

Can Financial Education Improve Debt Use for Young Adults?

Aaron Gilbert*

Auckland University of Technology

Kelly Nicholson†

Auckland University of Technology

Ayesha Scott‡

Auckland University of Technology

ABSTRACT

For financial education to enable financial well-being, we need to observe meaningful (positive) changes in financial behaviour. However, the extant literature suggests financial education is less effective for some groups and for changing some behaviours, like debt handling. Poor debt handling is a significant risk to financial well-being, compromising a person's ability to meet current and future financial obligations. It is therefore crucial to investigate financial education's efficacy for debt use. Using a sample of 705 young adults aged 18-34 years, we investigate the impact of financial education experiences on their buy now pay later (BNPL) use. Our results paint a concerning picture of financial education's efficacy for young adults' debt handling and dealing with new products like BNPL. Given young adults are particularly vulnerable to (literally) paying for poor financial decision-making, finding ways to improve financial education for debt in general, and new products specifically, requires urgent attention.

Keywords: financial education, financial capability, young adults, debt literacy, buy now pay later

JEL Codes: D14, C83, G51, G53

* Aaron Gilbert (Corresponding Author): AUT Business School, Auckland University of Technology, Private Bag 92006, 1142 Auckland, New Zealand. Phone: +64 9 921 9999 ext 5713. agilbert@aut.ac.nz

† Kelly Nicholson: AUT Business School, Auckland University of Technology, Private Bag 92006, 1142 Auckland, New Zealand. kelly.nicholson@aut.ac.nz

‡ Ayesha Scott: AUT Business School, Auckland University of Technology, Private Bag 92006, 1142 Auckland, New Zealand. Phone: +64 9 921 9999 ext 5617. ayesha.scott@aut.ac.nz

Acknowledgements: Funding from AUT Business School is gratefully acknowledged, as is feedback from attendees at the New Zealand Finance Colloquium on an earlier version of the paper. We thank our partners for early consultation on the project, especially Shaun Adams and Christine Liggins (Debtfix) and Tom Hartmann and the Te Ara Ahunga Ora (NZ Retirement Commission) team.

1. Introduction

The goal of financial education is to improve the financial well-being of individuals, defined as “a state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future and is able to make choices that allow them to enjoy life” (Consumer Financial Protection Bureau, 2017). It is argued that people with better financial knowledge and capability are more likely to make better financial decisions, avoid costly mistakes, and allow people to make more effective use of their financial resources. However, the extant literature has raised questions as to whether financial education can successfully improve financial knowledge and decision-making, especially in the longer term. Kaiser and Menkhoff (2017) conclude that while financial education can improve financial behaviour, it is less effective with some groups and for changing some behaviours, especially debt handling. This is problematic, as poor debt handling is a significant risk to financial well-being, compromises a person’s ability to meet current and future financial obligations, and can result in financial exclusion amongst other adverse outcomes.

An additional and increasing challenge for financial education is innovation in financial products, especially by fintech (financial technology). Fintechs are rapidly changing the financial services landscape with the advent of new investment opportunities, such as cryptocurrencies and NFTs, and payment methods, such as buy now pay later platforms (hereafter “BNPL”). Recent work by Okat, Paaso and Pursiainen (2022) suggests consumers view fintech products as different from traditional financial products. In the context of financial education, the introduction of new products such as BNPL increases the importance of promoting understanding of key financial principles and the knowledge of how they apply to *different* types of financial products. For instance, BNPL differs slightly but significantly from traditional consumer debt products, offering a particular challenge for financial decision makers. BNPL is operationally like a credit card, in that it offers cost-free borrowing if the principle is repaid on schedule. In contrast to credit cards, which charge interest on the outstanding amount, BNPL imposes late fees rather than interest. The lack of interest has allowed BNPL to avoid consumer finance regulation, has enabled some providers to present themselves as an alternative to debt, i.e., by implicitly or explicitly stating they are not debt, and caused some users to view BNPL as not being debt. However, at its heart BNPL *is* debt. It allows a user to effectively borrow today on the promise of future repayment. Ideally, financial education would allow consumers to see beyond superficial differences in financial products

and their marketing, for example by identifying BNPL correctly as debt, and secondly, allow users to apply appropriate money management principles regarding the use of such debt.

We use survey data, collected as part of a larger research project examining the impact of BNPL on over-indebtedness in young adults, to explore the impact financial education can have on the use of debt and on how respondents use BNPL. This allows us to address both questions: (a) whether users can accurately identify BNPL as debt despite efforts by providers to distinguish it from similar financial products, and (b) whether financial education is associated with better decision-making regarding debt in general. The original survey collected responses from 705 respondents aged 18–34 in Aotearoa New Zealand (NZ), asking about their demographics, financial and living situation, their BNPL behaviour, details about the types of debts they had, and a range of financial knowledge and behaviour measures. In addition, the survey asked respondents whether they had received financial education and where they received it. The results of our analysis suggest financial education in NZ is having decidedly mixed outcomes in relation to debt.

In terms of BNPL use, we observe that financial education appears to result in consumers being less able to identify BNPL as a type of debt. We also observe mixed outcomes in terms of *how* BNPL is used. On the negative side, financially educated BNPL users were more likely to incur late fees and were more likely to borrow to make their repayments. However, financially educated users incurred fees less frequently. Overall, we conclude that financial education is not preparing young adults for BNPL use particularly well and is certainly not resulting in savvy users who exploit the advantages of BNPL.

When we consider patterns of BNPL use, we observe little evidence financial education improves consumers' use of BNPL and in fact, see a moderate decrease in the group using the product relatively well. Taken together, our results paint a concerning picture of financial education's efficacy for young adults, especially for debt handling, which is arguably the more important of the skills to impart. Over-indebtedness and problem debt increases financial hardship and lowers overall well-being, and young adults are particularly at risk from (literally) paying the consequences for poor past financial decision making.

The following section provides a background of the financial education literature. In section 3 we outline the survey design and data. Section 4 provides the results, with concluding remarks in section 5.

2. Literature Review

The severe consequences of poor financial decision-making, including over-indebtedness, poor savings, and a lack of retirement savings, have prompted considerable reflection on how to improve financial decision-making. A particular focus from both policymakers and academics has been the idea that improved financial knowledge will empower people to make better financial decisions. Additionally, the extant literature has shown a pervasive and widespread lack of financial knowledge within potentially at-risk groups, including women and young adults. This has led to considerable efforts to increase financial education in many countries.

However, while considerable effort has gone into introducing and increasing access to financial education, particularly by embedding financial education into school curricula, there has been considerable debate regarding the efficacy of such programmes in both increasing financial knowledge and/or literacy and in ultimately improving financial decision-making. Early studies raised considerable questions about the ability of financial education to result in meaningful improvements in financial knowledge and behaviours. In their survey of the literature, Braunstein and Welch (2002) found education programs that were specifically targeted at an outcome such as home ownership or increasing participation in workplace retirement savings had positive influences on financial decision-making, but that more general education programs were ineffective in increasing knowledge and/or financial behaviours. This was also supported by Mandell (2008), who found that high school-based education programs did not improve financial knowledge in the US, although a later study (Mandell, 2009) *did* find some evidence of changes in some behaviours in college students who had taken a high school financial education course.

More recent evidence paints a vastly different picture of financial education efficacy. Studies considering evidence from a much broader range of countries has found consistent and strong evidence that financial education, particularly education programmes based in school or university, increase financial knowledge, and can positively alter financial behaviours (Brugiavini et al., 2020; Collins, 2013; Cordero et al., 2022; Fernandes et al., 2014; Frisanchi, 2020; Kaiser et al., 2022; Stella et al., 2020; Yılmaz & Özçiftçi, 2021). However, even amongst this evidence there is cause for caution. For instance, Cordero et al. (2022) notes that while financial education improved financial literacy, the impact it had was dwarfed by other individual- and school-level factors such as participation in early childcare education, or peers' socio-economic level. They conclude that financial education cannot be “regarded as a key factor explaining divergences in student financial knowledge” (Cordero et al., 2022 pg 26).

Additionally, Kaiser and Menkhoff (2017) find that specific behaviours are harder to shift, such as debt handling and while Kaiser et al. (2022) find there is no knowledge decay up to six months after education, this does not preclude decay over longer periods. The question of knowledge decay is problematic for high school-based financial education, given most participants are unable to engage in more advanced financial decision-making, such as debt use, during high school.

Financial innovations, like new financial products, present the opportunity to test not only the knowledge gained in financial education but also the ability of individuals to transfer the learning to new contexts. buy now pay later, given its design, may be particularly challenging. BNPL avoids consumer and debt regulations by not charging interest (thus is out of scope for most legislative definitions of ‘debt’). The loophole allows BNPL providers to perpetuate the belief that BNPL is not debt, or at least that it is a better form of debt (see e.g., Cook et al., 2023). As a result, a consumer needs to be both aware of how to make smart debt choices *and* that BNPL is a form of debt (marketing efforts notwithstanding) and should be treated as such.

The newness of BNPL has meant that there is limited, albeit growing, research into how BNPL is being used and its impact on users. The current research on BNPL use shows that lower financial literacy results in higher BNPL use, with Gerrans, Baur and Lavagna-Slater (2021) finding those with lower financial literacy tend to overstate the benefits of BNPL and perceive lower risks than those with better financial literacy. Other studies of BNPL have found that it is associated with greater retail spending (DiMaggio et al., 2022; deHaan et al., 2022), and impulse buying (Raj, Jasrotia, and Rai, 2023), particularly on fashion items (Fook and McNeill, 2020). Guttman-Kenny et al. (2023) also find BNPL users are using other forms of debt like credit cards to repay their BNPL purchases, and that it is most common in lower-income areas and young adults, the latter of whom are well known to have lower financial literacy and capability. Others, including Schomburgk and Hoffman (2023) consider tactics to reduce BNPL usage in their study on mindfulness, and Powell et al. (2023) find that BNPL users under the age of 25 spent less time engaged in responsible financial behaviours and had lower financial wellbeing than older users.

Finally, Lux and Epps (2022) argue that for regulators, the challenge is to ensure that the convenient and accessible nature of BNPL credit is retained for those who use it wisely while helping those more likely to use it poorly mitigate their risk of becoming over-indebted.

They make a few recommendations including greater disclosure of costs and mandating reporting of BNPL to credit reporting agencies as potential options, with their general argument for stricter regulation also made by Johnson, Rodwell and Hendry (2021). However, to date there has been no research considering the impact general financial education can have on how BNPL is used or how frequently it is used. This paper addresses these questions.

3. Survey Design

To investigate the impact financial education has on debt use and specifically Buy now pay later, we conduct a survey using a Qualtrics panel of 705 New Zealand young adults, aged 18 to 34 years. The survey is broadly representative of the ethnic makeup of Aotearoa New Zealand, although the final sample is slightly overweighted with female respondents. The survey comprised questions on demographic information, financial and living circumstances, respondents' use of debt, detailed questions on respondents' use of buy now pay later along with other debts and the repayments associated with them, the financial knowledge and financial behaviours of respondents, and personal traits that influence their financial behaviours. Finally, we asked people whether they have had financial education and where that occurred: at primary or secondary school, university, in the workplace, or at home. Respondents could select multiple options.

We estimate a range of measures prior literature has established impact financial behaviours and use of debt. In terms of financial knowledge, we estimate financial capability and debt literacy. For financial capability we use Xiao and O'Neill's (2018) model and estimate four components: objective financial literacy, subjective financial literacy, financial behaviours, and perceived financial capability. Objective financial literacy is measured as the sum of correct responses to six questions covering interest, inflation, time value of money, bonds, mortgages, and stocks. Subjective financial literacy measures self-assessed financial knowledge based on a 1-7 Likert scale, while financial behaviours is measured as the sum of respondents undertaking four good behaviours including spending within income, budgeting, saving, and planning for retirement. Finally, perceived financial capability is based on a question asking whether respondents saw themselves as good at dealing with money measured on a 1-7 Likert scale. We standardise each component to range between 0 and 5, then sum across the four to obtain a score between 0 and 20. To measure debt literacy we follow Schicks (2014) and sum the correct responses to three questions based on different aspects of debt, including interest compounding and repayments.

We also assess respondents' money management skills and attitudes to debt. Money management is self-assessed based on nine items following Garðarsdóttir and Dittmar (2012). Each item is assessed on a five-point Likert scale from strongly disagree to strongly agree and a respondent's money management score calculated as the aggregate across all nine items. Debt attitudes is assessed based on Białowolski et al. (2018) who developed a seven-item measure to assess an individual's debt tolerance and debt aversion. Each item is measured on a five-point Likert scale, from strongly disagree to strongly agree, and scores for the final two items are reversed, so that the less debt averse score higher, to be consistent with the debt tolerance items. We average each respondent's scores across all seven items and use this as a score of their debt attitudes, with higher scores having a more favourable attitude to debt.

Three behavioural factors linked to debt use and over-indebtedness in the literature are also measured. The first is materialism, which is defined as the importance placed on ownership and acquisition of goods (Richins and Dawson, 1992). More materialistic consumers are expected to consume more, and therefore are more prone to debt use. We estimate a short form of the Material Values Scale developed by Richins and Dawson (1992), presented in Richins (2004), that uses six items (see Appendix A). Each item is scored on a 1-5 scale such that a higher score indicates higher materialism. We average the score across the six items. Our second behavioural factor is a measure of impulsiveness or lack of self-control. Impulsiveness has been linked to excess debt levels and lower tolerance for delayed gratification (Vohs and Faber, 2007; Gathergood, 2012). We use Gathergood's (2012) impulsiveness measure, a single question asking people to rate their level of agreement with the following statement "I am impulsive and tend to buy things even when I can't really afford them" on a five-point scale. The final behavioural factor is present orientation, measuring the respondent's preference for present consumption. Those with a greater present orientation are more likely to use debt. We again use Gathergood's (2012) measure, a single five-point scale rating agreement with the statement "I am prepared to spend now and let the future take care of itself".

3.1 Summary Statistics and Individual Characteristics

Table 1 presents demographic and economic situation information based on whether respondents reported having received financial education. Most (76.7%) of our sample have experienced some financial education. We observe school and university as the most reported sources of financial education, with a little over one-third of respondents each. Over half (54.1%) experienced one source of financial education, with only a quarter reporting more than one. Due to the low number of respondents reporting three and four sources, we merge these

into a single group labelled 3+. A small number of respondents ($N = 27$) could not recall whether they had financial education and were excluded from additional analysis.

We observe something of a gender difference, with men more likely to report having had financial education, 83.3% vs 72%. In terms of financial education sources, men and women reported home-based financial education at the same rate, 24.9%, but otherwise, women reported lower rates of experience across the other three sources. Men were also more likely to experience marginally higher rates for the number of financial education experiences. In terms of age, we note that our two youngest groups and the oldest were most likely to report financial education. In contrast, only around 69% of 24-26 year olds report financial education. We observe that half of our youngest cohort experienced school-based financial education, substantially higher than even the next youngest group, 35.1%. This suggests that financial education may have become more embedded in school curricula in recent years.⁴ Additionally, it is possible respondents experience financial education at school integrated into other subjects, so do not recognise it as explicit financial education. Experience of financial education at work increases as individuals age but is far more common in the oldest age group (33-34 year olds), at nearly twice the rate of other groups. The youngest respondents were the most likely to report one financial education experience, while the oldest respondents reported the highest rates of two and three or more experiences.

There are few differences in financial education rates based on ethnicity, apart from Pasifika who report financial education nearly 10% more often than other groups. Pasifika respondents were least likely to receive financial education at university (along with Māori respondents), and the most likely to receive it at school and work, compared to other ethnic groups. Asian and SE Asian respondents were least likely to experience financial education at school but most likely to experience it at university relative to other groups. While the number of SE Asian respondents was low ($N = 44$), it is interesting to note they had the lowest rates for work and home. Asian respondents were most likely to report more financial education experiences, with 39.1% reporting two or more sources of financial education experience.

In terms of employment status, those respondents in either full or part-time employment and/or studying report financial education more often. In contrast, those not working have a much lower incidence of financial education albeit based on small sample sizes. Those not in

⁴ Since 2013, financial literacy has been included in NZ's national curriculum as a voluntary subject. However, coverage and quality are far from standard between schools, with the evaluation of such programmes beyond the scope of this article.

paid employment reported school-based financial education more often than other groups, nearly 50% of the time. However, they were much less likely to experience university financial education. Financial education in the workplace was lowest for those studying, working part-time or not working at all, possibly indicating part-time employees are less likely to have many personal and professional development opportunities. We split income into four quartiles and find the lowest and highest quartiles report financial education more often. School was reported most by those in the lower income brackets, likely to be younger respondents and not in full-time work. University was more common with the lowest income quartile, likely full-time students, and the highest income groups, who have likely graduated into professional roles. Work was a more common source of financial education for higher-paid respondents, while home was the least likely for the highest earners.

<<Table 1 here>>

Table 2 Panel A presents the average financial knowledge and behavioural measure scores, along with testing differences between those who experienced financial education and those who did not. We find financial education has a marked impact on financial capability, with respondents who reported having financial education 1.6 points higher on average, 17.7% higher than the average score of those with no financial education. Of note, when we split financial capability into its four components, the only component not significantly higher for financially educated respondents is *objective* financial literacy (i.e., knowledge), arguably the component that should be increased. This suggests that financial education has not improved objective knowledge but has improved confidence and financial behaviours, and is broadly in line with prior work, e.g., Xiao and O'Neill (2016). In contrast and concerning, debt literacy is significantly lower for those reporting financial education. Lower debt literacy is hard to reconcile with overall financial capability gains, as financial education should improve respondents' understanding of how debt works. However, it is in line with prior findings that debt behaviours have proven difficult to change with financial education (Kaiser and Menkhoff, 2017). In addition, we also observe that materialism, i.e., those who place more value on acquiring material possessions, is higher in those who have had financial education, as are those who are more tolerant and accepting of debt, as noted by the higher debt attitudes score. We observe no significant differences in money management, impulsiveness, or present orientation.

Panel B (Table 2) tests univariate differences in mean scores between the various sources of financial education and those reporting no financial education. We note financial capability increases irrespective of the financial education source, although increases are larger in magnitude for university and work, 2.03 and 2.16, compared with 1.23 (school) and 1.58 (home). We also note consistently lower debt literacy across all sources, again those respondents' identifying university or work as their financial education source showing the largest deviations from those respondents reporting no financial education. Debt attitudes (debt tolerance) is also higher across all sources of financial education, but least so for those identifying home as their source of financial education. Higher materialism is found in those who have received financial education from either university or work. Finally, we note money management scores are higher for those who identify getting financial education at home, while more formal financial education does not appear to have a marked impact.

In Panel C (Table 2) we consider the impact of repeated exposure to financial education, using the number of sources each respondent identifies. We test the significance of the difference in means between those reporting no financial education and those reporting either one source, two or three plus sources. We observe that financial capability improves with one source and continues to increase with additional sources of financial education. In contrast, debt tolerance increases with one source but additional exposure to financial education diminishes tolerance to debt (although it remains significantly higher than no financial education at all). In contrast, money management only increases significantly with three or more sources, 2.81 points on average. Debt literacy initially drops, suggesting literacy decreases significantly with one source before increasing slightly with further financial education experiences, albeit still to a level below those with no financial education. As noted above, this counterintuitive finding suggests people know less about debt after experiencing financial education – given that financial education does not improve objective financial literacy (financial knowledge) but does increase tolerance to debt, financial education appears to be increasing confidence without objective debt handling skill.

Overall, we find financial education has mixed relationships with financial knowledge. While it increases financial capability on average, it is also associated with lower debt literacy scores and a higher debt tolerance, suggesting people are more likely to take on debt.

<<Table 2 here>>

4. Financial Education and Buy Now, Pay Later

We are interested in the impact financial education has on the use of buy now pay later (BNPL). Financial education should result in people using debt products such as BNPL wisely, i.e., taking advantage of interest-free periods and to manage cash flows. In Aotearoa New Zealand, recent changes to consumer finance laws have placed a much greater onus on lenders to ensure the suitability and affordability of loans to borrowers, with directors and officers potentially held personally liable for breaches. While offering good protection for borrowers, it may mask the financial education's real impact on debt handling, by preventing some respondents from engaging with debt they otherwise would have. BNPL represents an interesting opportunity to fully investigate the impact of financial education on debt behaviour without the confounding effect of consumer finance regulations. BNPL does not charge interest on its lending and is therefore excluded from consumer finance laws in New Zealand, as is the case in other jurisdictions, allowing users unfettered access.⁵ Additionally, BNPL represents an interesting type of lending, in that it can be used either poorly or wisely (like credit cards). BNPL offers the ability to delay paying for something with your own money at no cost, provided you make repayments on time. Conversely, it allows users to make impulsive purchases they cannot afford easily, with no suitability check.

To examine financial education's impact on BNPL behaviour, we consider the way in which respondents use BNPL. Specifically, we look at the frequency with which BNPL is used, the frequency with which users have incurred late repayment fees, whether they use other forms of debt to repay their BNPL (likely indicating impulsive purchases where repayment affordability was not considered), whether the reason for late fees being incurred was because the user was unable to pay (versus forgetting the repayment, for example), and whether the user had been suspended from using BNPL (this occurs for users who remain in arrears for some time). As BNPL does not charge interest, rather imposes late fees for missed repayments and is not covered by consumer finance law requiring suitability and affordability checks, consumers may be confused as to the nature of BNPL (i.e., whether it is debt). We expect that if financial education has a positive impact on debt behaviours, consumers would be able to recognise that BNPL is a form of debt, therefore use it less frequently, ensure they make

⁵ While regulations have been proposed for BNPL platforms in both NZ and elsewhere, at the time of the survey these were mere speculation and at time of writing (2023), NZ had not moved additional law or regulations beyond proposal.

repayments on time to avoid incurring fees, and avoid needing to borrow to repay their BNPL balance(s).

4.1 Univariate Relationships

<<Table 3 here>>

Table 3 presents the univariate differences in the BNPL behaviour between those with and without financial education, the different sources of financial education, and the number of sources of financial education. We observe some surprising outcomes. Given our previous findings that financial education increases positive money management and financial capability, as BNPL is designed for impulsive purchases on small discretionary items we would expect some differences in use despite it being debt. Contrary to the prevailing expectation that financial education should result in smarter use of debt, we find no relationship between financial education and the frequency of BNPL use. This holds when we consider the different sources of financial education, where again we see no statistically significant differences between the proportion of respondents in the different use categories between no financial experience and each of the sources. The only exception we see in relation to the frequency of use of BNPL is that those with two sources of financial education are marginally significantly less likely to be frequent users.

For financial education's impact on the frequency of incurring fees, we observe mixed findings. Specifically, financial education seems to reduce the likelihood of incurring fees frequently, three or more times. Those with financial education are roughly half as likely to incur fees three times or more. This seems to be driven by financial education while at university or from home. Additionally, it is the first source of financial education that seems to drive the reduction in the proportion incurring fees frequently. In contrast, however, financial education does seem to make it more likely that respondents incurred fees infrequently, i.e., once or twice. Those with financial education were nearly twice as likely to fall into this group, and this increase in fees' likelihood occurred irrespective of financial education source, and if they had either one or three plus sources of financial education. That financially educated respondents were more likely to incur fees seems contrary to the goal of financial education to improve financial decision-making.

The results for using debt to repay BNPL are also concerning. We see strong evidence to suggest that those with financial education are more likely to use debt to repay their BNPL purchases. This suggests that respondents are not using the debt wisely as they don't appear to

have planned to repay the purchase within the allotted time period, and therefore are having to use other forms of debt to cover it. When we consider the source of financial education, it is workplace and university financial education that appears to correlate with more use of other debts, and it is principally driven by one financial education experience. It is possible the greater debt tolerance of those with financial education versus those without, as we saw in Table 2, is behind this (univariate) relationship.

In contrast, we do see some positives in that those with financial education report incurring fees because they were unable to repay the debt less than those without. This could correlate with the use of debt to repay BNPL. In essence, rather than incurring fees, those with financial education may be using other means of repayment to avoid incurring late fees, suggesting they recognise the importance of not defaulting on repayments. However, the fact they are using one type of debt to repay another is a concern. Those with financial education report being unable to repay two thirds' as often as those without, 38.3% vs 60.6%. This reduction is seen across all the education sources except workplace financial education and holds for one and two sources of financial education. It is likely the insignificance for three plus sources is driven by the small number of respondents with three or more financial education sources who have incurred fees, just 24 respondents.

Finally, we see no impact from financial education on the percentage of respondents who were suspended from BNPL platforms. It is worth noting, however, that just over 10% of our sample had been suspended, slightly more than 70 respondents in total, and large differences are therefore required for even marginal statistical significance.

In Table 4 we examine respondents' attitudes towards BNPL. Given the product's lack of interest charges, some providers have openly marketed their product as not debt or as different to other forms of debt. Specifically, we are interested in the reason our respondents used BNPL and how they perceive the product: if they view it as a form of debt, see it as being cheaper than other forms of debt, and if it comes with fewer consequences. Respondents were asked to select from five reasons describing why they used BNPL: (1) didn't currently have the money but expected to in the future, (2) didn't currently have the money and didn't expect to in the future, (3) wanted to delay payment although they had the money, (4) convenience, and (5) other. Respondents could select more than one response. Only five respondents selected *other*. The most common reason for using BNPL was to delay payment by those with the funds, representing savvy BNPL use as it allows users to essentially use 'free' money for up to two

months, depending on the platform. Those who don't currently have the funds but will in the future may also be displaying smart use, if they are purchasing items they need or are currently on sale but may not be once they have the funds (almost 30% of respondents). Some 27.3% of respondents use BNPL for its convenience, with one respondent noting they used BNPL when they couldn't be bothered to find their credit card. However, the most concerning group are those respondents who don't have the funds and who don't expect to have them at the time of repayment, reported as the reason for using BNPL by 14.3% of respondents.

Financial education appears to have limited impact on the reasons why young adults use BNPL. Those with financial education are over 25% less likely to use BNPL for income smoothing, i.e., not currently having the funds but expecting to in the future. There is inherent risk in not currently having the funds but spending anyway, as disruptions to expected income or unexpected expenses could impact the respondents' ability to make their repayments. For the respondents identifying they would 'have the funds in future' as a reason for using BNPL, financial education from any source other than school significantly reduces BNPL use. This suggests potentially better debt behaviour; however, we don't observe significant improvement in those using BNPL to delay payment when they have the funds available, the savviest use of BNPL, and financial education appears to have no impact on the other reasons for use.

For BNPL attitudes, we report average responses to the questions asking whether BNPL is a form of debt, whether it is cheaper than debt like credit cards and hire purchases, and whether BNPL has fewer consequences than other debt products (agree/disagree on five-point Likert scales). We ask these questions specifically due to the way that BNPL has been presented to consumers, as either not debt or different from other types of debt. The difficulty for consumers is that by BNPL not being framed as 'normal' debt, there may be confusion about the consequences of that debt and the potential to misuse it. BNPL imposes late repayment fees rather than interest charges, and these fees are capped in most cases; for example, Afterpay caps fees at either \$10 or 25% of the purchase price, whichever is larger. For most platforms, there are no additional fees, such as establishment or ongoing user charges. While the 'no fee' structure is advantageous to users, the late repayment fees are considerably more expensive over short periods than even high-interest consumer debts like credit cards. BNPL providers also do not automatically undertake credit checks or pass on details of late payments to credit agencies. As such, they argue the consequences of non-payment and arrears are less for users, however, continued non-payment results in similar consequences as non-payment of traditional

debts (including suspension through to being ‘de-platformed’, i.e., excluded from holding an account).

Ideally, financial education would give consumers the ability to identify the underlying debt-like characteristics of BNPL, irrespective of legal definitions, and therefore they would view it as debt. Additionally, if consumers understand how interest works in a debt setting, this knowledge should allow them to realise BNPL late fees can be more expensive than traditional interest-charging debt products. Finally, consumers would be able to identify the consequences of BNPL accurately. In short, effective financial education would empower consumers with transferrable knowledge leading to accurate views of new products such as BNPL. The challenge, however, is that financial education has not been designed for innovations like BNPL and it is unlikely any of the young adults in our sample would have received explicit financial education on such products. As growth in fintech continues to provide innovative financial products, financial educators will have to attempt to ‘future-proof’ their students.

We observe that those with financial education are less able to identify that BNPL is a form of debt (Table 4). This is driven by respondents who have financial education from either school or university. Interestingly, those with more than one financial education experience are equally likely to view BNPL as debt as those who reported no financial experience. Respondents were also less likely to accept that BNPL is cheaper than other forms of debt, further evidence of financial education’s mixed impact. It is worth noting that for users meeting their repayment schedules, BNPL *is* cheaper than traditional debt products, and thus this item should be treated with caution here (we revisit the point in Section 4.3). Concerningly, school-based financial education appears to impact how respondents view BNPL, with a reduction in the proportion of respondents viewing the product as debt and as cheaper than other debt types. However, financial education has no univariate impact on how respondents viewed the consequences of BNPL, potentially indicating that young adults do not consider the products’ consequences relative to other debt types.

<<Table 4 here>>

4.2 Multivariate Regressions

To examine financial education’s impact on a respondent’s BNPL handling, we use multivariate regressions and present the results in Table 5. For the binary dependent variables (*Debt to Repay*, *Unable to Pay*, and *Suspension*) we use probit models, and ordered probit regressions for variables on a three-point scale (*Frequency* of use and *Fees* incurrence). Control

variables include the demographic, financial knowledge and behavioural variables discussed in Section 3. For ease of interpretation, we report results as odds ratios, meaning coefficients greater than one represent a higher likelihood of the binary variable, or being in a higher category for the ordered probit models.

<<Table 5 here>>

We find financially educated participants were not less likely to use BNPL or use it less frequently than those without financial education. However, there is evidence to suggest financial educated respondents are using BNPL worse than those respondents reporting no financial education. Specifically, those with financial education were more likely to have incurred fees, to use debt to repay their BNPL, and unlike the univariate results, were more likely to incur fees because they were unable to repay their BNPL. Each indicates that financially educated respondents were unable to use BNPL in a wise manner and therefore display signs of being unable to repay their BNPL purchases. This suggests that financial education has not improved BNPL use through savvier use but made use worse. While counterintuitive given financial education should improve BNPL use and behaviour, a possible explanation is the increase in confidence and debt tolerance, without a corresponding improvement in debt literacy, as reported in Section 3.1 (see Table 2).

Our reasoning is supported by the control variables. More financially capable respondents were less likely to incur fees but were more likely to use debt to repay their BNPL and were more likely to be suspended, indicating they spent above their means. In contrast, debt literacy has more consistently positive impacts. We observe that higher debt literacy resulted in fewer respondents using debt to repay and being half as likely to be suspended. Money management also improves some aspects of BNPL use by reducing the likelihood of incurring fees, using debt to repay their BNPL, and being suspended. In contrast, debt attitudes (higher debt tolerance), increased the likelihood of using debt to repay BNPL. Higher materialism increased the likelihood of fees but, surprisingly, did not increase the frequency of use. Interestingly, impulsivity had no significant impact on BNPL use, but did reduce the likelihood of a respondent being unable to repay their BNPL. Of the behavioural traits, present orientation has a more consistent impact, increasing BNPL use, the frequency of fees, and the inability to repay BNPL.

In terms of demographic variables, we observe older respondents are more likely to have been suspended, with no significant impact of age on use despite the perception that

younger users are more prolific. Women use debt to repay their BNPL less than men. NZ European and SE Asian respondents were more likely to use BNPL, while Asians were less likely to use it. NZ European, Māori, Pasifika and Asian respondents were more likely to incur late repayment fees. Part-time workers were more likely to incur fees because they were unable to repay, while those not currently working were both more likely to use BNPL, and unsurprisingly, more likely to incur fees due to that use. Finally, higher income increases BNPL use, but reduces the likelihood of using debt to repay BNPL. The income results suggest that higher income respondents were in a better position to use BNPL, although this would still leave them susceptible to changes in financial circumstance.

<<Table 6 here>>

Table 6 reports multivariate regression (probit and ordered probit, as above) results for BNPL use when we consider financial education source and number. For brevity we do not report the control variables, although they are broadly similar to those reported in Table 5. We observe no difference in use frequency based on either the source or number of financial educations experiences, nor do we observe differences for *debt to repay* or *suspension*. We do, however, observe that work-based financial education appears to increase the likelihood of incurring BNPL fees but correspondingly reduces a respondent's likelihood of incurring late repayment fees due to being *unable to repay*. We also observe that more sources of financial education appear to make the likelihood of late fees greater, not less as we would expect.

In general, respondents with no financial education demonstrate better use of BNPL, incurring late fees less often, are less likely to use debt to repay their BNPL, or incur fees because they were unable to repay their BNPL. Work-based financial education appears to increase the likelihood of incurring fees and being more able to repay BNPL, otherwise the financial education source does not seem to result in meaningful differences.

<<Table 7 here>>

We next consider why users opt to use BNPL and their attitudes towards the product. We use logit multivariate regression models for each reason for use, where selection of a given reason is equal to one or zero otherwise. Results are reported in Table 7. We observe that financial education does not appear to influence the reasons why consumers use BNPL, with none of the four usage reasons showing significance. Higher financial capability lowers the likelihood of using BNPL for income smoothing, and higher debt literacy reduced the number who did not have the funds to cover their purchase. Higher money management scores meant

people were more likely to use BNPL for convenience, albeit only marginally, and greater debt tolerance was associated with lower income smoothing and higher convenience. Materialism and impulsivity did not have a significant impact on the reasons a respondent may use BNPL, while higher present orientation was associated with greater use for income smoothing or to delay use of their own money.

For the demographic control variables, women are more likely to use BNPL for income smoothing or to delay payment, both savvy uses, whereas men were more likely to use it because they did not currently have the funds (and did not expect to in the future). Older users were less likely to use it to delay payment but were more likely to use it as it was convenient. Māori respondents were more likely to use BNPL to delay payment even though they had the funds, while NZ European and SE Asian respondents were more likely to report convenience as their reason for use. SE Asian respondents were also less likely to report using it as they didn't currently have the funds and didn't expect to have them in the future. Full- and part-time workers were more likely to have the funds but opt to delay payments, while those studying were less likely to use BNPL for this purpose. Those not in work currently were more likely to use it to smooth income or for convenience. Finally, higher income was associated with more respondents using BNPL for convenience.

Attitudes towards BNPL dependent on financial education, as with the univariate results, are associated with respondents being less able to identify BNPL as a form of debt, with respondents also not viewing the product as cheaper relative to other debt types. There was no relationship between financial education and views about the consequences of BNPL. In terms of demographics, Pasifika respondents were less likely to view BNPL as debt, as were those with higher debt tolerance. In contrast, those with higher financial capability, debt literacy, and money management were more likely to view the product as debt, implying financial knowledge is critical in allowing users to correctly identify BNPL as debt. More materialistic and impulsive respondents were also more likely to view BNPL as debt, as were those with higher incomes. In terms of cost, older respondents were more likely to agree that BNPL is cheaper than other forms of debt. Those who had better money management skills, were more materialistic, debt tolerant, had greater present orientation and those with higher incomes also saw BNPL as a cheaper form of debt. On the question of BNPL consequences, Pasifika respondents viewed BNPL as having fewer consequences than other debt types, while Asian respondents were more likely to disagree, as were those with higher debt literacy scores. Those with better money management skills also agreed it had fewer consequences, and as

these respondents were generally less likely to incur late fees, their perception of consequences is (correctly, for them) there are none. Materialistic, more debt tolerant, and impulsive users also perceived it as having fewer consequences, which is a cause for concern as these individuals are also more likely to misuse BNPL and so may experience the reality of the consequences more than other users.

Table 8 presents the multivariate results for financial education source and number of financial education experiences. Individual sources do not appear to make a difference to either reasons for using BNPL or attitudes towards it, except for work-based education increasing the BNPL use for convenience. In terms of the number of financial education sources a respondent has experienced we find very little impact on the reasons for using BNPL. Again, we see a single significant coefficient whereby three or more financial education sources increases the use of BNPL for convenience. In contrast, for BNPL attitudes, one financial education source appears to drive the earlier finding that those with financial education are less likely to see BNPL as debt but do recognise it is more expensive than other forms of debt.

Overall, we observe that financial education does not appear to influence reasons for use. This is unfortunate, as BNPL can be used advantageously, and we would hope that financial education enables respondents to exploit these advantages while avoiding problematic reasons for using the product. We also observe that financial education makes users less able to identify accurately that BNPL is a form of debt, perhaps the most concerning finding as it implies financial education is not empowering consumers to transfer knowledge outside the classroom and ‘future proof’ them for contemporary financial decision making.

<<Table 8 here>>

4.3 Latent Class Analysis

Thus far, we have examined the impact of financial education on individual behaviours related to BNPL. However, our use and attitudes variables are related to each other and thus considering them together is potentially more informative than singling out individual items. We now consider grouping BNPL users based on these individual behaviours, which cover both the way users behave, and their BNPL attitudes and knowledge. To do so, we apply latent class analysis (LCA), a method of cluster analysis, to distil these variables into patterns of behaviour referred to as classes. Specifically, we identify five classes or patterns of use. We label these classes as *heavy but okay use* (Class 1), *heavy and problematic use* (Class 2), *average use* (Class 3), *light and problematic use* (Class 4) and *no experience* (Class 5).

Appendix A details the specific construction of each class and their key characteristics, leading to our labels.

Ideally, financial education would impact membership within these classes. If effective, financial education should alter the way people using BNPL behave; we would expect to see greater numbers in Class 3 (*moderate and safe* users), and Class 5 (*no experience*). The *heavy and problematic* users (Class 2) are of considerable concern, given that this group are using BNPL extensively with nearly half using BNPL either monthly or more often, and are using it unsafely; using debt to repay, using it for essential spending, being unable to repay their BNPL etc. If financial education is effective, it would reduce the probability of a respondent being in this problematic use group. Class 4 (*light and problematic* users) also demonstrate concerning behaviours in terms of using BNPL when they are ultimately, either by not having the funds or not budgeting for their repayments effectively, unable to make their repayments. Thankfully, these users are less likely to be using BNPL extensively, minimising their risk of harm. The *heavy but okay* users (Class 1) are also of concern, as while they are categorised as using BNPL safely, their extensive use exposes them to changes in circumstances such as job loss or economic shocks. Here, we hope to see financial education reducing membership in Classes 1 and 4.

The univariate results are presented in Table 9. Again, we observe that financial education has a limited impact, and where it does have an impact, it is contrary to our expectations. Specifically, we observe no significant differences in class membership between those with and without financial education for all the classes except for Class 3 (*average* use). Members of Class 3, our moderate and safe users, are less likely to have financial education, 8.2% fewer respondents. This reduction in membership is related to work- and home-based financial education, and those who experience the highest number of financial education sources. Outside of Class 3 users, we observe university-based financial education was related to higher membership in Class 4 (*light and problematic* use), as was exposure to three or more sources of financial education. For those with two financial education sources we also see a significant decrease in membership in Class 2 (*heavy and problematic* use), however this is a relatively small number of respondents.

<<Table 9 here>>

In Table 10, we present multivariate regression results with the BNPL use latent classes and financial education, controlling for demographic factors, financial knowledge, and

behavioural variables. We observe no significant difference in class membership, based on financial education exposure. This suggests financial education is not changing overall patterns of BNPL use and behaviours. Given previously identified difficulties in changing debt behaviours, it is perhaps unsurprising (see e.g., Kaiser and Menkhoff, 2017) but may also relate to BNPL being a relatively new financial product that is not explicitly addressed in financial education programmes. The implication of our findings may be a need to adjust the content of education programmes, as fintech innovation such as BNPL raise the possibility of continual innovation in financial products, meaning content needs to be continually revised. Our results may also indicate those with financial education experience will be ill-prepared for these new products.

<<Table 10 here>>

In terms of our control variables, women are more likely to fall into Class 1 (*heavy but okay* use). Māori, NZ European and SE Asian respondents are more likely to be in Class 1, while Māori and Pasifika are more likely to be in Class 2 (*heavy and problematic* use), while Māori and Other are more likely to be in Class 4 (*light and problematic* use). Full-time workers are more likely to be in Class 1, while respondents reporting they do not work are more likely to be in the two *safe* use categories, Classes 1 and 3. We also observe that higher financial capability results in a respondent being less likely to be in the *heavy but okay* use class (Class 1), while higher debt literacy reduces probability of being in Class 4 (*light and problematic* use). Higher money management skills are associated with a lower probability of being in this class (*light and problematic* use, Class 4), and a higher probability of being in Class 3 (*average* use). Higher materialism respondents are more likely to fall into the *heavy and problematic* user group (Class 2). Impulsiveness reduces the likelihood of falling into Class 4, while higher present orientation increases the likelihood of respondents falling into any of the classes compared to Class 5 (*no experience*). Higher income increases the likelihood of respondents using BNPL, either heavily or moderately, but safely.

Table 11 presents the multivariate regression results for financial education source and the number of financial education experiences. We find work-based schemes are more associated with respondents being grouped into Class 1 (*heavy but okay* use of BNPL), while home-based financial education more than halves the probability of being in Class 2 (*heavy and problematic*). Likewise, having two sources of financial education reduces the probability

of membership in Class 2 by more than half, while exposure to three or more sources increases membership in Class 4 (*average* use).

<<Table 11 here>>

Overall, the latent class analysis presents very little evidence that financial education is improving consumers' use of BNPL overall. We observe a moderate but significant decrease in the membership in Class 3, the group using BNPL relatively well, representing a counterintuitive outcome (if not an unexpected one, given our previous findings). We see little evidence that financial education, irrespective of source or the number of experiences, increases membership of 'good' classes and reduces membership in 'bad' classes.

5. Conclusion

While there is increasing evidence that financial education can improve financial capability, this is just one step in a chain leading to the ultimate prize: financial well-being. For financial education to enable financial well-being, we need to observe that financial education and the resulting increase in financial capability, results in meaningful (positive) change in financial decision-making and behaviour. Here the evidence is less clear cut, and prior studies have found that some behaviours are resistant to change. In this paper, we examine whether financial education results in better handling of debt. In addition, we also examine whether financial education is capable of empowering financial decision makers when it comes to dealing with new financial products which are unlikely to have been directly covered in financial education. Specifically, buy now pay later (BNPL). While BNPL does not incur an interest charge, there are late penalties for missing repayments, and from a financial well-being perspective, the product renders individuals vulnerable to the pitfalls associated with debt use. For instance, BNPL represents an ongoing financial commitment that reduces future financial resources and makes a person susceptible to changes in financial circumstances. Additionally, at least with some providers, failing to repay BNPL debt brings with it similar consequences to failing to repay more traditional debt, including a negative impact on credit rating, debt collection, being suspended and/or barred permanently etc. The fact BNPL does not incur interest expenses has, however, undermined users' perception that it *is* debt, as it has not yet been captured by consumer finance legislation and regulation.

Using a sample of 705 Aotearoa New Zealand young adults (a demographic most likely to use BNPL and be negatively impacted by debt use) we observe financial education is associated with higher financial capability (although not objective financial knowledge), higher

debt tolerance and lower debt literacy. These findings suggest financially educated respondents may use debt more often, a relationship potentially confounded by consumer finance regulations. As BNPL is not regulated as a debt product, it provides us an opportunity to explore young adults' debt behaviour and financial education's impact. Our findings are mixed. Specifically, we observe improvements in some concerning BNPL behaviours such as incurring fees less frequently and being less likely to incur fees due to being unable to pay. In contrast, however, respondents were more likely to incur fees in the first place and were more likely to use debt to repay BNPL, while being less likely to identify BNPL as a debt product. Financial education appears to have a limited impact on why young adults use BNPL, however we do not observe a significant increase in those using BNPL to delay payment when they have the funds available, the savviest use of the product.

Ideally, financial education would provide consumers with the skills to identify BNPL as debt and treat it accordingly. However, we found no significant effect for financial education on the relative cost and consequences of BNPL versus other types of debt, with almost no difference between source of the education or number of financial education experiences. When we considered BNPL behaviours together, we identified five latent classes or patterns of use. If financial education is effective, we would expect that it would impact membership within these classes, however, find no significant difference – implying that financial education is not helping young adults use BNPL more wisely nor effecting their attitudes toward it.

Our results raise questions about the role of financial education in debt handling, specifically BNPL. We do not study the efficacy of particular financial education programs, instead consider the impact of financial education in general and its effect on BNPL use. Based on the evidence in Aotearoa New Zealand, we have significant concerns that financial education is having a perverse impact on debt handling. It is possible financial education is improving respondents' confidence in using financial products, without necessarily imparting the transferable skills needed to manage these products wisely. The implications of using more convenient but potentially more expensive debt, typically associated with depreciating assets, is that consumers become more exposed to changes in financial circumstances, over-indebtedness and financial hardship.

New financial innovations like BNPL are inevitable. These products can be convenient and beneficial for savvy users but can be fraught for those prone to unwise or excessive use. While consumer finance laws in many countries are designed to protect consumers from over-

extending themselves when they take on new debt, despite not stopping people getting into trouble later if their circumstances change, these laws were not designed for products like BNPL, allowing providers to avoid suitability and affordability of lending provisions. As a result, BNPL enables consumers to overextend themselves in ways that traditional consumer debt does not. Our respondents with financial education were more likely to use debt to repay BNPL, a concerning finding, as it suggests users were more likely to take on debt without ensuring it could be repaid. Using other debts to repay BNPL is a worrying practice, suggesting young adults may be overextending themselves. In general, we argue that financial education does not appear to have prepared respondents well for a new financial innovation like BNPL. Additional research is needed to isolate whether financial education is resulting in poor debt handling on all types of debts, or whether financial education programs are struggling to give respondents transferrable skills to apply in new contexts.

Our results also raise interesting avenues for future research. First, we need to better understand why financial education appears to be having negative consequences. This suggests that financial education is having an impact, but not the impact desired. Perhaps individuals are gaining confidence with financial products, without the skills and experience to allow wise use of these products. It could also be that the messages being taken from financial education are inaccurate. Understanding the pathway from classroom to practical application could allow us to adjust financial education programs to be more effective. Finally, it is also interesting to explore why financially educated respondents are less likely to view BNPL as debt. In this case, any improvements made for general debt handling will have little impact on BNPL use if young adults do not see the need to apply those skills.

References

- Białowolski, P., Cwynar, A., Cwynar, W., & Węziak-Białowolska, D. (2018). Debt Attitudes in Gender Perspective: Is There an Effect of Debt Knowledge and Skills?. Available at SSRN 3325849.
- Braunstein, S., & Welch, C. (2002). Financial Literacy: An Overview of Practice, Research and Policy. *Federal Reserve Bulletin* 11: 445–457.
- Brugiavini, A., Cavapozzi, D., Padula, M., & Pettinicchi, Y. (2020). On the effect of financial education on financial literacy: Evidence from a sample of college students. *Journal of Pension Economics and Finance* 19, 344–352.
- Collins, J. (2013). The impacts of mandatory financial education: Evidence from a randomized field study. *Journal of Economic Behavior and Organization* 95, 146–158.
- Consumer Financial Protection Bureau. (2017). *Financial Well-being in America*. https://files.consumerfinance.gov/f/documents/201709_cfpb_financial-well-being-in-America.pdf
- Cook, J., Davies, K., Farrugia, D., Threadgold, S., Coffey, J., Senior, K., Haro, A. & Shannon, B. (2023). Buy now pay later services as a way to pay: credit consumption and the depoliticization of debt. *Consumption Markets & Culture*, 1-13.
- Cordero, J., Gil-Izquierdo, M., & Pedraja-Chaparro, F. (2022). Financial education and student financial literacy: A cross-country analysis using PISA 2012 data. *The Social Science Journal* 59, 15-33.
- deHaan, E., Kim, J., Lourie, B., & Zhu, C. (2022). Buy Now Pay (Pain?) Later. Available at SSRN 4230633.
- Di Maggio, M., Katz, J., & Williams, E. (2022). *Buy Now, Pay Later Credit: User Characteristics and Effects on Spending Patterns* (August 23, 2022). Available at SSRN: <https://ssrn.com/abstract=4198320> or <http://dx.doi.org/10.2139/ssrn.4198320>
- Fernandes, D., Lynch, J., & Netemeyer, R. (2014). Financial Literacy, Financial Education, and Downstream Financial Behaviors. *Management Science* 60, 1861–1883
- Fook, L., & McNeill, L. (2020). Click to buy: The impact of retail credit on over-consumption in the online environment. *Sustainability* 12, 7322.
- Frisancho, V. (2020). The impact of financial education for youth. *Economics of Education Review*, 78. <https://doi.org/10.1016/j.econedurev.2019.101918>
- Garðarsdóttir, R. B., and Dittmar, H. (2012). The relationship of materialism to debt and financial well-being: The case of Iceland's perceived prosperity. *Journal of Economic Psychology*, 33(3), 471-481.
- Gathergood, J. (2012). Self-control, financial literacy and consumer over-indebtedness. *Journal of Economic Psychology*, 33(3), 590-602.
- Gerrans, P., Baur, D. G., & Lavagna-Slater, S. (2021). Fintech and responsibility: Buy-now-pay-later arrangements. *Australian Journal of Management*, 03128962211032448.
- Gutterman-Kenny, B., Firth, C., & Gathergood, J. (2023). Buy Now, Pay Later (BNPL)...On your credit card. *Journal of Behavioral and Experimental Finance*, 100788.

- Johnson, D., Rodwell, J., & Hendry, T. (2021). Analyzing the Impacts of Financial Services Regulation to Make the Case That Buy-Now-Pay-Later Regulation Is Failing. *Sustainability*, 13(4), 1992. <https://doi.org/10.3390/su13041992>.
- Kaiser, T., Lusardi, A., Menkhoff, L., & Urban, C. (2022). Financial education affects financial knowledge and downstream behaviors. *Journal of Financial Economics* 145, 255–272.
- Kaiser, T., & Menkhoff, L. (2017). Does financial education impact financial literacy and financial behavior, and if so, when?. *The World Bank Economic Review*, 31(3), 611-630.
- Mandell, L. (2008). *The Financial Literacy of Young American Adults: Results of the 2008 National Jump\$tart Coalition Survey of High School Seniors and College Students*. Seattle, WA: University of Washington and the Aspen Institute.
- Mandell, L. (2009). *The Impact of Financial Education in High School and College on Financial Literacy and Subsequent Financial Decision Making*. American Economic Association Meetings, January 2009, San Francisco, CA.
- Okat, D., Paaso, M., and Pursiainen, V. (2022). *Trust in Finance and Consumer Fintech Adoption*. Working Paper.
- Powell, R., Do, A., Gengatharen, D., Yong, J., & Gengatharen, R. (2023). The relationship between responsible financial behaviours and financial wellbeing: The case of buy-now-pay-later. *Accounting & Finance*.
- Raj, V. A., Jasrotia, S. S., & Rai, S. S. (2023). Intensifying materialism through buy-now pay-later (BNPL): examining the dark sides. *International Journal of Bank Marketing*.
- Richins, M. L. (2004). The material values scale: measurement properties and development of a short form. *Journal of Consumer Research* 31(1), 209 – 219.
- Richins, M.L. and Dawson, S. (1992). A Consumer Values Orientation for Materialism and Its Measurement: Scale Development and Validation. *Journal of Consumer Research* 19 (December), 303–16.
- Schicks, J. (2014). Over-indebtedness in microfinance – an empirical analysis of related factors on the borrower level. *World development*, 54, 301-324.
- Schomburgk, L., & Hoffmann, A. (2023). How mindfulness reduces BNPL usage and how that relates to overall well-being. *European Journal of Marketing*, 57(2), 325-359.
- Stella, G., Filotto, U., Cervellati, E., & Graziano, E. (2020). The Effects of Financial Education on Financial Literacy in Italy. *International Business Research* 13, 44-51.
- Vohs, K. D., and Faber, R. J. (2007). Spent resources: Self-regulatory resource availability affects impulse buying. *Journal of Consumer Research*, 33(4), 537-547.
- Xiao, J. J., and O’Neill, B. (2016). Consumer financial education and financial capability. *International Journal of Consumer Studies*, 40(6), 712-721.
- Xiao, J. J., and O’Neill, B. (2018). Propensity to plan, financial capability, and financial satisfaction. *International Journal of Consumer Studies*, 42(5), 501-512.
- Yılmaz, S., & Özçiftçi, H. (2021). *Financial Literacy in Children*. <https://www.researchgate.net/publication/357510632>

Table 1 – Financial Education by Demographic and Economic Factors

	<i>N</i>	Experienced Financial Education		Financial Education Source				Number of Financial Education Experiences		
		<i>No</i>	<i>Yes</i>	<i>School</i>	<i>University</i>	<i>Work</i>	<i>Home</i>	<i>One</i>	<i>Two</i>	<i>Three +</i>
Full Sample	705	19.3%	76.7%	34.8%	34.9%	18.9%	25.2%	51.9%	15.3%	9.5%
<i>Gender</i>										
Male	305	13.4%	83.3%	37.4%	38.0%	21.6%	24.9%	57.0%	16.1%	10.2%
Female	393	23.4%	72.0%	32.6%	32.6%	16.8%	24.9%	48.6%	14.8%	8.7%
<i>Age Group</i>										
18-20	116	11.2%	83.6%	50.0%	31.9%	15.5%	21.6%	58.6%	16.4%	8.6%
21-23	148	18.2%	78.4%	35.1%	39.7%	15.5%	27.0%	50.7%	17.6%	10.1%
24-26	128	26.6%	68.8%	28.9%	31.3%	15.6%	20.3%	50.0%	12.5%	6.3%
27-29	104	21.2%	75.0%	26.9%	35.6%	20.2%	24.0%	53.8%	14.4%	6.7%
30-32	143	23.1%	74.1%	35.0%	32.2%	18.2%	30.8%	49.0%	12.6%	12.6%
33-34	66	10.6%	84.8%	30.3%	40.9%	37.9%	27.3%	50.0%	21.2%	13.6%
<i>Ethnicity</i>										
Māori	144	17.4%	78.5%	39.6%	28.4%	25.0%	23.6%	52.8%	16.0%	9.7%
European	457	20.5%	76.5%	34.2%	33.3%	16.1%	26.9%	53.1%	14.9%	8.6%
Pasifika	67	10.4%	85.1%	44.8%	28.4%	29.9%	25.3%	59.7%	10.4%	14.9%
Asian	69	15.9%	75.4%	33.3%	47.8%	26.1%	30.4%	36.2%	21.7%	17.4%
SE Asian	44	27.3%	70.5%	29.5%	50.0%	11.4%	11.4%	52.2%	9.1%	9.1%
Other	21	26.7%	69.33%	32.0%	30.7%	22.7%	25.3%	41.3%	20.0%	8.0%
<i>Employment Status</i>										
Work, full-time	420	18.6%	77.9%	31.2%	36.0%	22.6%	24.5%	54.2%	13.3%	10.2%
Work, part-time	134	19.4%	79.1%	38.1%	41.0%	12.7%	24.6%	52.2%	18.7%	8.2%
Studying	135	17.0%	80.0%	40.7%	40.7%	13.3%	30.4%	45.9%	25.9%	8.1%
Not working	68	33.8%	57.4%	47.1%	14.7%	13.2%	26.5%	32.3%	11.8%	13.2%
Other	38	18.4%	71.1%	31.6%	18.4%	25.8%	23.7%	57.9%	7.9%	5.3%
<i>Monthly Income (\$)</i>										
1-1,000	176	15.3%	79.5%	38.6%	36.9%	16.5%	25.5%	51.7%	19.9%	8.0%
1,001-3,000	165	25.5%	73.9%	41.8%	30.3%	16.4%	32.1%	43.6%	17.6%	12.7%
3,001-5,000	160	21.3%	73.1%	29.4%	28.8%	25.0%	26.9%	48.8%	14.4%	10.0%
5,001-13,000	161	14.3%	82.6%	28.0%	46.0%	19.3%	18.6%	64.6%	9.9%	8.1%

Table 2 – Univariate Differences of Financial Knowledge, Behaviours, Attitudes and Personality Traits by Financial Education Experience

	Financial Literacy Components				Financial Capability	Debt Literacy	Money Mgmt.	Debt Attitudes	Materialism	Impulsivity	Present Orientation
	Objective	Subjective	Behaviour	Perceived							
Full Sample	2.14	2.62	2.35	3.50	10.43	1.11	32.70	2.73	3.23	2.78	2.85
Panel A: Financial Education Experience											
No	2.10	2.32	1.69	3.26	9.17	1.38	31.99	2.49	3.12	2.74	2.79
Yes	2.17	2.72	2.52	3.55	10.79	1.06	32.89	2.79	3.26	2.80	2.86
<i>Difference</i>	0.07	0.40***	0.83***	0.29***	1.62***	-0.31***	0.90	0.29***	0.14**	0.06	0.07
Panel B: Source of Financial Education Experiences											
School	2.10	2.66	2.29	3.50	10.40	1.13	32.79	2.68	3.19	2.75	2.81
<i>(Sch. – No)</i>	0.00	0.34***	0.60***	0.23**	1.23***	-0.24***	0.81	0.18***	0.07	0.01	0.03
University	2.20	2.85	2.74	3.60	11.20	1.02	32.77	2.90	3.29	2.81	2.90
<i>(Uni. – No)</i>	0.11	0.53***	1.05***	0.33***	2.03***	-0.35***	0.78	0.41***	0.17**	0.07	0.12
Work	2.31	2.85	2.79	3.59	11.33	1.05	33.37	2.87	3.29	2.83	2.89
<i>(Work – No)</i>	0.21	0.53***	1.10***	0.32**	2.16***	-0.32***	1.38	0.38***	0.17**	0.09	0.10
Home	2.20	2.77	2.35	3.60	10.76	1.22	34.07	2.61	3.23	2.62	2.66
<i>(Home – No)</i>	0.10	0.45***	0.65***	0.33***	1.58***	-0.16*	2.08***	0.12*	0.11	-0.11	-0.13
Panel C: Number of Financial Education Experiences											
One Source	2.13	2.68	2.49	3.55	10.68	0.99	32.69	2.83	3.28	2.86	2.91
<i>(One – None)</i>	0.03	0.36***	0.8***	0.29***	1.51***	-0.38***	0.7	0.34***	0.16**	0.12	0.13
Two	2.26	2.68	2.60	3.49	10.89	1.21	32.40	2.64	3.22	2.67	2.75
<i>(Two – None)</i>	0.16	0.36**	0.91***	0.23	1.72***	-0.16*	0.41	0.15*	0.1	-0.07	-0.04
Three +	2.22	3.02	2.54	3.66	11.23	1.21	34.79	2.77	3.23	2.67	2.72
<i>(3+ – None)</i>	0.13	0.70***	0.85***	0.39**	2.06***	-0.17	2.81***	0.28***	0.11	-0.06	-0.07

Note: Differences between a given *Source* or *Number of Experiences* are provided, using ‘No’ *Financial Education Experience* as the base case. Statistical significance of differences is denoted as *p < 0.1, **p < 0.05, and ***p < 0.01.

Table 3 – Univariate Differences of Buy Now Pay Later Use and Financial Education Experience

	Frequency of Use			Frequency of Fees			BNPL Use		
	<i>Never</i>	<i>Infrequent</i>	<i>Frequent</i>	<i>Never</i>	<i><3 Times</i>	<i>3+ Times</i>	<i>Debt to Repay</i>	<i>Unable to Repay</i>	<i>Suspended[^]</i>
Full Sample	28.5%	47.2%	24.2%	71.5%	21.4%	7.1%	43.2%	42.3%	36.8%
Panel A: Financial Education Experience									
No	25.0%	49.3%	25.7%	75.7%	13.2%	11.0%	31.4%	60.6%	36.3%
Yes	28.2%	47.9%	23.8%	70.1%	23.8%	6.1%	46.7%	38.3%	37.0%
<i>Difference</i>	3.2%	-1.4%	-1.9%	-5.6%	10.6%***	-4.9%**	15.3%***	-22.3%**	0.7%
Panel B: Source of Financial Education Experiences									
School	28.2%	52.3%	19.2%	70.2%	21.6%	8.2%	39.2%	41.1%	30.1%
<i>(Sch. – No)</i>	3.2%	3.0%	-6.5%	-5.5%	8.4%***	-2.8%	7.8%	-19.5%*	-6.2%
University	27.2%	47.2%	25.6%	69.1%	26.4%	4.5%	54.8%	38.2%	44.7%
<i>(Uni. – No)</i>	2.2%	-2.1%	-0.1%	-6.6%	13.2%**	-6.5%**	23.4%***	-22.4%**	8.4%
Work	27.8%	46.6%	25.6%	63.2%	27.8%	9.0%	47.9%	44.9%	40.8%
<i>(Work – No)</i>	2.8%	-2.7%	-0.1%	-12.5%**	14.6%***	-2.0%	16.5%**	-15.7%	4.5%
Home	33.1%	48.3%	18.5%	72.5%	22.5%	5.0%	33.3%	34.7%	32.7%
<i>(Home – No)</i>	8.1%	-1.0%	-7.2%	-3.2%	9.3%**	-6%**	1.9%	-25.9%**	-3.6%
Panel C: Number of Financial Education Experiences									
One Source	27.0%	46.4%	26.5%	69.4%	24.6%	6.0%	50.2%	37.5%	36.6%
<i>(One – None)</i>	2.0%	-2.9%	0.8%	-6.3%	11.4%***	-5.0%*	18.8%***	-23.1%**	0.3%
Two	32.4%	50.9%	16.7%	75.9%	18.5%	5.6%	38.9%	38.5%	34.6%
<i>(Two – None)</i>	7.4%	1.6%	-9.0%*	0.2%	5.3%	-5.4%	7.5%	-22.1%*	-1.7%
Three +	28.4%	50.7%	20.9%	64.2%	28.4%	7.5%	39.1%	41.7%	41.7%
<i>(3+ – None)</i>	3.4%	1.4%	-4.8%	-11.5%*	15.2%***	-3.5%	7.7%	-18.9%	5.4%

Note: Differences between a given *Source* or *Number of Experiences* are provided, using 'No' *Financial Education Experience* as the base case.

Statistical significance of differences is denoted as * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

[^]*Suspended* only applies to those respondents who incurred late repayment fees, $N = 186$.

Table 4 – Univariate Differences of BNPL Use (Reasons and Attitudes) and Financial Education

	Reasons for BNPL Use				Attitudes toward BNPL		
	<i>Funds In Future</i>	<i>Delay Payment</i>	<i>Don't have funds</i>	<i>Convenience</i>	<i>BNPL Is Debt</i>	<i>BNPL Is Cheaper</i>	<i>Fewer Consequences</i>
Full Sample	29.7%	37.7%	14.3%	27.3%	3.55	3.40	3.35
Panel A: Financial Education Experience							
No	37.8%	40.7%	12.6%	29.6%	3.76	3.58	3.30
Yes	28.2%	37.2%	14.6%	26.5%	3.49	3.37	3.36
<i>Difference</i>	-9.6%**	-3.5%	2.0%	-3.1%	-0.27**	-0.21**	0.06
Panel B: Source of Financial Education Experiences							
School	32.2%	35.6%	15.5%	26.8%	3.50	3.32	3.36
<i>(Sch. – No)</i>	-5.6%	-5.2%	2.9%	-2.9%	-0.26**	-0.26**	0.06
University	27.1%	36.9%	12.7%	28.3%	3.48	3.44	3.35
<i>(Uni. – No)</i>	-10.7%**	-3.9%	0.01%	-1.4%	-0.28**	-0.14	0.05
Work	28.0%	36.4%	12.1%	36.4%	3.59	3.46	3.46
<i>(Work – No)</i>	-9.7%*	-4.4%	0.5%	6.7%	-0.18	-0.12	0.16
Home	26.7%	38.6%	12.5%	23.9%	3.67	3.37	3.29
<i>(Home – No)</i>	-11.1%**	-2.1%	0.1%	-5.8%	-0.09	-0.21*	-0.01
Panel C: Number of Financial Education Experiences							
One Source	28.3%	37.6%	15.7%	24.7%	3.40	3.35	3.37
<i>(One – None)</i>	-9.5%**	3.1%	3.1%	4.9%	-0.36***	-0.23**	0.07
Two	26.7%	35.2%	15.2%	29.5%	3.64	3.30	3.26
<i>(Two – None)</i>	11.1%*	5.5%	2.6%	0.1%	-0.13	-0.28**	-0.04
Three +	30.3%	37.9%	7.6%	31.8%	3.73	3.57	3.46
<i>(3+ – None)</i>	-7.5%	-2.9%	-5.0%	2.2%	-0.03	-0.01	0.16

Note: Differences between a given *Source* or *Number of Experiences* are provided, using 'No' *Financial Education Experience* as the base case. Statistical significance of differences is denoted as *p < 0.1, **p < 0.05, and ***p < 0.01.

Table 5 – Regression Analysis of BNPL Use and Financial Education

	Frequency of Use	Fees	Debt to Repay	Unable to Repay	Suspended
Financial Education	0.918	1.690*	1.852**	1.622*	0.515
	-0.414	1.900	2.002	1.950	-1.208
Age	1.014	0.998	1.034	1.012	1.105**
	0.761	-0.106	1.222	0.278	2.147
Gender	1.269	0.952	0.382***	1.660	0.525
	1.414	-0.239	-3.989	1.301	-1.639
<i>Ethnicity</i>					
Māori	1.209	2.442***	0.860	1.400	1.470
	0.900	3.698	-0.502	0.763	0.869
European	1.592**	1.697**	0.786	0.871	1.025
	2.127	2.044	-0.750	-0.286	0.050
Pasifika	1.551	2.070**	0.874	1.312	2.003
	1.520	2.174	-0.321	0.451	1.098
Asian	0.588*	2.091*	1.234	0.792	0.719
	-1.662	1.884	0.444	-0.313	-0.413
SE Asian	1.928*	1.682	1.031	1.321	1.433
	1.821	1.212	0.062	0.370	0.448
Other	0.848	1.721	0.940	0.428	1.318
	-0.582	1.575	-0.143	-1.304	0.407
<i>Employment Status</i>					
Work, full-time	1.664	1.850	0.812	2.792	0.759
	1.511	1.480	-0.419	1.302	-0.360
Work, part-time	1.160	1.162	0.751	4.398*	0.925
	0.469	0.380	-0.604	1.845	-0.099
Studying	0.784	0.796	0.611	0.637	0.520
	-0.880	-0.666	-1.146	-0.687	-0.871
No Work	2.937***	2.971**	1.200	2.389	0.405
	2.587	2.195	0.305	0.981	-0.948
Other	0.859	1.057	0.666	0.553	0.643
	-0.369	0.109	-0.595	-0.607	-0.395
Financial Capability	0.984	0.916**	1.170***	1.125	1.228***
	-0.511	-2.263	3.402	1.642	2.629
Debt Literacy	0.910	0.932	0.714**	1.370	0.520**
	-0.877	-0.539	-2.155	1.302	-2.550
Money Mgmt.	1.010	0.931***	0.891***	1.021	0.906***
	0.687	-4.022	-5.223	0.633	-2.631
Materialism	1.094	1.410**	1.258	0.973	1.600
	0.701	2.203	1.158	-0.090	1.437
Debt Attitudes	1.195	1.055	1.672***	1.089	0.887
	1.337	0.319	2.587	0.276	-0.362
Impulsiveness	1.075	0.994	1.156	0.691**	1.029
	0.945	-0.063	1.227	-2.098	0.157
Present Orientation	1.199**	1.323***	1.057	1.535**	1.245
	2.188	2.691	0.450	2.214	1.077
Log Income	1.125**	0.947	0.829**	1.137	0.863
	2.414	-0.968	-2.398	1.266	-1.485
Observations	631	631	453	186	186
Pseudo R ²	0.0660	0.115	0.210	0.162	0.185

Note: *Financial Education* is the variable of interest. Probit models are used for binary dependent variables (*Debt to Repay*, *Unable to Pay* and *Suspension*), and ordered probit for *Frequency of Use* and *Fees*. *t*-statistics are reported beneath the odds ratio. Statistical significance is denoted as **p* < 0.1, ***p* < 0.05, and ****p* < 0.01.

Table 6 – Regression Analysis of BNPL Use and Financial Education (Source and Number)

	Frequency of Use	Fees	Debt to Repay	Unable to Repay	Suspended
Panel A: Financial Education Sources					
School	0.859	1.024	0.811	0.762	0.717
	-0.920	0.117	-0.841	-0.712	-0.842
University	1.130	1.227	1.426	1.147	1.295
	0.721	1.005	1.429	0.360	0.690
Work	1.118	1.738**	1.005	0.426*	0.812
	0.555	2.375	0.016	-1.876	-0.454
Home	0.751	1.019	0.668	1.848	0.731
	-1.587	0.083	-1.445	1.438	-0.693
Observations	655	655	465	191	191
Pseudo R^2	0.0656	0.113	0.210	0.181	0.178
Panel B: Number of Financial Education Sources					
One Source	0.965	1.750*	1.582	1.845	0.495
	-0.167	1.947	1.469	1.162	-1.234
Two	0.831	1.218	1.084	2.012	0.578
	-0.691	0.556	0.197	1.010	-0.754
Three+	0.843	2.385**	0.768	0.788	0.538
	-0.554	2.276	-0.579	-0.350	-0.873
Observations	631	631	453	186	186
Pseudo R^2	0.0665	0.118	0.216	0.172	0.186

Note: t -statistics are reported beneath the coefficient. Statistical significance is denoted as * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$. Control variables omitted for brevity, see Table 5 for a full list of controls included.

Table 7 – Regression Analysis of BNPL Use (Reasons and Attitudes) and Financial Education

	Reasons for BNPL Use				Attitudes toward BNPL		
	<i>Funds in future</i>	<i>Delay payment</i>	<i>Don't have funds</i>	<i>Convenience</i>	<i>BNPL is Debt</i>	<i>BNPL is Cheaper</i>	<i>Fewer Consequences</i>
Fin. Education	0.804	0.852	1.036	0.848	0.759*	0.627**	0.764
	-0.920	-0.700	0.106	-0.661	-1.702	-2.411	-1.369
Age	0.981	0.951**	1.024	1.042*	1.018	1.034*	0.975
	-0.863	-2.426	0.830	1.773	1.051	1.949	-1.431
Gender	1.538**	1.574**	0.602*	1.122	1.259	1.288	1.208
	2.088	2.368	-1.907	0.544	1.434	1.573	1.179
<i>Ethnicity</i>							
Māori	1.287	1.641**	0.759	1.393	1.005	0.846	1.167
	1.020	2.084	-0.823	1.284	0.025	-0.832	0.761
European	1.176	1.126	0.919	1.823**	1.102	1.071	1.016
	0.622	0.479	-0.236	2.138	0.462	0.329	0.074
Pasifika	0.862	1.435	1.245	1.267	0.610*	1.261	1.619*
	-0.413	1.113	0.489	0.638	-1.829	0.847	1.656
Asian	0.962	0.762	0.606	0.637	0.987	0.674	0.450***
	-0.096	-0.731	-0.867	-0.949	-0.045	-1.338	-2.621
SE Asian	0.661	0.989	0.234*	3.294***	1.030	1.495	1.009
	-0.864	-0.028	-1.815	2.847	0.090	1.215	0.025
Other	2.027**	0.832	0.226**	0.881	1.174	0.912	0.982
	2.171	-0.555	-2.231	-0.331	0.584	-0.350	-0.067
<i>Employment status</i>							
Full-Time	1.694	1.989*	0.591	1.071	1.177	0.644	0.857
	1.304	1.712	-0.915	0.155	0.519	-1.390	-0.479
Part-Time	1.234	1.885*	0.512	0.973	0.668	0.768	0.661
	0.558	1.671	-1.237	-0.064	-1.379	-0.905	-1.375
Studying	1.013	0.569*	1.050	0.842	1.490	0.973	0.815
	0.038	-1.752	0.101	-0.465	1.483	-0.105	-0.777
No Work	2.549*	1.351	0.807	2.839**	0.887	1.833	0.965
	1.943	0.611	-0.319	2.049	-0.305	1.517	-0.089
Other	1.597	1.525	0.214*	0.701	1.420	1.032	1.567
	0.999	0.919	-1.823	-0.621	0.882	0.080	1.153
Fin Cap	0.937*	1.034	0.938	0.962	1.062**	1.026	1.017
	-1.751	0.945	-1.303	-1.003	1.993	0.875	0.573
Debt Literacy	0.909	1.189	0.756*	1.185	1.368***	1.059	0.816**
	-0.740	1.432	-1.666	1.275	3.032	0.567	-1.974
Money Mgmt.	0.997	1.008	0.978	1.037*	1.053***	1.062***	1.034**
	-0.144	0.461	-0.991	1.924	3.565	4.250	2.314
Materialism	1.074	1.010	0.914	1.012	1.309**	1.315**	1.261*
	0.465	0.071	-0.444	0.071	2.164	2.218	1.895
Debt Attitudes	0.700**	0.962	1.022	1.543***	0.554***	1.312**	1.306**
	-2.240	-0.258	0.100	2.584	-4.442	2.151	2.055
Impulsivity	1.006	0.975	1.025	1.144	1.334***	1.128	1.254***
	0.064	-0.299	0.207	1.408	3.870	1.644	3.001
Present Orient.	1.200*	1.240**	1.221	1.022	1.010	1.238***	1.091
	1.866	2.330	1.515	0.214	0.123	2.724	1.092
Log Income	1.048	1.023	0.967	1.128*	1.096**	1.138***	1.006
	0.798	0.396	-0.462	1.748	1.974	2.846	0.118
Observations	624	624	624	624	631	631	631
Pseudo R ²	0.066	0.053	0.079	0.089	0.073	0.067	0.045

Note: Financial Education (*Fin. Education*) is the variable of interest, and *Fin Cap* is Financial Capability. *t*-statistics are reported beneath the coefficient. Statistical significance is denoted as **p* < 0.1, ***p* < 0.05, and ****p* < 0.01.

Table 8 – Regression Analysis of BNPL Use (Reasons and Attitudes) and Financial Education (Source and Number of Experiences)

	Reasons for BNPL Use				Attitudes towards BNPL		
	<i>Funds in future</i>	<i>Delay payment</i>	<i>Don't have funds</i>	<i>Convenience</i>	<i>BNPL is Debt</i>	<i>BNPL is Cheaper</i>	<i>Fewer Consequences</i>
Panel A: Financial Education Sources							
School	1.171	0.848	1.139	0.995	0.960	0.855	0.963
	0.803	-0.881	0.513	-0.022	-0.260	-1.003	-0.244
University	0.983	1.025	0.742	0.978	0.904	1.011	0.913
	-0.086	0.129	-1.107	-0.103	-0.629	0.070	-0.573
Work	1.114	0.891	0.901	2.057***	0.975	1.125	1.154
	0.446	-0.510	-0.323	2.957	-0.134	0.610	0.749
Home	0.745	1.173	0.784	0.679	1.274	0.787	0.811
	-1.324	0.786	-0.837	-1.645	1.373	-1.385	-1.238
Observations	647	647	647	647	655	655	655
Pseudo R ²	0.067	0.050	0.081	0.101	0.068	0.061	0.040
Panel B: Number of Financial Education Sources							
One Source	1.171	0.848	1.139	0.995	0.650**	0.610**	0.737
	0.803	-0.881	0.513	-0.022	-2.076	-2.421	-1.483
Two	0.983	1.025	0.742	0.978	1.009	0.585**	0.729
	-0.086	0.129	-1.107	-0.103	0.033	-2.107	-1.230
Three+	1.114	0.891	0.901	2.057***	0.975	0.784	0.987
	0.446	-0.510	-0.323	2.957	-0.086	-0.844	-0.043
Observations	624	624	624	624	631	631	631
Pseudo R ²	0.068	0.053	0.083	0.095	0.076	0.067	0.046

Note: *t*-statistics reported beneath the coefficient. Statistical significance is denoted as **p* < 0.1, ***p* < 0.05, and ****p* < 0.01. Control variables omitted for brevity, see Table 5 for a full list of controls included.

Table 9 – Buy Now Pay Later Class Probabilities

	Class 1 Heavy but okay	Class 2 Heavy & problematic	Class 3 Average users	Class 4 Light & problematic	Class 5 No BNPL experience
Full Sample	7.80%	10.80%	43.70%	9.20%	28.50%
Panel A: Financial Education Experience					
No	7.4%	11.0%	50.7%	5.9%	25.0%
Yes	7.9%	11.1%	42.5%	10.2%	28.3%
<i>Difference</i>	0.5%	0.1%	-8.2%*	4.3%	3.3%
Panel B: Source of Financial Education Experiences					
School	9.0%	9.0%	43.3%	10.6%	28.2%
<i>(Sch. – No)</i>	1.6%	-2.0%	-7.4%	4.7%	3.2%
University	7.7%	11.0%	42.3%	11.8%	27.2%
<i>(Uni. – No)</i>	0.3%	0.0%	-8.4%	5.9%*	2.2%
Work	11.3%	15.0%	36.1%	9.8%	27.8%
<i>(Work – No)</i>	3.9%	4.0%	-14.6%**	3.9%	2.8%
Home	7.9%	7.3%	41.0%	10.7%	33.1%
<i>(Home – No)</i>	0.5%	-3.7%	-9.7%*	4.8%	8.1%
Panel C: Number of Financial Education Experiences					
One Source	7.4%	12.8%	42.9%	9.8%	27.0%
<i>(One – None)</i>	0.0%	1.8%	-7.8%	3.9%	2.0%
Two Sources	9.3%	4.6%	44.4%	9.3%	32.4%
<i>(Two – None)</i>	1.9%	-6.4%*	-6.3%	3.4%	7.4%
Three+ Sources	9.0%	11.9%	37.3%	13.4%	28.4%
<i>(3+ – None)</i>	1.6%	0.9%	-13.4%*	7.5%*	3.4%

Note: Differences between a given *Source* or *Number of Experiences* are provided, using 'No' *Financial Education Experience* as the base case. Statistical significance of differences is denoted as **p* < 0.1, ***p* < 0.05, and ****p* < 0.01.

Table 10 – Regression of BNPL Use Classes and Financial Education

	Class 1 Heavy but okay	Class 2 Heavy & problematic	Class 3 Average users	Class 4 Light & problematic
Financial Education	1.793 1.218	0.817 -0.465	0.723 -1.177	1.925 1.218
Age	0.997 -0.067	1.007 0.181	0.985 -0.609	0.945 -1.431
Gender	3.059*** 2.578	1.024 0.072	1.368 1.397	0.606 -1.389
<i>Ethnicity</i>				
Māori	4.312*** 3.279	2.064* 1.723	1.124 0.365	3.001** 2.565
European	4.827*** 3.081	1.655 1.128	1.266 0.756	1.709 1.224
Pasifika	2.838 1.592	4.607*** 2.738	1.530 0.983	1.093 0.129
Asian	2.729 1.344	0.881 -0.184	0.436* -1.935	1.915 1.069
SE Asian	6.138** 2.162	1.869 0.893	1.217 0.404	1.180 0.210
Other	1.593 0.691	0.908 -0.155	0.681 -0.986	2.489* 1.691
<i>Employment status</i>				
Work, full-time	4.212* 1.911	1.620 0.618	1.439 0.812	0.859 -0.211
Work, part-time	2.727 1.413	0.842 -0.230	1.175 0.393	0.595 -0.757
Studying	1.089 0.140	0.512 -1.077	0.942 -0.163	0.421 -1.340
No Work	17.287*** 3.032	4.079 1.429	4.998** 2.327	1.749 0.537
Other	2.766 1.210	0.180 -1.423	0.802 -0.421	0.458 -0.903
Financial Capability	0.843** -2.302	0.990 -0.166	1.014 0.317	0.969 -0.448
Debt Literacy	1.279 0.987	0.855 -0.738	0.865 -1.002	0.632* -1.957
Money Mgmt.	0.994 -0.171	0.956 -1.452	1.055*** 2.610	0.922*** -2.645
Materialism	1.042 0.132	1.953** 2.499	0.926 -0.440	1.352 1.157
Debt Attitudes	1.129 0.386	1.414 1.234	1.049 0.274	0.720 -1.159
Impulsivity	0.943 -0.325	1.258 1.450	0.958 -0.421	0.658** -2.503
Present Orientation	1.534** 2.262	1.461** 2.212	1.206* 1.681	1.465** 2.158
Log Income	1.501** 2.570	0.985 -0.165	1.258*** 3.144	0.921 -0.990
Observations	631	631	631	631
Pseudo R ²	0.159	0.159	0.159	0.159

Note: Class 5 (*No experience*) is the base case against which the other classes are compared. Financial Education is the variable of interest. *t*-statistics are reported beneath the coefficient. Statistical significance is denoted as *p < 0.1, **p < 0.05, and ***p < 0.01.

Table 11 – Regression Analysis of BNPL Use Classes and Financial Education (Sources and Number)

	Class 1 Heavy but okay	Class 2 Heavy & problematic	Class 3 Average users	Class 4 Light & problematic
Panel A: Financial Education Sources				
School	1.052	0.788	1.055	1.077
	0.133	-0.694	0.242	0.215
University	1.439	0.897	1.009	1.724
	0.936	-0.318	0.038	1.559
Work	2.612**	1.799	0.897	1.291
	2.150	1.545	-0.385	0.616
Home	0.759	0.455**	0.677	1.223
	-0.659	-1.975	-1.637	0.535
Observations	655	655	655	655
Pseudo R^2	0.162	0.162	0.162	0.162
Panel B: Number of Financial Education Sources				
One Source	1.625	0.986	0.739	1.963
	0.960	-0.032	-1.048	1.199
Two Source	2.354	0.346*	0.779	1.198
	1.424	-1.646	-0.705	0.280
Three Source	1.782	0.897	0.599	3.713*
	0.828	-0.175	-1.221	1.888
Observations	631	631	631	631
Pseudo R^2	0.165	0.165	0.165	0.165

Note: Class 5 (*No experience*) is the base case against which the other classes are compared. Control variables are omitted for brevity, see Table 5 for a full list. Statistical significance is denoted as * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

Appendix A –Latent Class Analysis

Table A1 – Buy Now Pay Later Use Latent Classes (Use Patterns)

	Full Sample	Heavy but okay	Heavy & problematic	Average users	Light & problematic	No BNPL experience
Percentage of Respondents		7.8%	10.8%	43.7%	9.2%	28.5%
Number of Respondents		55	76	308	65	201
<i>Frequency of Use</i>						
None	28.5%	0	0	0	0	100%
Occasional	47.2%	46.1%	48.3%	68.8%	90.5%	0
Heavy	24.3%	53.9%	51.7%	31.2%	9.5%	0
<i>Purchase Type</i>						
<i>Essential items</i>						
No	83.1%	92.4%	56.4%	82.7%	58.6%	100%
Yes	16.9%	7.6%	43.6%	17.3%	41.4%	0
<i>Small Discretionary</i>						
No	50.1%	0	34.0%	31.0%	45.4%	100%
Yes	49.9%	100%	66.0%	69.0%	54.6%	0
<i>Large Discretionary</i>						
No	63.7%	61.7%	27.7%	48.4%	69.5%	100%
Yes	36.3%	38.3%	72.3%	51.6%	30.5%	0
<i>Reason for Use</i>						
<i>Funds in future</i>						
No	70.6%	53.1%	45.2%	64.9%	52.0%	100%
Yes	29.4%	46.9%	54.8%	35.1%	48.0%	0
<i>Delay payment</i>						
No	62.7%	42.8%	56.2%	45.4%	52.9%	100%
Yes	37.3%	57.2%	43.8%	54.6%	47.1%	0
<i>Don't have funds</i>						
No	85.8%	100%	63.1%	81.9%	77.3%	100%
Yes	14.2%	0	36.9%	18.1%	22.7%	0
<i>Convenience</i>						
No	73.0%	45.0%	53.6%	63.1%	82.9%	100%
Yes	27.0%	55.0%	46.4%	36.9%	17.1%	0
<i>Borrow to Repay</i>						
No	69.5%	82.1%	17.3%	68.8%	32.7%	100%
Yes	30.5%	17.9%	82.7%	31.2%	67.3%	0
<i>Buy Now Pay Later Attitudes</i>						
<i>Is a form of debt</i>						
Disagree	21.8%	25.0%	21.0%	19.2%	52.8%	15.4%
Neutral	18.2%	11.8%	11.5%	19.5%	25.6%	17.9%
Agree	60.0%	63.3%	67.5%	61.3%	21.6%	66.7%
<i>Is Cheaper</i>						
Disagree	20.6%	14.2%	8.0%	15.8%	42.4%	27.4%
Neutral	29.8%	14.9%	12.5%	25.7%	45.1%	41.8%
Agree	49.6%	70.9%	79.5%	58.5%	12.5%	30.8%
<i>Fewer Consequences</i>						
Disagree	21.7%	18.4%	9.5%	16.9%	27.6%	32.8%
Neutral	30.2%	8.4%	9.7%	30.1%	58.8%	34.8%
Agree	48.1%	73.2%	80.8%	53.0%	13.7%	32.3%

continued over page

Table A1 continued – Buy Now Pay Later Use Latent Classes (Use Patterns)

	Full Sample	Heavy but okay	Heavy & problematic	Average users	Light & problematic	No BNPL experience
Percentage of Respondents		7.8%	10.8%	43.7%	9.2%	28.5%
Number of Respondents		55	76	308	65	201
<i>Frequency of Fees</i>						
None	71.5%	0	0	98.6%	0	100%
Once or Twice	21.4%	77.2%	65.7%	1.4%	83.5%	0
More	7.1%	22.8%	34.3%	0	16.5%	0
<i>Reason for incurring fees</i>						
No Fees	73.0%	2.6%	1.5%	100%	6.1%	100%
Forgot	14.9%	74.8%	45.5%	0	46.3%	0
Couldn't Afford	12.1%	22.6%	53.0%	0	47.6%	0
<i>Suspended?</i>						
No	89.5%	100%	42.6%	100%	56.9%	100%
Yes	10.5%	0	57.4%	0	43.1%	0
<i>Forgo Essentials to Repay</i>						
Never	88.7%	88.7%	34.4%	100%	66.6%	100%
Sometimes	8.4%	11.3%	41.0%	0	31.3%	0
Most of the time	3.0%	0	24.5%	0	2.1%	0

Table A2 – BNPL Use Latent Classes (Demographics, financial knowledge, & behavioural characteristics)

	Full Sample	Heavy but okay	Heavy & problematic	Average	Light & problematic	No BNPL experience
% Women	56.3%	76.4%	50.0%	61.4%	35.9%	52.0%
Age (years)	25.8	25.3	26.7	26.1	24.5	25.5
<i>Ethnicity</i>						
European	64.8%	74.5%	64.5%	68.5%	60.0%	58.2%
Māori	20.4%	36.4%	26.3%	16.2%	32.3%	16.4%
Pasifika	9.5%	12.7%	14.5%	8.4%	7.7%	9.0%
Asian	15.6%	12.7%	10.5%	14.3%	16.9%	19.9%
Other	3.0%	3.6%	2.6%	1.6%	3.1%	5.0%
<i>Employment Status</i>						
Work, full-time	59.6%	60.0%	72.4%	61.7%	56.9%	52.2%
Work, part-time	19.0%	18.2%	11.8%	17.9%	20.0%	23.4%
Studying	19.1%	20.0%	9.2%	17.2%	20.0%	25.4%
Not Working	9.6%	16.4%	11.8%	10.4%	9.2%	6.0%
Employment Other	5.4%	5.5%	1.3%	3.9%	7.7%	8.5%
Average Income (month)	\$3,817	\$4,007	\$3,941	\$4,245	\$2,750	\$3,398
<i>Financial knowledge</i>						
Financial Capability	10.43	9.05	10.23	11.01	9.44	10.30
Debt Literacy	1.11	1.29	1.00	1.16	0.83	1.14
Money Management	32.70	30.40	30.78	34.70	28.31	32.40
Debt Attitudes	2.73	2.62	2.92	2.72	2.69	2.70
<i>Behavioural traits</i>						
Materialism	3.23	3.24	3.64	3.20	3.14	3.14
Impulsivity	2.78	3.25	3.51	2.69	2.43	2.62
Present Orientation	2.85	3.24	3.49	2.77	2.92	2.59