A Review of the Psychological Factors Affecting the Acquisition and Outcomes of Credit

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Abstract

Since their introduction in the 1980s, credit scores have been the dominant method used to assess the creditworthiness of individuals. However, they rely heavily on situational factors which may lead to good long term borrowers being denied due to unfortunate recent circumstances. Instead, there is emerging evidence that a number of psychological factors including personality traits, attitudes and behaviours play an important role in the acquisition and outcomes of credit. Taking account of these factors may provide a better picture of the long term creditworthiness of individuals, despite their current circumstances. This review paper takes the important step of collating the latest research on the psychological factors involved throughout the credit process from acquisition to financial outcomes. It highlights the multifaceted nature of personal credit use with the various inextricably linked personality, attitudinal and behavioural factors involved.

Introduction

Credit

Credit is the process whereby one party (lender/creditor) provides money or resources to another (borrower/debtor), trusting that they will be reimbursed at a later date. Often interest is applied to the amount borrowed, making the transaction worthwhile to the creditor (Finlay, 2009). Whilst forms of credit have been used throughout much of recorded human history (Meadows & Shipton, 2001 Finlay, 2009) the 20th century saw unprecedented growth in its availability and use (MacDonald & Gastmann, 2017), especially with the introduction of credit cards (Zywicki, 2000), and credit has been attributed as having a crucial role of the growth of modern western economies (Gilchrist & Zakrajsek, 1998).

In recent history, despite a decline following the 2007/2008 financial crisis, there has generally been consistent growth in the use of credit globally (excluding the 2020/21 coronavirus pandemic) (Federal Reserve, 2021, Bank of England 2021), with particularly high levels seen in developing nations (e.g. India, [Experian India, 2021]). The nature of credit is also rapidly changing as new and innovative products and technologies are introduced by new and existing providers alike (PWC, 2020). Peer-to-peer lending (e.g. Peerform, 2021), flexible credit (e.g. Bip, 2021) and Buy/Shop Now Pay Later (B/SNPL) (e.g. Klarna, 2021, Curve, 2021) offerings are just some of the new ways for people to consume credit. However, as these new credit products are introduced, lenders need ways to identify whether potential borrowers are suitable for them and whether they will be able to meet the obligations.

As mentioned, a major need for lenders in the credit market is to be able to predict how likely a borrower is to repay their debt. Consumers who are poor prospects as borrowers may be late in repaying or fail to repay at all, and unpaid debts can be difficult to recover. There therefore exist significant risks for lenders, and they must act to minimise them when operating in credit markets (Bluhm et al, 2010). Traditionally, credit scores (e.g. Experian, 2021, Equifax, 2021) have been used to determine whether individual customers are suitable for credit, but the exact formulations of these tend to be kept secret and this can be a disadvantage for lenders and borrowers alike (Hurley & Adebayo, 2016). Recently, there has been growing interest in alternative credit scores (Hurley & Adebayo, 2016), which make use of existing data collected by lenders, as well as open banking data, to build models for predicting default likelihood. The result is a model that lenders have more control and over and a better understanding of than when using third party credit scores. Additionally, predictions can be refined for the specific types of credit product the lender offers. However, these models still largely rely on situational data; things such as income, debt history, age, gender etc., which are a reflection of the situation potential borrowers find themselves in. By definition, these factors are very situation dependent and recent situational changes may not necessarily reflect the long term viability of a potential borrower.

Research shows that psychological factors such as traits and attitudes have an impact on both the acquisition and outcomes of credit (Kamleitner et al, 2012), and some providers are beginning to see psychological factors as an alternative approach to credit scoring, especially in developing nations where borrowers often do not have sufficient credit histories (LenddoEFL, 2021). In this vein, this paper focuses on reviewing the available literature on the psychological factors that influence credit acquisition and outcomes.

Credit Acquisition/Use and Outcomes

For the purposes of this paper, two specific aspects of credit; acquisition/use and outcomes are considered. Acquisition and use is treated as the tendency of an individual to use credit products and the amount of credit\debt they hold. From the perspective of lenders, it is helpful to understand what psychological factors are associated with seeking out and using credit to better the customer. In addition to use of credit products, level of debt is used as the measurement of credit acquisition/use as it is a variable frequently used in research papers. Since debt is an inevitable outcome of credit use, the level of debt offers an indication of the amount of credit an individual has acquired. This allows a much wider range of papers to be considered when looking at the psychological factors that affect credit acquisition. Outcomes of credit revolve around whether the debt is paid back on time or at all, or whether an individual has late payments or defaults on the debt (Ozdemir & Boran, 2004). Few papers directly study default or late payment rates in relation to specific psychological factors, so instead for this review a general outcome of financial distress is considered, incorporating over-indebtedness (Almenberg et al, 2016) late repayments, repossessions and bankruptcy (Fenton-O'Creevy &

Furnham, 2020). This is perhaps the most important aspect for lenders as borrowers more likely to have these outcomes are riskier prospects.

The Psychology of Credit

As a discipline, psychology studies the mind and behaviour (Eysenck & Keane, 2020). This can include, amongst other things, cognitive processes, thoughts, feelings and actions. The psychology of consumer credit, therefore, is concerned with the mental processes, thoughts and behaviours involved in the acquisition, use and outcomes of credit. Kamleitner and colleagues (2012) produced a comprehensive review of the psychological processes involved before, during and after the acquisition of credit. They indicated that the process involves a mixture of situational, personal, cognitive and social factors and that different factors play roles at the different stages of the process. Whilst Kamleitner and colleague's review is comprehensive, it includes many factors beyond those purely psychological, such as situational factors. Additionally, having been published nearly a decade ago, there are many newer studies that are not included. This review paper solely focuses on the psychological characteristics and factors of the individual related to credit and offers an up-to-date overview of the literature. It does this by looking at the traits, attitudes and financial behaviours associated with credit use and outcomes.

Traits, Attitudes & Behaviours

Individual differences are the ways that people differ in their behaviours, beliefs and thought processes (Cooper, 2002). Trait psychology aims to discover underlying psychological traits or characteristics that explain individual differences. The "Big Five" factors (Goldberg, 1992, Mcrae & John, 1992) is one of the most widely used models of human psychological traits, supported by decades of research (Schultz & Schultz, 2016). The Big Five model proposes five distinct traits often abbreviated as OCEAN: Openness (open-mindedness, adventurousness and creativity), Conscientiousness (responsible, organised and hard working), Extraversion (sociable and outgoing), Agreeableness (kind, sympathetic and cooperative) and Neuroticism (tendency for negative affect). Whilst traits are thought to influence behaviour, studies have struggled to find more than a 0.3 correlation between traits and behaviours (Eysenck & Eysenck, 1980), suggesting other factors still play a majority role.

Like traits, attitudes are enduring, although thought to be more malleable (Ajzen, 2005), but unlike traits, targeted at a specific object or idea (Sherman & Fazio, 1983). Attitudes also influence behaviour (Ajzen, 2005) and since they are more specific they may be stronger predictors (Ajzen, 2005). Attitudes are also not independent of traits and traits can influence attitudes.

Finally, behaviours are the observable actions of an individual (Ajzen, 2005). Since behaviours are observable they also tend to be the easiest to measure. Both traits and attitudes influence behaviour, and often researchers are interested in how traits

and attitudes result in different behaviours between people despite similar situations (Asendorpf, 2009).

From the perspective of the credit process, research suggests that a mixture of traits, attitudes and behaviours play a role in the acquisition and use of credit. Whilst situational factors still play a significant role (Kamleitner et al, 2012), knowing the underlying psychology can give a deeper understanding of the process.

This Review

Primarily, this paper acts as an up-to-date literature review concerning the psychological factors that affect the acquisition and outcomes of credit. It does this through the lens of personality traits, attitudes and behaviours (Ajzen, 2005).

Psychological Factors Related to Credit Acquisition and Outcomes

Personality Traits

The “Big Five”

As mentioned, the “Big Five” personality trait model is one of the most widely recognised and used models of human personality (Furr, 2018). Based on the lexical hypothesis, the idea that personality traits are encoded into common language, the five traits are measured using scales where individuals respond to statements about themselves using a likert scale to indicate how strongly they agree with them. The Big Five have been studied widely and used to explain individual differences in behaviours from linguistic style (Pennebaker & King, 1999), to smoking behaviour (Terracciano & Costa, 2004), to job performance (Thoresen et al, 2004). It is no surprise therefore that it has been used to study the relationship between psychological traits and consumer credit.

Openness to Experience is a trait associated with intellectual curiosity and imaginativeness, which can manifest as adventurousness and creativity (Goldberg, 1992). Research indicates that openness to experience is associated with greater levels of debt (Brown & Taylor, 2014). Researchers suggest this may be because it is associated with more positive attitudes towards risk-taking, which itself is associated with increased levels of debt (Daly et al, 2010). Studies have also indicated that openness may also be linked to an increased risk of financial distress (Fenton-O’Creevy & Furnham, 2020, Xu et al, 2015), although the relationship, whilst significant, is not strong when compared to other factors.

Conscientiousness is the trait of being careful or diligent. Conscientious people tend to be efficient and organised rather than easy-going and disorderly and are disciplined and show forward-planning rather than spontaneity (Thompson, 2008). Research has found that conscientiousness is associated with lower levels of household debt, and that this relationship is fairly strong (Brown & Taylor, 2014). In line with this, researchers have found that a certain expression of the MAOA gene

associated with *lower* conscientiousness is linked to greater levels of credit card debt (De Neve & Fowler, 2009). The authors suggest that this is due to the gene's role in the serotonergic system. Conversely, conscientiousness is associated with greater levels of saving behaviours, so it makes sense to be related to lower debt (Kausel et al, 2016, Letkiewicz & Fox, 2014). Further research also shows that conscientiousness is linked to a decreased likelihood of financial distress (Fenton-O'Creevy and Furnham, 2020, Xu et al, 2015). Fenton-O'Creevy and Furnham (2020) note that conscientious individuals tend to engage in positive money management behaviours and have an attitude towards money that promotes saving rather than spending it. They suggest that this likely accounts for the lower prevalence of financial distress in conscientious individuals.

Extraversion is a trait associated with obtaining gratification from external rather than internal sources (Goldberg, 1992). Individuals high in this trait tend to be sociable and outgoing. Like openness, there is some evidence that extraversion is linked to greater levels of debt (Brown & Taylor, 2014), with Harrison and Chudry (2011) finding it to be associated with greater use of overdrafts in undergraduate students. Again, like openness, this may be explained by a more positive attitude towards risk, (Daly et al, 2010). Additionally, it has been suggested that extraversion may be linked to increased expenditure for social activities as well as social status symbols, which may be a route to increased use of credit (Harrison & Chudry, 2011). There is some evidence that extraversion is also linked to a greater likelihood of financial distress, although the relationship is either found to be very weak (Xu et al, 2015, Fenton-O'Creevy & Furnham, 2020) or absent when controlling for other variables (Xu et al, 2015).

Agreeableness is a trait associated with high levels of friendliness, trust in others and altruism (Goldberg, 1992). Compared to the other Big Five traits there is less evidence that agreeableness is related to either debt levels or financial distress. There is weak evidence that agreeableness is associated with household debt (Brown & Taylor, 2014) but not credit card debt (Donnelly et al., 2012) and it does not appear to be related to financial distress (Fenton-O'Creevy & Furnham, 2020, Xu et al, 2015). It is suggested that those higher in agreeableness may spend more on others, which could lead to use of credit products and incurring debt. Indeed, Fenton-O'Creevy and Furnham (2020) found that agreeableness is associated with seeing money as a means of generosity: a way of demonstrating love for others.

Neuroticism is the remaining of the Big Five traits, associated with low mood and anxiety (Goldberg, 1992). It is also included in the core self-evaluations and, as such, is discussed with them in greater detail below.

Core Self-Evaluations

The core self evaluations (CSE) is a proposed personality trait comprising four dimensions; locus of control, neuroticism, generalised self-efficacy and self-esteem. It has been shown to be important for job self-satisfaction (Judge et al, 2002) and job

performance (Bono & Judge, 2003). The individual dimensions have also been researched in various studies related to credit.

Self efficacy is an individual's belief of their own ability to perform and attain desired outcomes (Bandura et al, 1999). Related to this, financial self efficacy is an individual's belief that they have the ability to manage their own finances (Farrell et al, 2016). In an online sample of Australian women, researchers (Farrell et al, 2016) found that those with higher perceived financial self efficacy had greater levels of savings and investments and were less likely to have credit card debt or loans, whereas the opposite was found in those with low financial self-efficacy. The authors suggest that those with higher financial self-efficacy practice better financial management, avoiding credit products which may be related to poor financial planning. This is supported by the research of Wang and colleagues (2011) who found that those higher in self-efficacy were less likely to make use of revolving credit products (e.g. credit cards). Moreover, credit card mismanagement was only found to reduce the financial satisfaction of borrowers with lower financial self-efficacy (Payne & Asebedo, 2017).

Locus of control is the degree to which individuals feel they have control over their actions, feelings and the situations they find themselves in (Lefcourt, 1991). Those with an internal locus of control tend to see events in their lives as a result of their own actions, whereas those with an external locus of control perceive events largely as the result of external factors. Wang and colleagues (2011) found a lower level of revolving credit usage amongst those with internal locus of control compared to those with external. Additional research has shown that those with higher internal locus of control tend to have higher levels of savings (Cobb-Clark et al, 2016) and higher credit scores (Perry, 2008) indicating a lower frequency of adverse financial events.

Self-esteem is how positive an individual's self-evaluation of themselves is (Cast & Burke, 2002). Self-esteem shows a mixed relationship with debt. Research has shown for younger borrowers (under 28 years of age), debt is associated with higher self-esteem, whereas for older borrowers it is associated with lower self esteem (Dwyer et al, 2005). The authors suggest that for younger borrowers, especially those from poorer backgrounds, the money obtained through credit infers a sense of power, improving the self esteem of the individuals. Importantly, this suggests that the effect may be of credit on self esteem rather than the other way around. Other research, (Wang et al, 2011) has also shown that lower self esteem is associated with greater revolving credit usage.

Neuroticism is one of the big five personality measures (Goldberg, 1992), but is also included amongst the core self evaluations. It is the tendency of individuals to feel negative affect, including anxiety, fear, envy and guilt. Sometimes the reverse measure of neuroticism is used, referred to as emotional stability. Research has shown mixed results concerning the relationship between debt and neuroticism. A number of studies have found no significant relationship between neuroticism and debt (Brown & Taylor, 2014,). In a study looking at the genetic profile associated

with credit use, the authors (Kuhnen et al, 2013) found that the short allele of a specific gene was associated with lower credit use. Carriers of this genetic profile tended to have higher neuroticism, indicating that those higher in neuroticism may make less use of credit. It was found that carriers of the short allele version of the gene were also less likely to engage in high risk financial activities. Daly and colleagues (2010) propose that neuroticism is associated with risk aversion, and as such those individuals avoid credit and debt as they are associated with risk. More consistently, neuroticism has been found to be associated with a greater risk of financial distress (Xu et al, 2015, Fenton-O'Creevy & Furnham, 2020), indicating that despite tending to avoid debt, individuals higher in trait neuroticism do not necessarily avoid the associated negative outcomes. Fenton-O'Creevy and Furnham (2020) did find some evidence that neuroticism is related to fewer financial management behaviours, which may explain this to some degree.

Overall, the core-self evaluations associated with better life outcomes (high self-esteem, internal locus of control, high self-efficacy and low neuroticism (high emotional stability) also tend to be associated with lower levels of debt, less use of credit products and better credit outcomes.

Impulsivity

Impulsivity can be defined as a tendency to act on a whim, displaying behaviour characterised by little or no forethought, reflection, or consideration of the consequences (VandenBos et al., 2007). There is good evidence for a relationship between high impulsivity and high levels of borrowing, with cross-cultural research using validated measures suggesting impulsivity is a strong, positive, and significant predictor of unsecured borrowing and borrowing for daily expenses (Kempson et al., 2017; Ottaviani & Vandone, 2011; Ottaviani & Vandone, 2017). What's more, impulsivity predicts borrowing behaviour independently of other factors including income, financial literacy, and socio-economic status (Ottaviani & Vandone, 2017).

Additionally, hyperactive impulsivity associated with ADHD also predicts credit balance, late payments and borrowing (Beauchaine et al., 2017). Furthermore, over-indebted households were more than twice as likely to show impulsive spending behaviours, with the link between poor spending self-control and over-indebtedness stronger than that of financial literacy and over-indebtedness (Gathergood, 2012). A recent meta-analysis of seventeen studies by Frigerio et al (2020) confirm these findings, while also showing strongest associations to unmanageable debt in those under 25 years of age. They argue that this persistent association between indebtedness and impulsive behaviours has policy implications.

Studies have also shown that impulsivity is related to increased credit card misuse (Pirog & Roberts, 2007) and a greater propensity to buy on credit (Mette et al, 2018). However, emerging research (Strickland & Johnson, 2021) emphasises the multidimensional nature of impulsivity - a notion which has been gaining growing acceptance across psychological and behavioural science. This recent neural and

psychometric evidence posits a strong argument that the construct of impulsivity captures highly divergent behaviours, and thus fails the requisite requirements for a psychological construct. Moreover, extant literature has used both self-report and behavioural task-based measures to assess impulsivity, however, weak correlation between these methods suggests further distinctions must also be made. Accordingly, awareness of the multidimensional nature of impulsivity when investigating its role in personal credit behaviours should be noted.

Self-Control

Related to impulsivity, self-control is an individual's ability to control their behaviours despite impulses or temptations (de Ridder et al, 2012). Research has shown that higher self-control is linked to lower debts (Achtziger et al, 2015), and possession of fewer credit cards (Mansfield et al., 2003). Holistically, several areas of self-control encompassing psychological factors such as locus of control, impulsivity and financial anxiety have been shown to impact credit card debt when considered together (Limerick & Peltier, 2014).

Delay of Gratification

Delay of gratification is the ability to defer immediate gratification with the view to receiving an even greater reward in the future (Mischel, 1974). Inability to delay gratification has been linked to impulsivity and impulsive behaviour (Reynolds & Schiffbauer, 2005) and is associated with greater levels of credit card debt in students (Norvilitis et al, 2006).

Consideration of Future Consequences

Consideration of future consequences (CFC) is an individual's ability to consider the future consequences of their actions and the degree to which they alter their current actions in light of this (Joireman et al, 2010). Individuals unable to consider future consequences and more concerned with immediate rewards have been found to have higher levels of credit card debt (Joireman et al, 2010). The authors demonstrated that this relationship is mediated by compulsive buying behaviours, whereby a failure to consider future consequences influences compulsive buying which in turn influences debt.

Cognitive Biases

Cognitive biases involve the tendency to make decisions in an irrational way e.g. using information selectively or being pressured into a particular choice (Caverni et al.1990). Generally, cognitive biases can be considered a predictable set of mental errors that originate from our limited abilities to process information in an objective manner (Tversky and Kahneman, 1974). There are a range of common biases such

as searching only for information that supports your existing views (confirmation bias), jumping to conclusions based on information found early on (anchoring bias), and an inability to accurately assess our own and other's competence levels (Dunning-Kruger Effect).

In the context of personal credit, several relevant predictable errors have been identified (Kahneman, 2013). *Present Bias* involves a myopic preference for immediate gratification when presented with long and short term choices. For example, using available credit for indulgent purchases rather than saving it for emergencies. Related to this is *Hyperbolic Discounting*, where an unrealistic belief in one's future willpower results in immediate rewards being preferred—even if they are smaller in value compared to a longer term reward. When it comes to risk, Kahneman (2013) states that we take risks because we are unaware that they are risks, with other research showing that risk is often evaluated through feelings rather than objective measures (Nicolini & Cude, 2021). Moreover, the strong aversion to avoiding losses means that people sometimes accept greater risks in attempts to recover losses. Lastly, mental accounting is the different values placed on an equal amount of money e.g. five £10 notes versus a single £50 note. However, with credit cards diluting the concept of money as a finite resource, the pain of paying is removed allowing for easier spending.

Attitudes

Money Attitudes

Money attitudes are people's beliefs about the meaning, uses, purpose and importance of money (Furnham, 1984). Since the 1980s a number of studies have aimed to identify the common attitudes individuals hold about money and to develop scales to measure these. Since credit is a financial process, money attitudes should influence how people use it (Fenton-O'creevy & Furnham, 2020). Furnham and others (Furnham, 1984, Lay & Furnham, 2018) have identified four general attitudes towards money. Money as power involves seeing money as a source of influence over others and is weakly associated with increased financial distress (Fenton-O'Creevy & Furnham, 2020, Fenton-O'Creevy & Furnham, 2021). Money security involves an attitude promotes saving behaviour and has been demonstrated to be more strongly protective against financial distress. Money as generosity is an attitude where people consider money as a means to help or gift others and is associated with an increased risk of financial distress. Finally, money as autonomy is an attitude where individuals see money as a source of freedom. Again, it is linked to an increased likelihood of experiencing financial distress (Fenton-O'Creevy & Furnham, 2020). The researchers found that money as security was generally associated with good financial management behaviours, whereas the other three were not. This may explain why money as security was the only attitude negatively related to financial distress.

Debt Attitude

Debt attitude is an individual's attitude towards debt; whether they see debt as a useful tool or a source of shame to be avoided (Chien & Devaney, 2001). Perhaps unsurprisingly, researchers have found that a positive attitude towards debt and credit is associated with greater levels of debt (Chien & Devaney, 2001) and negative or uncomfortable views of debt is associated with lower levels (Almenberg et al, 2018). However, it is important to note; those with a positive view of debt tend to see it as a tool or a means to an end, rather than simply having a positive view of being in debt (Almenberg et al, 2018). Moreover, research suggests that debt attitude has a cultural component and is passed down through families (Almenberg et al., 2021).

Materialism

Materialism is an attitude towards material objects and consumption where the individual places a high value on material possessions (Belk, 1984). Research has shown that higher levels of materialism are associated with greater levels of debt (Garðarsdóttir & Dittmar, 2012, Watson, 2003). In addition to this, Mette and colleagues (2018) found that greater materialism was associated with a greater propensity to buy products on credit in an experimental sample. It is suggested that materialism increases an individual's tendency to spend which in turn can lead to greater use of credit products (Watson, 2003).

Behaviours

Money Management Behaviours

Money/financial management behaviours are the behaviours that individuals engage in to look after, keep track of, stay informed about and plan ahead with their finances (De Almeida et al, 2021, Fenton-O'Creevy & Furnham, 2020). Fenton-O'Creevy & Furnham (2020) refer to these behaviours collectively as financial capability. Of these behaviours, future financial planning, being selective around choosing financial products and to a lesser degree, staying informed about financial issues are protective against experiencing financial distress (Fenton-O'Creevy & Furnham, 2020). Additionally, an individual's monitoring of their own spending is associated with a decreased likelihood of over-indebtedness (De Almeida et al, 2021). Nyhus and Webley (2001) found more mixed results with some management behaviours found to be related to lower debt levels whilst others having no relationship.

Generally however, engaging in positive financial management behaviours (or having "financial capabilities" as Fenton-O'Creevy & Furnham, 2020, put it) appear to be protective against both debt accumulation and the negative outcomes of credit.

Impulse & Compulsive Buying

Impulse buying or purchasing is the unplanned purchasing of an item or service, with the decision being made immediately before the purchase (Beatty & Ferrell, 1998). Compulsive buying is the repeated behaviour of impulse purchases by an individual with the inability to control purchasing behaviour (Lejoyeux & Weinstein, 2010). Whilst engaging in impulse buying is not directly linked to debt levels (Boddington & Kemp, 1999), it is linked to increased credit card use (Park & Forney, 2004). Additionally, impulse buying is a repeated behaviour in compulsive buying which in turn is linked to increased levels of debt (Vieira et al, 2106, Wang & Xiao, 2009, Achtziger et al, 2015). The research suggests that impulse buying alone is not a predictor of general credit use, but when it becomes a pattern of repeated behaviour, as in compulsive buying, there is a tendency for increased credit use resulting in higher levels of debt.

Financial Literacy

Financial literacy is having the skills, knowledge, attitudes and behaviours to make effective financial decisions with available resources. Interest in financial literacy has surged recently, with more standardised methods to define and measure it, as well as understand its implications for consumer decision making and policy (Nicolini & Cude, 2021). This psychological characteristic sits at the intersection of knowledge, skills and behaviours, with researchers now defining financial literacy as having three components (Warmath and Zimmerman, 2019). They consist of a psychomotor component in financial skills, a cognitive component in financial knowledge, and the affective component of financial self-efficacy. Warmath and Zimmerman (2019) created a financial literacy index with these three components with analysis supporting their view that financial literacy is a combination of knowledge, self-efficacy and skills.

Research shows that financial literacy affects investment decision making, with financial behaviour and motivation having no impact on investment decisions (Nanu Hasanuh & Raden, 2020). A German study using rich household data found that financial literacy explained the frequency of expensive credit product usage compared to self-control and low numeracy (Dick & Jaroszek, 2013). This is mirrored with UK households, with lower financial literacy associated with more high-cost credit products such as payday loans and catalogue debt and low confidence when interpreting credit terms (Disney & Gathergood, 2013). Furnham and Fenton-O'Creevy (2020) found that financial knowledge is weakly protective against financial distress. Moreover, financial knowledge gained early in life has a significant contribution to financial and more general wellbeing (Lusardi, Michaud, and Mitchell 2017). However, evidence from emerging countries around the world suggests that only 1 in 3 adults are financially literate - understanding at least 75% of the basic financial concepts they were assessed on (Klapper & Lusardi, 2019).

Table 1 on the next page summarises the findings of this literature review, indicating positive or negative relationships between the various psychological factors and the acquisition and outcomes of credit.

Table 1. Relationships between psychological factors and Debt Level and Financial Distress with evidence from the literature provided.

	PSYCHOLOGICAL FACTOR	Debt Level		Financial Distress	
		<i>Positive</i>	<i>Negative</i>	<i>Positive</i>	<i>Negative</i>
T R A I T S	Openness	[2]		[1][3]	
	Conscientiousness		[2]		[1][3]
	Extraversion	[2][25]		[1][3]	
	Agreeableness	[2]			
	Neuroticism	[2]		[1][3]	
	Impulsivity	[4][5][6][7]		[8]	
	Self-Efficacy		[9][10]		
	Locus of Control (int) ^o		[10]		[11]
	Self-esteem		[12]		
	Self-control		[13]		
	Delay of Gratification		[14]		
	CFC*		[15]		
A T T I T U D E S	Money as Security				[1] [16]
	Money as Power			[1] [16]	
	Money as Generosity			[1] [16]	
	Money as Autonomy			[1] [16]	
	Debt Attitude ^s	[17] [18]			
	Materialism	[19] [20] [7]			
	Risk Attitude/Tol ⁺	[21]			
B E H A V I O U R S	Imp/Comp Buying [~]	[13] [23] [24]			
	Making Ends Meet				[1]
	Planning Ahead				[1]
	Choosing Products				[1]
	Staying Informed				[1]
	Monitoring Spending				[22]
	Financial Literacy		[26] [27]		[1]

*Consideration Future Consequences, ⁺Risk Attitude/Tolerance, ^oInternal Locus Control, ^sPositive Debt Attitude, [~]Impulsive/compulsive buying
[1]Fenton-O'Creevy & Furnham (2020), [2]Brown & Taylor (2014), [3]Xu et al (2015), [4]Kempson et al (2017), [5]Ottavani & Vadone (2011), [6] Ottavani & Vadone (2017), [7]Kempson et al (2017), [8]Gathergood (2012), [9]Farrell et al (2016), [10]Wang et al (2011), [11]Perry (2008), [12]Wang et al (2011), [13]Achtziger et al (2021), [14] Norvilitis et al (2006), [15]Joireman et al (2010), [16]Fenton-O'Creevy & Furnham (2021), [17]Chien & Devaney (2001), [18]Almenberg et al (2018), [19]Gardarsdottir & Dittmar (2012), [20]Watson (2003), [21]Daly (2010), [22]De Almedia et al (2021), [23]Viera et al (2016), [24]Wang & Xiao (2009), [25] Harrison & Farooq, [26]Dick & Jaroszek (2013), [27] Disney & Gathergood [2013]

Future Research

Whilst the existing research reviewed in this paper indicates that a large number of psychological factors play a role in the acquisition and outcomes of credit, those

relationships alone do not represent the whole picture. Equally important are the relationships between the factors themselves and how these influence the acquisition and outcomes of credit. Some of the papers mentioned do consider the relationships between the factors, but there are still many of them that are unexplored. It is important to fully understand how the various factors interact with each-other and in turn how this affects the acquisition and outcomes of credit to build a complete model of the process. Fortunately, as interest grows in this domain researchers are beginning to investigate more and more of these relationships, building towards a complete model of the psychological factors that influence credit. This interest also comes at a time where there is rapid change in the products and services that constitute personal credit, with emerging trends such as Buy Now Pay Later (BNPL) changing the personal credit landscape. Accordingly, it would be useful to also understand how the psychological factors mentioned in this review change in response to these new products and services which reduce the friction between purchase and consumption.

Limitations of Using Measures of Individual Differences

Whilst this review has demonstrated that a number of traits, attitudes and behaviours have been linked to both the use and outcomes of credit, how strong these links are is up for debate. A consistent problem with trait psychology is the fairly weak correlations between traits and behaviours. Mischel argues that the inability of traits to strongly predict behaviours indicates that situational factors are the real driving force behind them (Eysenck & Eysenck, 1980). More recently, research suggests spending behaviour is also related to the personality traits of those around us, highlighting the importance of environmental characteristics (Ebert et al., 2020). The same can be said for the case of credit, where situational factors appear to play the greatest role in credit use and outcomes (Gathergood, 2012). However, situational factors are just that; situational and they may change quickly no longer representing the longer lasting traits of a good borrower.

General Discussion

The purpose of this review was to present the psychological factors involved in the credit process. In particular this review looked at the acquisition and outcomes of credit through the lens of the traits, attitudes and behaviours that influence them. As well as credit product utilisation, debt level was used as a measure of level of credit acquisition/use whilst financial distress and over-indebtedness were used as indicators of poor credit outcomes. Overall, the research showed two general patterns of factors. Good prospective borrowers who are less likely to face financial distress and are conscientious, have positive core self-evaluations, engage in good financial management behaviours, are able to delay gratification, consider the future and view money as a means of security. People with these qualities are less likely to face financial distress but also tend to make less use of credit. Then there are poor prospects who are impulsive, have poorer self evaluations, may have positive

attitudes about the use of debt, materialism and engage in compulsive purchasing. People with these qualities are more likely to face financial distress and also tend to make greater use of credit products. A better understanding of the multifaceted nature of consumers and how they approach and navigate personal finance products will allow lenders and institutions to design, offer and support their products and services in a more mutually beneficial way for both themselves and their customers.

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