that there is no substantial common method bias in our study.

5. Analysis and results

5.1 Partial least squares structural equation modeling

This study used partial least squares structural equation modeling (PLS-SEM) through the software *SmartPLS* (v.3.3.3) to analyze the data. This paper adopted the PLS-SEM method which involves causal modeling to maximize the explained variance of the dependent latent constructs through regression-based ordinary least squares (OLS) estimations (Hair *et al.*, 2011). The other popular SEM method is covariance-based SEM (CB-SEM), which only considers the common variance rather than the total variance to estimate model parameters (Hair *et al.*, 2019). The PLS-SEM method has seen widespread popularity in recent years and is now a widely accepted data analysis tool to assess highly complex models (Hair *et al.*, 2014).

It is generally considered that PLS-SEM is more suitable for model prediction and exploratory research, while CB-SEM is more suitable for confirmatory model purposes (Hair *et al.*, 2019). As the current study centers on the recent phenomenon of BNPL payment schemes and its associated research is still in its infancy, PLS-SEM is considered suitable for this study's explanatory purpose. However, we acknowledge recent work on SEM techniques which provides growing evidence that PLS-SEM can be used for both confirmatory and explanatory modeling purposes (Benitez *et al.*, 2020). PLS-SEM is also considered a more appropriate SEM method compared to CB-SEM for research containing complex structural models, relatively small sample sizes and nonnormal distributions (Hair *et al.*, 2019), making it well-suited to the present study.

PLS-SEM evaluation involves two stages: the measurement model and the structural model, which together form the structural equation model. The reflective (or formative) variables are first assessed for measurement quality. If the measurement model, or the outer model, describes the relationships between the latent variables and their indicators, the structural model can be evaluated (Sarstedt *et al.*, 2017). The structural model, or the inner

model, is then tested by assessing the hypothesized relationships between the latent variables (Sarstedt *et al.*, 2017).

5.2 Measurement model

Table 4 shows that internal reliability, the degree of homogeneity across items, was established with all measures having Cronbach's alpha values above the recommended cutoff value of 0.70 (Hair *et al.*, 2019). To establish convergent validity, the extent to which a latent construct is explained by its observed variables, this study assessed factor loadings, composite reliability and AVE. First, there is support for convergent validity when factor loadings are greater than 0.70 (Hair *et al.*, 2014). As evident in Table 4, all factor loadings are above 0.70, apart from FSC5 (0.663) and FSC6 (0.612). Although these two items are slightly below the Hair *et al.* (2014) loading of 0.70, some consider 0.50 to be an acceptable threshold (Bagozzi and Yi, 1988). Further evidence for convergent reliability is provided through composite reliability. Though the thresholds for composite reliability are debated, Hair *et al.* (2011) suggest that the value should be greater than 0.70. In this study, as is evident in Table 4, the convergent reliability values ranged from 0.866 to 0.924, well above the suggested threshold. Finally, the AVE for each reflective construct was calculated. There is a general consensus for a minimum AVE of 0.50 (Hair *et al.*, 2011), that is, the items explain more variance than errors in the latent construct. Table 4 shows that all AVE's surpassed this threshold. Overall, all aforementioned tests demonstrated satisfactory convergent validity.

Discriminant validity, which is the extent to which constructs are empirically distinct, was assessed through multiple measures. Fornell and Larcker (1981) suggest that the square root of the AVEs should be greater than the correlations between the constructs. It is clear from Table 5 that the square root of the AVEs is greater than the correlations for all latent constructs. There is further support for discriminant validity when there is little cross loading between multiple constructs, that is, individual items mainly load onto their corresponding construct and not on others. As depicted in Appendix 2, it is clear that there is no cross-loading. Within the recent marketing literature, Henseler *et al.* (2015) propose the alternative use of the heterotrait-monotrait ratio (HTMT) measure to assess discriminant validity. According to these authors, the HTMT value should be below 0.85 or 0.90.

| Construct | Expected future financial security | Impulse buying tendency | Mindfulness | Overall well-being | Current money management stress | Financial self-control |
|------------------------------------|------------------------------------|-------------------------|--------------|--------------------|---------------------------------|------------------------|
| Expected future financial security | <i>0.842</i> | | | | | |
| Impulse buying tendency | -0.087 | <i>0.832</i> | | | | |
| Mindfulness | 0.303 | -0.171 | <i>0.751</i> | | | |
| Overall well-being | -0.517 | 0.021 | -0.424 | <i>0.817</i> | | |
| Current money management stress | -0.319 | 0.189 | -0.330 | 0.384 | <i>0.809</i> | |
| Financial self-control | 0.390 | -0.552 | 0.489 | -0.185 | -0.331 | <i>0.745</i> |

Table 5. Discriminant Validity – Fornell–Larcker

Notes: The square root of average variance extracted (AVE) is displayed in italics. The correlations of the latent constructs are the non-italic values

Appendix 3 indicates that all HTMT values were below this recommended threshold, thus further establishing discriminant validity.

5.3 Structural model

5.3.1 Model fit and structural relationships. To test the model fit and structural relationships, the bootstrapping function from SmartPLS was used to generate t -values and confidence intervals. Following the recommendation of Hair *et al.* (2011), the present study used 5,000 bootstrapped samples to assess the significance of the path coefficients. Within the PLS-SEM literature, the model fit of a structural model is still debated and current guidelines are seen as tentative (Hair *et al.*, 2019). The R^2 can be used as an assessment of model fit, and it is generally considered that values of 0.25, 0.50 and 0.75 represent the model having weak, moderate or substantial explanatory power, respectively (Hair *et al.*, 2019). Within the current study, the hypothesized drivers and control variables together explain 65% of the variance in BNPL usage and 38% of the variance in overall well-being. The standardized root mean squared residual (SRMR) has become an increasingly popular measure of model fit (Benitez *et al.*, 2020; Henseler *et al.*, 2014; Maydeu-Olivares, 2017; Pavlov *et al.*, 2021). The model had a SRMR value of 0.053, which is below the guideline of 0.080 (Benitez *et al.*, 2020), suggesting acceptable model fit [9].

Table 6 depicts the results regarding the proposed direct effects. Mindfulness was not directly related to BNPL usage ($\beta = 0.046$, $p > 0.1$, t -value = 0.932), which does not support $H1$ [10]. However, consistent with our expectations, mindfulness was a significant negative predictor of impulse buying tendency ($\beta = -0.199$, $p < 0.01$, t -value = 3.214), while impulse buying tendency was a significant positive predictor of BNPL usage ($\beta = 0.116$, $p < 0.01$, t -value = 2.053). We also found that mindfulness was a significant positive predictor of financial self-control ($\beta = 0.503$, $p < 0.01$, t -value = 9.379), while financial self-control was a significant negative predictor of BNPL usage ($\beta = -0.124$, $p < 0.01$, t -value = 2.128). A formal mediation analysis for these two personality traits will be presented later, which relates to $H2$ and $H3$.

Finally, BNPL usage was not directly related to overall well-being ($\beta = 0.067$, $p > 0.1$, t -value = 1.442), which does not support $H4$. However, consistent with our expectations, BNPL usage was a significant positive predictor of current money management stress ($\beta = 0.213$, $p < 0.01$, t -value = 3.419), while current money management stress was a significant negative predictor of overall well-being ($\beta = -0.335$, $p < 0.01$, t -value = 5.342). We also found that BNPL usage was a significant negative predictor of expected future financial security ($\beta = -0.121$, $p < 0.1$, t -value = 1.958), while expected future financial security was a significant positive predictor of overall well-being ($\beta = 0.376$, $p < 0.01$, t -value = 5.456). A formal mediation analysis of these two dimensions of financial well-being will be presented later, which relates to $H5$ and $H6$.

Consistent with Brüggen *et al.*'s (2017) financial well-being framework, the present study controlled for sociodemographics, financial literacy and consumer attitudes. There were no statistically significant effects for age, gender, income or education. However, financial literacy ($\beta = -0.065$, $p < 0.1$, t -value = 1.674) had a significant negative relationship with BNPL usage, suggesting that individuals with lower levels of financial literacy are particularly likely to use BNPL payment schemes. Finally, having a more positive attitude toward BNPL schemes had a significant positive relationship with BNPL usage ($\beta = 0.684$, $p < 0.01$, t -value = 18.859).

5.3.2 Effect size and predictive relevance. To assess the size of the direct effects, Cohen's f^2 can be used to evaluate the contribution of R^2 in the dependent variables from the independent variables. As a rule of thumb, the f^2 suggests a small direct effect if its value is

Table 6.
Results of all
bootstrapping tests

| H | Hypothesized relation | Path coefficient | t-value | Hypothesis supported? | Direct effect size f^2 | 95% CI | 97.5% | 2.5% | 97.5% |
|----|---|------------------|----------|-----------------------|--------------------------|--------|--------|--------|--------|
| H1 | <i>Mindfulness</i> → <i>BNPL Usage</i> | 0.046 | 0.932 | No | 0.004 (N) | -0.052 | 0.136 | -0.051 | -0.002 |
| H2 | <i>Mindfulness</i> → <i>Impulse Buying Tendency</i> → <i>BNPL Usage</i> | -0.023 | 1.855* | Yes | 0.041 (S) | -0.327 | -0.087 | 0.004 | 0.221 |
| | <i>Mindfulness</i> → <i>Impulse Buying Tendency</i> | -0.199 | 3.214*** | | 0.020 (S) | | | | |
| | <i>Impulse Buying Tendency</i> → <i>BNPL Usage</i> | 0.116 | 2.052** | | | | | | |
| H3 | <i>Mindfulness</i> → <i>Financial Self-Control</i> → <i>BNPL Usage</i> | -0.062 | 2.014** | Yes | 0.338 (M) | -0.127 | -0.007 | 0.373 | 0.592 |
| | <i>Mindfulness</i> → <i>Financial Self-Control</i> | 0.503 | 9.379*** | | 0.021 (S) | -0.239 | -0.007 | -0.022 | 0.158 |
| | <i>Financial Self-Control</i> → <i>BNPL Usage</i> | -0.124 | 2.128** | No | 0.007 (N) | -0.131 | -0.030 | 0.047 | 0.158 |
| H4 | <i>BNPL Usage</i> → <i>Overall Well-Being</i> | 0.067 | 1.442 | No | | | | -0.456 | -0.215 |
| H5 | <i>BNPL Usage</i> → <i>Current Money Management Stress</i> → <i>Overall Well-Being</i> | -0.071 | 2.790*** | Yes | 0.124 (S) | -0.097 | -0.003 | -0.231 | 0.004 |
| | <i>BNPL Usage</i> → <i>Current Money Management Stress</i> | 0.213 | 3.419*** | | 0.161 (M) | 0.228 | 0.504 | | |
| | <i>Current Money Management Stress</i> → <i>Overall Well-Being</i> | -0.335 | 5.342*** | | | | | | |
| H6 | <i>BNPL Usage</i> → <i>Expected Future Financial Security</i> → <i>Overall Well-Being</i> | -0.046 | 1.863* | Yes | 0.015 (N) | -0.231 | 0.004 | | |
| | <i>BNPL Usage</i> → <i>Expected Future Financial Security</i> | -0.121 | 1.958* | | | | | | |
| | <i>Expected Future Financial Security</i> → <i>Overall Well-Being</i> | 0.376 | 5.456*** | | | | | | |

Notes: The asterisks *, ** and *** denote significance at the 1, 5 and 10% levels, respectively. The parenthesis indicates the interpretation of the effect size; S = small ≥ 0.02 ; M = medium ≥ 0.15 ; N = none < 0.02

greater than 0.020, a medium direct effect if its value is greater than 0.150 and a large direct effect if its value is greater than 0.350 (Hair *et al.*, 2011). As depicted in Table 6, there was a small or medium direct effect for most relationships, apart from three. First, the effect size of BNPL usage and expected future financial security was slightly below the 0.020 threshold, suggesting that BNPL usage has a greater effect on overall well-being through current money management stress than through expected future financial security. Similarly, alluding to the presence of two mediating effects, the effect size of the direct relationship between mindfulness and BNPL usage and that between BNPL usage and overall well-being were both negligible [11].

Following the recommendation of Hair *et al.* (2019), the predictive relevance and accuracy of the model was assessed through the Q^2 values. Through the blindfolding procedure in SmartPLS, the Q^2 values for the key constructs of BNPL usage and overall well-being were 0.620 and 0.271, respectively. For the other constructs of financial self-control, impulse buying-tendency, expected future financial security and current money management stress, the Q^2 values were 0.148, 0.029, 0.010 and 0.032, respectively. Q^2 values higher than 0.000, 0.250 and 0.500 depict small, medium and large predictive relevance (Hair *et al.*, 2019), respectively. The results suggest that there was moderate predictive relevance for the construct of overall well-being, large predictive relevance for the construct of BNPL usage and small but acceptable predictive relevance for the remaining constructs.

5.3.3 Multiple mediation analysis. To demonstrate mediation, the two-step approach of Nitzi *et al.* (2016) and Zhao *et al.* (2010) was followed. The first step involves determining whether the specific indirect effect is significant, as assessed through the bootstrapped t -values and bias-corrected confidence interval within SmartPLS. Table 6 shows that the four specific indirect effects were significant as indicated by their t -values and zero not appearing in the confidence interval. The second step involves assessing whether the direct effects are significant.

As mentioned earlier, and evident from Table 6, the direct effects of mindfulness on BNPL usage and of BNPL usage on overall well-being were both not significant. Therefore, as depicted in Figure 2, the relationship between mindfulness and BNPL usage is fully negatively mediated by impulse buying tendency ($\beta = -0.023$, $p < 0.1$, t -value = 1.855) and financial self-control ($\beta = -0.062$, $p < 0.01$, t -value = 2.014). These results support $H2$ and $H3$, suggesting that mindfulness is associated with lower BNPL usage through decreasing an individual's impulse buying tendency and increasing their financial self-control.

Furthermore, as depicted in Figure 3, the relationship between BNPL usage and overall well-being is fully negatively mediated by the two dimensions of financial well-being: current money management stress ($\beta = -0.071$, $p < 0.01$, t -value = 2.790) and expected future financial security ($\beta = -0.046$, $p < 0.1$, t -value = 1.863). This supports $H5$ and $H6$, suggesting that greater BNPL usage is associated with lower overall well-being through increasing an individual's current money management stress and decreasing their expected future financial security.

6. Conclusion

6.1 Contributions to theory

This study contributes both to the emerging, but still limited, literature on mindfulness and financial decision-making as well as to the more established literature on financial well-being. In terms of the former, mindfulness has scantily appeared in the literature on financial decision-making, although its popularity has started to increase with the rise of concepts such as mindful finance (Sinha *et al.*, 2021). We contribute to this developing stream of literature by demonstrating how mindfulness can benefit consumers by reducing their

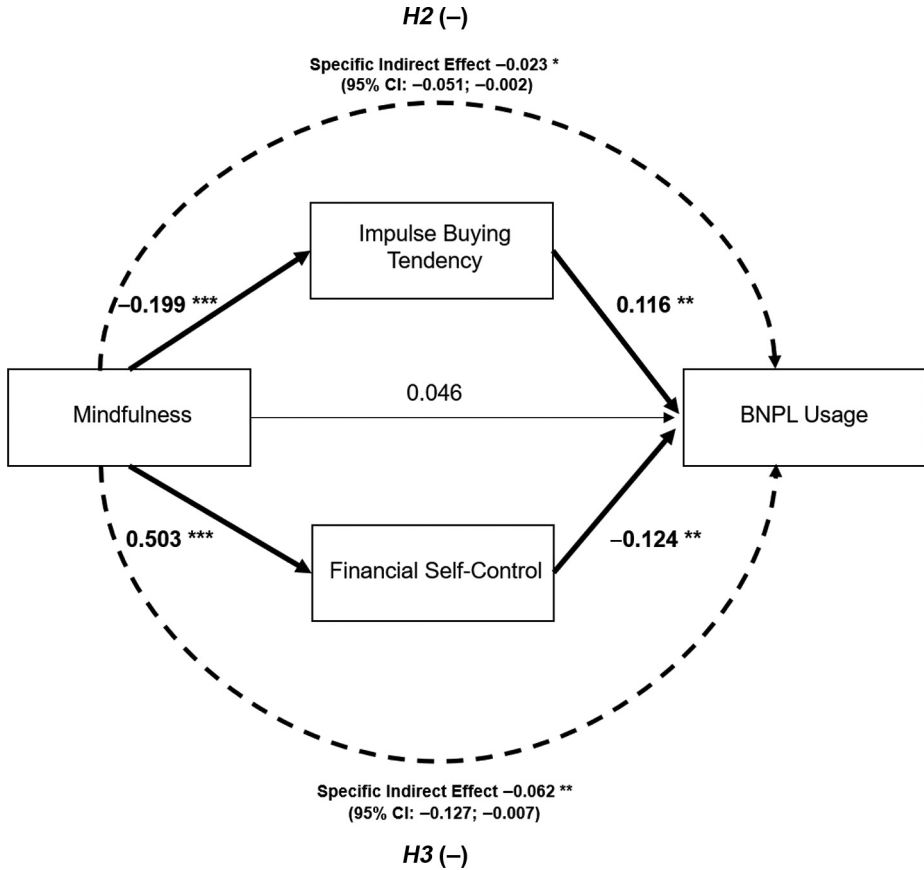
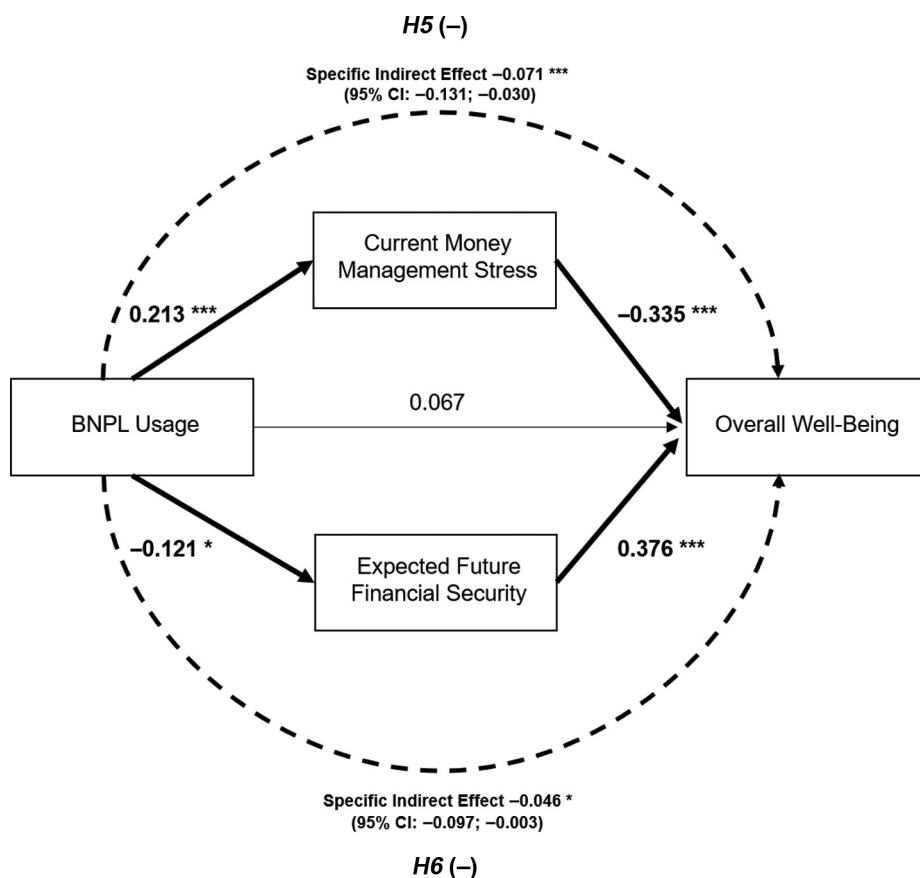


Figure 2.
Mediation paths H2
and H3

Note: The asterisks *, ** and *** denote significance at the 1, 5 and 10% levels, respectively

usage of BNPL payment schemes through the underlying mechanisms of increasing their financial self-control and decreasing their impulse buying tendency. In doing so, we build on prior studies which either leveraged Michalos' (1985) multiple discrepancies theory to argue that mindfulness leads to fewer financial desires and consequently greater subjective well-being (Brown et al., 2009) or which explained the relationship between mindfulness and reduced intentions to use credit through consumers' money attitudes (Pereira and Coelho, 2019). In particular, we extend these studies by integrating mindfulness, credit usage and subjective well-being into an overarching framework focused on the antecedents and consequences of consumers' BNPL usage. We also add to these studies by exploring novel explanatory mechanisms of the effect of mindfulness on credit usage in the form of BNPL and the effect of BNPL usage on overall subjective well-being. For example, impulse buying theory has not yet been used to understand the relationship between mindfulness and BNPL usage and the mediating role of this construct adds to the extant literature.



Note: The asterisks *, ** and *** denote significance at the 1, 5 and 10% levels, respectively

Figure 3.
Mediation paths H5
and H6

In terms of the latter, we answer the call for research by Brüggen *et al.* (2017, p. 234) to “analyze how financial well-being affects individual and collective quality of life.” While emerging, research establishing the link between an individual’s financial and overall well-being is still limited (Nanda and Banerjee, 2021; Netemeyer *et al.*, 2018). Extending the early work of Netemeyer *et al.* (2018), who showed that current money management stress and expected future financial security have an effect on overall well-being, this study demonstrates that these two dimensions of financial well-being mediate the relationship between BNPL usage and overall subjective well-being. Furthermore, this study broadens the recent work on financial well-being and its relationship with overall well-being by assessing the role of a FinTech product, namely BNPL. In particular, the results suggest that BNPL usage is associated with lower subjective evaluations of overall well-being through decreasing consumers’ evaluations of their financial well-being. Moreover, we contribute to the financial well-being literature by examining mindfulness as a potential base for future interventions to improve financial well-being by breaking financially destructive behaviors,

such as overspending through BNPL payment schemes (Choice Magazine, 2021; Forbes, 2021). In this regard, we also extend recent marketing literature which has documented a positive association between mindfulness and frugal consumption behavior of individuals (Kaur and Luchs, 2022).

6.2 Implications for practice

Our findings have implications for public policy makers as well as business practitioners. In terms of policymakers, the research presented in this study aligns with the ongoing debate on whether BNPL is advantageous or detrimental to consumer well-being (CFPB, 2021; Eyers and Frost, 2021) and the concerns of consumer advocates about the harmful influence of BNPL on vulnerable groups of consumers (Choice Magazine, 2021; Eyers, 2021). The current study touched upon vulnerable consumers as we found that individuals with lower rates of financial literacy use BNPL payment schemes more frequently. Both academics and practitioners identify poor financial literacy as risk factors for debt problems (Financial Counseling Australia, 2021; Hoffmann and McNair, 2019). As such, financial education is key to building financial awareness and helping consumers make better informed decisions.

Within mindfulness research, practical interventions such as short mindfulness training activities (Van De Veer *et al.*, 2016) have shown promise of being able to improve a range of health-related behaviors. These interventions should also be encouraged by financial counselors to clients with low financial self-control or high impulse buying tendencies, such that their BNPL usage is decreased and their financial and overall well-being is enhanced. Indeed, measuring these personality traits could become a standard part of financial counselors' intake meetings to help them get better insights into which clients are at particular risk and would benefit the most from training offerings (Financial Counselling Australia, 2021).

Building upon the study of Abrantes-Braga and Veludo-de-Oliveira (2020), public policy may want to encourage the BNPL industry to adopt instant messaging to bring awareness to the consumer and prevent people from becoming "trapped in a debt cycle" (Choice Magazine, 2021). For example, BNPL providers such as Klarna could target heavy-users of their services and integrate a question in their mobile or online app such as "Can you afford this purchase? Think before you act." which these consumers need to click away before confirming a purchase. Such "just-in-time" interventions are important, given that once consumers have a lapse of self-control, this might lead to a "what the hell" attitude and increased spending (Wilcox *et al.*, 2011, p. 79). BNPL providers have an incentive to adopt such instant messaging to ward off more formal regulation, as it signals that they are aware of the potential downsides of an overreliance on their services and are taking steps to "self-regulate."

In terms of business practitioners, our findings have implications for BNPL providers as well as retailers offering this payment scheme in their physical and/or online stores. BNPL providers have to be aware of the negative association of their payment schemes with consumers' overall well-being. There is a risk of reputational and brand damage, given that financial counselors note that "hardship policies of BNPL providers fall well below the standard of traditional non-fintech lending providers" (Financial Counselling Australia, 2021) while news outlets have started to refer to BNPL as "buy now, regret it later" (Forbes, 2021). BNPL providers should take more responsibility to make sure that clients can indeed afford to "pay later" and that their service is thus used as the budgeting tool it is advertised as and does not turn into the "debt trap" that consumer advocates are concerned about (Choice Magazine, 2021).

For retailers, given the results of our study, offering BNPL as a payment option could be a reputational risk and damage the brand if consumers feel that they were stimulated to purchase products that they later realize they cannot afford. Indeed, while the lure of BNPL for retailers is simple (i.e. customers spend more), stimulating purchases through this

payment scheme could backfire if vulnerable consumers spend beyond their means. A recent media report noted in this regard that “If you’re a director of retailing you would say it’s great. But if you were the chief executive of a retailer and looked at it, you would realize it’s a problem” (The Guardian, 2021). In contrast to the current situation, in which consumers sometimes “end up using BNPL at the online checkout without actually realizing they have signed up” (The Guardian, 2021), our recommendation for retailers is to make payment processes more “mindful” by increasing the number of clicks or steps required to select BNPL as a payment option, increasing the chance that consumers who cannot afford the items in their (online) basket stop and think whether they will be able to pay them back. While this recommendation might sound counterintuitive, sacrificing short-term sales to consumers that cannot afford it (Abrantes-Braga and Veludo-de-Oliveira, 2020) could prevent long-term reputational damage. Moreover, akin to Polonsky *et al.*’s (2003) notion of the “harm chain,” excessive debt can harm the network of marketing exchange when it leads to delinquency that drop retailers’ revenues.

6.3 Limitations and future research

Despite its contributions, this study is limited in a number of ways which can guide future research. First, the present study is limited to the Australian context, meaning that its results may only apply to other developed countries which are similar in terms of marketplace competition, adoption and regulation, such as New Zealand or the UK. Future research could assess whether the specific antecedents and consequences of usage hold for other contexts, such as Asia, where regulation and adoption of financial services likely differs.

Second, although the sample was drawn from an approximately nationally representative panel of Australian residents, it had a limited size of $N = 275$. While the PLS-SEM method is particularly suited for smaller samples (Hair *et al.*, 2019), future research could consider a larger sample size. Furthermore, within the sample, BNPL usage was higher than in the overall Australian population. Future research may want to consider the specific antecedents to usage and the effect on consumer well-being for both users and nonusers.

Third, future research could examine the role of other relevant constructs, such as materialism. High levels of materialism are linked with spending and more positive attitudes toward borrowing (Watson, 2003). Importantly, materialistic pursuits can decrease consumer well-being (Van Boven, 2005), and future research is thus advised to assess materialism as a potential moderator of the relationship between BNPL usage and well-being. Future research could also examine the role of the construct of “pain of payment” (Hoelzl *et al.*, 2011, p. 1124) as a moderator of the relationship between impulse buying tendency and BNPL usage. Payment transparency (Soman, 2003) and the “salience of parting with money” affect consumers’ spending behavior (Raghubir and Srivastava, 2008, p. 213). Thus, it seems plausible that payment schemes with a lower perceived pain of payment and/or payment transparency will stimulate the degree to which consumers act upon their impulse buying tendency.

Fourth, given its cross-sectional nature, this study only described a correlation, not causation, between the key constructs of interest. Importantly, for public policy to promote mindfulness within BNPL schemes, further longitudinal studies are required to assess causality. These studies should consider potential interventions within individuals prone to impulsive purchases or self-control problems. These interventions may want to consider mindfulness-based stress reduction programs, smartphone applications or even a simple “pause and plan” technique to promote awareness of one’s finances (Smith *et al.*, 2016). Future studies could also perform experiments manipulating some of the key dimensions in which BNPL payment schemes differ from more traditional forms of short-term credit, as per Table 1, to discover which of these differences is of particular importance in influencing the rapid growth in adoption of BNPL payment schemes, especially amongst vulnerable consumers.

Despite these limitations, the present work contributes to the emerging, but still limited, literature on the role of mindfulness in financial decision-making and its association with financial well-being through its ability to disrupt potentially destructive financial behaviors.

Notes

1. An important difference between credit cards and BNPL is that with the latter, the application process, decision by the payment provider to accept the customer and the actual usage of the payment scheme all happen simultaneously at the point of sale. Thus, BNPL payment schemes provide instant access to funds and are strongly integrated into the checkout process at the point of sale. Comparatively, before credit cards can be used at a point of sale, there is a lengthy application process where credit checks must be completed and cards typically must be physically issued.
2. Ethics approval number H-2021-098.
3. Contributing to this overrepresentation of higher income earners was that of the participants removed for failing the attention check, completing the survey in less than 5 min, or straight lining, most were lower income earners.
4. Through an analysis of the average variance extracted (AVE) and factor loadings, it was found that five items from the original ten-item mindfulness scale had to be removed. However, as five items remained, this is sufficient.
5. To address potential skewness in participants' response to the BNPL usage scale, we replicated the analyses using a log transformation (Gerhard *et al.*, 2018). Results are qualitatively similar and lead to the same conclusions.
6. One item from the original nine-item financial self-control scale was removed due to cross-loading on another construct.
7. One item from the original five-item impulse buying tendency scale was removed for Cronbach's alpha to exceed 0.70.
8. One item from the original five-item current money management stress scale was removed due to cross-loading on another construct.
9. Multicollinearity was assessed through the VIF. Hair *et al.* (2019) suggest that as a rule of thumb, the VIF values between constructs should be no greater than 3.0. In this study, all VIF values were below this threshold, with the greatest value being 2.145, demonstrating that multicollinearity was not an issue.
10. We note that recent approaches to assess mediation argue that an independent variable can exert an indirect effect on a dependent variable through a mediator in the absence of a direct association (Hayes, 2009). Kenny and Judd (2014) confirm that there is no contradiction in having an indirect effect even if there is no total effect to be mediated, as indirect effects can be uncovered with a lower power study as compared to direct effects.
11. It is not possible to assess the magnitude (effect size) of the mediation effects. The variance accounted for (VAF) is one particular method, although it is widely criticized. Apart from being criticized, the latter method is also not applicable as the mediation analysis in the present study deals with competitive, rather than complementary, mediation.

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| Construct | EFFS | IBT | M | MV ^(a) | CMMS | OWB | FSC |
|-------------------|--------|--------|--------|-------------------|--------|--------|--------|
| EFFS | 1.000 | -0.083 | 0.276 | 0.195 | -0.317 | 0.514 | 0.387 |
| IBT | -0.083 | 1.000 | -0.164 | 0.022 | 0.191 | 0.017 | -0.543 |
| M | 0.276 | -0.164 | 1.000 | 0.206 | -0.332 | 0.389 | 0.426 |
| MV ^(a) | 0.195 | 0.022 | 0.206 | 1.000 | -0.078 | -0.097 | 0.018 |
| CMMS | -0.317 | 0.191 | -0.332 | -0.078 | 1.000 | 0.367 | -0.333 |
| OWB | -0.514 | 0.017 | -0.389 | -0.097 | -0.367 | 1.000 | -0.174 |
| FSC | 0.387 | -0.543 | 0.426 | 0.018 | -0.333 | -0.174 | 1.000 |

Notes: EFFF = expected future financial security; IBT = impulse buying tendency; M = mindfulness; MV = marker variable; CMMS = current money management stress; OWB = overall well-being; FSC = financial self-control. (a) = factor consisting of the attitudes to the color blue from [Simmering et al. \(2015\)](#)

Table A1.
Marker variable
correlations

| Construct items | Factor 1 | Factor 2 | Factor 3 | Factor 4 | Factor 5 | Factor 6 |
|-----------------|----------|----------|----------|----------|----------|----------|
| M1 | | | | | 0.663 | |
| M2 | | | | | 0.706 | |
| M3 | | | | | 0.704 | |
| M4 | | | | | 0.868 | |
| M5 | | | | | 0.671 | |
| IBT1 | | 0.850 | | | | |
| IBT2 | | 0.851 | | | | |
| IBT3 | | 0.661 | | | | |
| IBT4 | | 0.838 | | | | |
| FSC1 | | | | | | 0.581 |
| FSC2 | | | | | | 0.755 |
| FSC3 | | | | | | 0.682 |
| FSC4 | | | | | | 0.718 |
| FSC5 | | | | | | 0.610 |
| FSC6 | | | | | | 0.614 |
| FSC7 | | | | | | 0.576 |
| FSC8 | | | | | | 0.622 |
| FSC9 | | | | | | 0.520 |
| EFFS1 | 0.851 | | | | | |
| EFFS2 | 0.911 | | | | | |
| EFFS3 | 0.822 | | | | | |
| EFFS4 | 0.597 | | | | | |
| EFFS5 | 0.651 | | | | | |
| CMMS1 | | | | 0.588 | | |
| CMMS2 | | | | 0.822 | | |
| CMMS3 | | | | 0.648 | | |
| CMMS4 | | | | 0.655 | | |
| OWB1 | | | 0.860 | | | |
| OWB2 | | | 0.867 | | | |
| OWB3 | | | 0.832 | | | |
| OWB4 | | | 0.711 | | | |
| OWB5 | | | 0.680 | | | |

Table A2.Discriminant validity –
cross loadings

Notes: Suppressed coefficients below 0.3. Abbreviations: M = mindfulness; IBT = impulse buying tendency; FSC = financial self-control; EFFS = expected future financial security; CMMS = current money management stress; OWB = overall well-being

| Latent construct | BNPL usage | CMMS | EFFS | FSC | IBT | M | OWB |
|------------------|------------|-------|-------|-------|-------|-------|-----|
| BNPL Usage | | | | | | | |
| CMMS | 0.226 | | | | | | |
| EFFS | 0.126 | 0.596 | | | | | |
| FSC | 0.443 | 0.558 | 0.507 | | | | |
| IBT | 0.536 | 0.252 | 0.156 | 0.650 | | | |
| M | 0.071 | 0.488 | 0.418 | 0.552 | 0.209 | | |
| OWB | 0.053 | 0.582 | 0.593 | 0.282 | 0.069 | 0.493 | |

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Table A3.

Notes: M = mindfulness; IBT = impulse buying tendency; FSC = financial self-control; EFFS = expected future financial security; CMMS = current money management stress; OWB = overall well-being

Discriminant validity –
HTMT criterion

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