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# The Theory of Planned Behavior and Financial Literacy: A Predictive Model for Credit Card Debt?

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THE THEORY OF PLANNED BEHAVIOR AND FINANCIAL LITERACY:  
A PREDICTIVE MODEL FOR CREDIT CARD DEBT?

A Dissertation submitted to the  
Graduate College of  
Marshall University

In partial fulfillment of  
the requirements for the degree of  
Doctor of Psychology

By

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Marshall University  
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## Abstract

### THE THEORY OF PLANNED BEHAVIOR AND FINANCIAL LITERACY: A PREDICTIVE MODEL FOR CREDIT CARD DEBT?

Brian P. Kennedy

The primary purpose of this study was to predict credit card debt among college students by augmenting Ajzen's (1991) theory of planned behavior to include the construct of financial literacy. One hundred and forty-three undergraduates completed an online survey measuring attitudes toward credit cards, subjective norms, perceived behavioral control, and financial literacy. Statistical analyses revealed that attitudes toward credit, subjective norms, and perceived behavioral control successfully predicted students' intention to use credit cards ( $R^2 = .32$ ). Financial literacy failed to predict intention to use credit cards. However, a positive correlation was found between attitudes toward credit cards and amount of credit card debt. This information may be incorporated into the development of programs aimed to improve personal finance behavior of college students and also to shape policy designed to protect consumers from predatory lending practices.

*Keywords:* credit cards, debt, financial literacy, financial education, financial knowledge theory of planned behavior, college students, consumer behavior

## The Theory of Planned Behavior and Financial Literacy:

### A Predictive Model for Credit Card Debt?

A substantial body of research indicates that credit card debt among college students is a growing problem in the United States (Jassim & Taylor, 2010; Sallie Mae, 2009; Norvilitis, Szablicki, & Wilson, 2003; Roberts & Jones, 2001). In a national survey conducted by Sallie Mae (2009) 67% of first year students reported owning a credit card, with 39% obtaining their first credit card even before entering college. According to Sallie Mae's report, the percentage of students possessing credit cards appears to increase while attending school. Indeed, the report suggested that 88% of fourth- and fifth-year students possess at least one credit card and 84% of all undergraduates owned no less than one credit card in 2008.

The fact that college students have credit cards may not be a cause for concern as not every student acquires a credit card and not every student with a credit card goes into debt (Norvilitis et al., 2006). However, many students are simply unable to avoid using their cards in a responsible manner and, as a result, accumulate balances larger than they can manage. According to an analysis of undergraduate students' credit card usage, first-year students carry an average monthly balance of \$2,038 and, by their final year, the figure increases to an average balance of \$4,138 (Sallie Mae, 2009). Overall, the average outstanding balance on credit cards held by undergraduate students was reported to be \$3,173 (Sallie Mae, 2009). A similar descriptive study found an average debt-to-income ratio of .24 in a sample of college students (Norvilitis et al., 2003), which represents an alarming figure considering that the average debt-to-income ratio for an American family (including mortgages and installment loans) has been .12 (Norvilitis et al., 2006).

Previous credit studies have identified two different types of credit card users: convenience and installment (Mansfield, et al., 2003; Matthews & Slocum, 1969; Slocum & Matthews, 1970, as cited in Pinto, Mansfield, & Parente, 2004). Convenience users use credit because it is simply more suitable than cash or checks in many situations. These users tend to use credit responsibly and do not carry a balance (Danes & Hira, 1990; Manning, 2000; Mansfield, et al., 2003; as cited in Pinto et al., 2004). By contrast, installment users use credit as a means of paying for items they cannot afford. As a result, they carry a balance and pay monthly interest on that balance (Danes & Hira, 1990; as cited in Pinto et. al, 2004). Recent research has also revealed that convenience users and installment users may perceive ownership of goods purchased differently (Kamleitner & Erki, 2013). Descriptive statistics show that both types of users exist within the college student population, with installment users making up 79% of cardholders (Nellie Mae, 2005).

Credit card debt among college students has become such a relevant problem in the last decade that the scientific community has been taking a closer look at the possible reasons why so many college students are getting into financial trouble. Aspects of this issue have been examined by those studying the psychology, sociology, and economics of this growing problem (Hayes, 2012; Kennedy & Wated, 2011; Lea, Webley, & Walker, 1995; Norvilitis et al. 2006; Tokunaga, 1993). The present study aimed to uncover the psychological factors that influence credit card debt by testing the theory of planned behavior (TPB; Ajzen, 1991) in a sample of undergraduate students. In recent years, researchers have used the TPB as a framework for understanding financial behavior, including borrowing attitudes (Chudry, Foxall, & Pallister, 2011) and credit card debt (Kennedy & Wated, 2011; Norvilitis & Mendes-Da-Silva, 2013).



However, in order to strengthen the predictability of the TPB, the model was augmented to include financial literacy.

### **Effects of Credit Card Debt**

Credit card debt is among the most problematic types of consumer debt in America with the average household carrying a balance of \$8,329 (“Top Purchasers,” 2009). The total amount of American credit card debt rose 50% between 2000 and 2008 with the total amount of credit card debt in the United States increasing to \$972.72 billion by the end of 2008 (“Top Purchasers,” 2009). Previous research examining credit card debt in America indicated that credit card debt might be a more sensitive measure of financial well-being than income, due to the likelihood that credit card debt has accrued over time, which indicates long-term financial problems (Drentea & Lavrakas, 2000).

As many students are faced with some level of financial independence during their college years, it is likely that financial behavior during these years will influence the development of their own financial habits. As a result, credit card debt accumulated during college may be more than simply a financial burden, as these decisions may be a beginning to financial difficulty throughout early adulthood (Brougham, Jacobs-Lawson, Hershey, & Trujillo, 2011). Another study examining cohorts of Americans revealed that young adults are accumulating more credit card debt, while repaying their debt at a slower rate than older cohorts, and that accumulation of credit card debt is persistent across the lifespan (Jiang & Dunn, 2013). Furthermore, large amounts of credit card debt add to the economic hardship typically experienced in young adulthood as many individuals attempt to start a family and establish a household. Researchers have also suggested that the combination of life changes and economic

hardship during this phase of life leads to greater mental health difficulty among young adults (Mirowsky & Ross, 1999).

Although it is difficult to determine if there is a causal link between credit card debt and health factors, there is a growing body of literature examining the specific effects of consumer debt on mental health. The psychological factors associated with consumer debt include depression, anxiety, stress, psychological well-being, substance abuse, and suicide (Brown, Taylor, & Wheatley-Price, 2005; Cooper et al., 2008; Drentea, 2000; Drentea & Lavrakas, 2000; Drentea & Reynolds, 2012; Dyer, 1996; Haider & Haider, 2002; Hintikka et al., 1998; Mind, 2008; Mirowsky & Ross, 1999; Reading & Reynolds, 2001; Siahpush, Yong, Borland, Reid, & Hammond, 2009). Recent Researchers also found that individuals in debt are three times more likely to suffer from mental disorders than those whom are not in debt (Meltzer, Bebbington, Brugha, Farrell, & Jenkins, 2013). Results from another study suggested that credit card debt among college students is associated with a greater number of self-reported poor mental health days (Berg et al., 2010).

In addition to the research suggesting a negative correlation between credit card debt and mental health, results from recent research have also suggested a positive relationship between credit card debt and physical health. One study found credit card debt-to-income ratio to be specifically associated with worse physical health and self-reported health (Drentea & Lavrakas, 2000). An additional study found credit card debt among college students to be associated with smoking, drinking, high-risk drinking, and lower levels of exercise (Berg et al., 2010). Other factors pertaining specifically to college students include dropping out of college and working multiple jobs in order to keep up to date with credit card bills (Dwyer, McCloud, & Hodson, 2012).

### **Recent Changes**

In response to large amounts of credit card debt among college students, in addition to additional predatory acts of credit card companies, the Credit Card Accountability, Responsibility, and Disclosure (CARD) Act of 2009 was passed by Congress and signed by President Obama on May 22, 2009. Among the protections included for college students were limitations placed on credit card companies from approving credit cards to individuals that did not apply for the card and eliminating the popular practice of marketing credit cards to college students on campus. In addition, the Act required a cosigner for college students under the age of 21 who were unable to provide proof of income. Overall, this piece of legislation was designed to protect consumers and especially to protect college students from acquiring credit cards without any means to pay their bills.

Although there is hope that the protections for college students established within the CARD Act will limit the credit card debt among college students, it may be too early to tell what effects these legislative changes have had on college students. Although limited data exist, Hawkins (2012) found that some students used loopholes to circumvent the “good intentions” of the CARD Act. More specifically, college students frequently included money received from family members and student loans when estimating their “income” on credit card applications. Furthermore, Hawkins (2012) also reported that credit card companies have changed their advertising methods since the CARD Act was enacted. Rather than avoiding marketing credit cards to college students altogether, credit card companies are advertising on university websites and also at university sanctioned athletic events. Although this research is limited in scope, these results suggest potential limitations in the efficacy of the CARD Act in protecting college students from acquiring credit card debt.

### **Theoretical Framework**

The theory of planned behavior (TPB) began with the theory of reasoned action (TRA; Fishbein & Ajzen, 1975). According to the TRA guidelines, behavior is predicted using attitudes toward a specific behavior and subjective norms to form a behavioral intention that determines the actual behavior. Ajzen (1991) modified the TRA to create the TPB. The TPB differs from the TRA in that a new behavioral antecedent was added to the model. In addition to attitudes toward the behavior and subjective norms, perceived behavioral control (PBC) was included in order to contribute to the formation of behavioral intentions and actual behavior. The factor of PBC was added to the TRA in order to address the issue of personal control that the original model was lacking. Researchers suggest that the more favorable the attitude toward the behavior and subjective norm, and the greater the perceived behavioral control, the stronger the behavioral intention (Hrubes, Ajzen, & Daigle, 2001).

In addition to the original TPB variables, Ajzen (2008) states that the TPB “is open to the inclusion of additional predictors” (Ajzen, 2008, Behavior, para. 20) but also specifies that predictors should meet additional criteria. More specifically, predictors should be behavior-specific, conceptually independent of the TPB’s existing predictors, and it should be conceivable that such predictors could causal factors in the measured behavioral intention or actual behavior. Furthermore, it is recommended that the addition of any predictors should be empirically supported and should also be applicable to other topics studied by social scientists. In considering these factors, financial literacy meets all of Ajzen’s (2008) criteria for being added as a predictor. Financial literacy measures a specific construct that has been widely studied within the broad field of social science, including psychology, economics, and sociology (Chudry et al., 2011; Grable, Joo-Yung, & So-Hyun, 2009; Hayes, 2012; Huston, 2010;

Jorgensen & Savla, 2010; Lyons, 2004; Norvilitis et al., 2006). Financial literacy measures specific financial knowledge (Huston, 2010), which is independent from what is measured by the original TPB variables. In addition, as researchers have suggested that those with a lack of financial literacy possess greater sums of credit card debt (Chudry et al., 2011; Grable et al., 2006; Norvilitis et al., 2006), it is conceivable that financial literacy be a causal factor in determining the behavioral intention to use credit cards and acquire credit card debt.

Furthermore, recent researchers have identified a significant relationship between financial literacy and credit card debt (Chudry et al., 2011; Grable, et al., 2006; Hayes, 2012; Jorgensen & Savla, 2010; Norvilitis et al., 2006), which suggests that it is not only conceivable, but empirically supported, that financial literacy is a causal factor in determining actual credit card debt. As a result of meeting these criteria, financial literacy was added as a predictor to the original TPB model in this study.

### **Attitude Toward the Behavior**

Ajzen (2008) defined attitude as the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question. Results from previous research have indicated that many different factors influence attitudes and, more specifically, attitudes toward credit card debt. Among these are unrealistic optimism, level of financial knowledge, debt tolerance, and money specific attitudes (Davies & Lea, 1995; Hancock, Jorgensen, & Swanson, 2012; Livingstone & Lunt, 1992; Norvilitis et al., 2006; Slowik, 2012). Psychological constructs, such as locus of control (Rotter, 1966) and cognitive dissonance (Festinger, 1954) have also been found to influence attitudes toward credit card debt. Finally, level of financial independence has also been found to influence college students' attitudes toward credit card debt (Brougham et al., 2011; Kennedy & Wated, 2011).

**Unrealistic Optimism.** Norvilitis et al. (2006), Norvilitis et al. (2003), and Slowik (2012) identified unrealistic optimism as a precipitant of irresponsible credit use. Norvilitis et al. (2006) reported that 73% of participants believed that it would take them less time than the average student to get out of debt. By contrast, only 6% thought that it would take them longer than the average student to get out of debt, and 21% believed it would take them an average amount of time. These results also revealed that 33% of the students surveyed expected to earn more than the average student; 43% thought that they would earn average salaries, and 23% thought that they would earn less than average salaries. These figures illustrate the unrealistic optimism that many college students have regarding their financial future, including their estimated future income, which for many students has great influence on the amount of debt that they are able to tolerate while in school. Furthermore, unrealistic optimism towards future finances is a matter of lack of financial knowledge which has also been found to influence credit card debt in college students (Norvilitis et al., 2006).

**Financial Knowledge.** Norvilitis et al. (2006) contended that financial knowledge is “one of the strongest predictors of debt and is also one of the most amenable to change” (p. 1407). Norvilitis et al. (2006) also found lack of financial knowledge to be a significant predictor of debt in an undergraduate population. This result is not surprising and many institutions have started to take notice. Financial literacy programs have become more popular in recent years. For instance, the JumpStart Coalition for Financial Literacy has worked together with universities to help college students become more financially savvy (<http://www.jumpstart.org>). Furthermore, instruction in personal finance has become part of some high school and college curricula (Mandell, 2009). Despite the support for financial literacy being a successful predictor of debt (Norvilitis et al., 2006), additional research has shown that high school students whom

completed a semester-long course in personal finance were not more knowledgeable about personal finance than students whom had not taken a course (Mandell 2001, 2002, 2004, 2006, 2009). Similarly, semester-long college courses did not improve financial literacy among college students (Mandell, 2009).

**Debt Tolerance.** Of the attitudinal factors that are associated with debt, tolerance may be one of the most important. Davies and Lea (1995) found that students who expected to make more money after graduation were more tolerant of debt. When coupled with the findings from Norvilitis et al.'s (2003) research, it is no surprise that so many college students are in trouble with credit card debt. The unrealistic optimism that many students have about their financial futures influences their level of debt tolerance to the point at which students tolerate levels of debt that have a negative impact on other aspects of their lives (Norvilitis et al., 2003).

This point is further illustrated through the findings of Davies and Lea's (1995) study. Davies and Lea found that the college students in their sample were tolerant of debt and noted that studies conducted by Livingstone and Lunt (1992) and Lea, Webley, and Levine (1993) found that general populations were not tolerant of debt. Davies and Lea (1995) suggested that college students, as a result of their young age and early stage in their career, are more tolerant of debt than the general population due to optimism that they will be in a good position to reconcile their debts upon graduating and starting their career. In addition, Davies and Lea used a longitudinal design that provided the opportunity to measure debt attitudes of students at different stages of their college careers. As one might expect, attitudes toward debt were slightly anti-debt for first-year students, but by their third year, participants' attitude had changed to strongly pro-debt.

One possible explanation for this increased tolerance of debt in college students is an increased social support for debt that has grown over the past 25 years. Lea et al. (1995) argued that attitudes toward debt changed a great deal in the twentieth century “with a shift from general abhorrence of debt to acceptance of credit as a part of a modern consumer society” (p. 682). Furthermore, Lea et al. (1995) suggested that in some countries, such as the United Kingdom and United States, a growing “culture of indebtedness” exists. This idea suggests that debt does not simply pertain to individual cases but, rather, is a cultural phenomenon affecting not only the poor but also the middle class and the rich. However, it also suggests that those who have overextended themselves have done so due to their change in attitude toward credit card debt.

**Money Specific Attitudes.** Hayhoe, Leach, Allen and Edwards (2005) found certain attitudes toward money to be of importance in relation to the number of credit cards college students possess and the amount of credit-card debt some college students incur. The authors examined the six factors used in the Money Beliefs and Behaviors Scale (Furnham, 1984) in order to take into account elements that have been found to influence financial behavior. These factors were obsession, power/spending, retention, security, inadequacy, and effort/ability. The money attitude of obsession emphasizes thinking about different aspects of money. The attitude of power/spending implies that the individual has to spend money in order to feel powerful and worthwhile, whereas the attitude of retention suggests not wanting to spend money even when it is available. The security factor suggests that one deals with one’s finances in a very secure manner assuming the smallest amount of risk possible. Inadequacy suggests that one spends money in order to combat feelings of ineptitude, and effort/ability is the degree one thinks one deserves one’s income. Students without credit cards scored lower on the money attitudes of independence, power, and inadequacy, but higher on the money attitudes of obsession and



retention than their credit-card-holding counterparts. Hayhoe et al. (2005) attributed the lower scores on the money attitudes of independence, power, and inadequacy in students without credit cards to feelings of less financial independence and having less of a need to spend money as a means of impressing others or making themselves feel better.

According to Hayhoe et al. (2005), students who scored high on the obsession scale felt that money could solve all of their problems. The high score on the retention scale suggests that these students would not want to spend money even if they could. The high scores of the non credit-card-holding students on the obsession and retention scales may suggest that these students felt that it is of great importance to hold on to their money and not incur debt, rather than spend money and incur debt in order to put themselves in a better position if an emergency were to arise. Those with credit cards who possessed the money attitudes of independence, power, and inadequacy placed the importance of feeling independent, powerful, and adequate at a higher priority than retaining their money in the case of an emergency.

Research suggests that there is a positive correlation between attitudes toward debt and actual debt (Kennedy & Wated. 2011; Lea et al., 1993; Livingstone & Lunt, 1992; Norvilitis & Sanches-Da-Silva, 2013; Tokunaga, 1993; Wang, Lu, & Malhotra, 2011). However, research has also been conducted in which no relationship was found between attitudes and debt (Lea et al, 1995). Lea et al. (1995) found attitudes toward debt to not be as important of a factor in determining the psychological variables that influence debt when compared with the variables of economic socialization, money management, and credit use. Although Lea et al. (1995) found no direct relationship between attitudes and debt, the researchers suggested that the psychology of debt is part of a wider problem and what should really be looked at is the psychology of poverty as a whole.

**Locus of Control.** In a study measuring the psychological factors that lead to consumer debt, Lea et al. (1995) measured attitude toward debt and locus of control. Locus of control refers to the extent to which people think they have control over events that affect them (Rotter, 1966). Lea et al.'s (1995) results suggested no significant relationship between attitude toward debt and amount of consumer debt. However, this study was conducted using a general population and was not specific to credit card debt or college students. Lea et al. (1995) acknowledged that other research, including research done by Lea et al. (1993) as well as Livingstone and Lunt (1992), did find attitude toward debt to be a contributing factor of consumer debt. Lea et al. (1995) concluded by stating that, even though previous results suggested that attitude toward debt was a significant factor in credit card debt, their study did not find any effect. The researchers suggested an absence of validity in their attitudes toward credit scale, even though sound psychometric properties had been used. Furthermore, the researchers contended that this lack of validity supported the need for further research.

Locus of control was also not found to have a significant effect on levels of consumer debt. Davies and Lea (1995) argued that this is not surprising because measures of locus of control are known to possess weak psychometric properties (Kline, 1993 as cited in Davies & Lea, 1995). Lea et al. (1995) also claimed that they had previously found locus of control to be unrelated to debt in a student sample. The researchers suggested that a more specific measure of economic locus of control (ELOC) developed by Furnham (1986) be used in further research on this subject. However, recent research did not find ELOC to be a significant predictor of credit card debt in a college student sample (Kennedy & Wated, 2011).

Lea et al. (1995) found the factors of economic socialization, social comparisons, and use of credit to be important with regard to debt. However, the authors suggested these results should

be interpreted within the context of a complex psychological and behavioral model, which assesses a wide range of psychological, behavioral, and economic variables, in order to better study and predict debt behaviors. These researchers considered the problem of debt to be one of dysfunctional economic behavior, and, although psychological factors play a part, the problem is first and foremost an economic one. The researchers suggested that the psychological factors in need of closer examination are those capable of providing help to people in dysfunctional economic positions. Lea et al. (1995) stressed that the goal of future research should be to help those in need better cope with difficult economic situations in order to put themselves in a frame of mind to handle their debt problems appropriately.

**Cognitive Dissonance.** In addition to the factors that influence students' attitudes toward credit-card debt, there are also factors that influence changes in those attitudes. One of the factors commonly known to affect attitude is experience. Davies and Lea (1995) found that students' experiences changed their attitudes toward credit-card debt. More specifically, as students progressed through their college years and took on more credit-card debt, they adjusted their attitudes toward debt in an effort to avoid cognitive dissonance.

The concept of cognitive dissonance has been a staple of the social psychology literature since developed by Festinger (1954). According to dissonance theory, if people act in ways which contradict their beliefs then they will usually change their beliefs to align with their actions in order to avoid psychic tension. Livingstone and Lunt (1992) found a strong positive correlation between attitudes toward debt and the amount of debt people incur. This finding is consistent with dissonance theory, which would suggest that people who have a positive or accepting view of debt tend to take on more debt because in doing so they are not contradicting their beliefs. As originally proposed by Festinger (1954), people strive to be consistent, and if

they happen to go into debt, the only way for them to be consistent, or at least appear consistent, is to change their attitudes toward debt. By accepting one's debt, one is able to avoid feeling like a hypocrite or being seen as one (Hogg & Terry, 2000). This avoidance of inconsistency has been documented by previous studies in the debt literature (e.g., Davies & Lea, 1995; Livingstone & Lunt, 1992).

**Financial Independence.** Another factor that has been found to influence college student's attitudes toward credit card debt is financial responsibility. In a recent study examining the financial behavior of college students whose parents pay for their debt, researchers found that, whether or not the college student was responsible for paying his or her own debt, significantly predicted compulsive buying behavior (Brougham et al., 2011). Furthermore, additional data collected from a college student sample found that 62.7% of a sample of 96 college students reported being completely dependent on someone else (i.e., parent or guardian) to pay their credit card bills (Kennedy & Wated, 2011). As a result, the average reported credit card debt for the study was \$823.34, which is substantially less than the national average credit card debt for college students (\$3,173; Sallie Mae, 2009). Results from these studies suggest that level of financial responsibility greatly affect college students' attitudes toward credit card debt as well as the amount of reported debt.

### **Subjective Norms**

According to Ajzen (2008), subjective norms refer to the perceived social pressure to perform or not perform the behavior. Within the context of social comparison theory in terms of economic situations, someone concerned with subjective norms is commonly referred to as someone who is attempting to "keep up with the Joneses" (Lea, et al., 1995). One way researchers suggest that subjective norms might influence debt is when people compare

themselves to reference groups that are not appropriate to their financial situation. As is common in situations of social comparison with money and objects, people tend to compare themselves to people who are better off than they are, leaving them with the constant desire to possess items and live life in a way that is beyond their means (Lea et al., 1995).

The main difference between previous generations and the current generation trying to “keep up with the Joneses” is that credit cards have become easier to attain; so thus, a person can keep up with peers, even if that person cannot afford it, by charging additional expenses to a credit card (Hayhoe, Leach, & Turner, 1999). “Keeping up with the Joneses” has really become more of an issue for college students because of the frequency with which credit card companies solicit them (Hayhoe et al., 1999). When placed in a college environment with peers who come from various levels of financial support, many students are unable to resist comparing themselves to those who have more than they do. As a result, some students attempt to live the lifestyle that they want or feel they deserve. This desire coupled with the temptation of easily accessible credit is too strong for many college students to resist, and a large number of students end up using credit cards as if they were a source of income (Hayhoe et al., 1999; Norvilitis et al., 2006, Norvilitis et al., 2003).

Regardless of the temptation presented by credit cards, literature suggests that some norm groups may be more influential in terms of financial matters. Results from one study suggested that parents’ attitudes toward money and financial behavior are the most influential reference group for college students in financial matters (Palmer, Pinto, & Parente, 2001). Results from another study suggested that college students who had parents who had large sums of credit card debt, or commonly made minimum payments on their credit cards, also had greater amounts of credit card debt (Hancock et al., 2012). In contrast, those students whose parents taught their

children about money as part of their parenting practices were found to be less likely to have credit card debt (Norvilitis & Mendes-Da-Silva, 2013). Furthermore, these findings suggested that only information from parents is related to decreased credit card debt and information from peers, media, or schools does not play a significant role in influencing credit card debt (Palmer, et al., 2001). Despite this finding, additional research examining subjective norms in terms of peer and familial influences found subjective norms to have a positive and significant relationship with reported credit card debt (Kennedy & Wated, 2011). In relation to the role of subjective norms in credit card debt, results from these studies suggest that a measure containing parental, familial, and peer aspects of subjective norms may provide a more complete assessment of the construct.

**Economic Socialization.** The idea that parental and family financial behavior is predictive of young adult's financial behavior (Hancock et al, 2012; Kennedy & Wated, 2011; Norvilitis & Mendes-Da-Silva, 2013; Palmer et al., 2001) is also represented within research specifically examining economic socialization (Allen, Edwards, Hayhoe, & Leach, 2007; Grinstein-Weiss, Spader, Yeo, Taylor, & Freeze, 2011; Lea et al., 1995; Norvilitis & MacLean, 2010; Tokunaga, 1993). Lea et al. defined economic socialization as a process in which people are socialized by their families' pattern of credit use. Lea at al. also suggested that those more susceptible to debt may be the product of economic socialization. Tokunaga (1993) also lends support to the idea that parents' behavior toward debt can influence children from a very young age. Tokunaga used self-reports to assess parental influence of credit use and found that participants whose parents provided an example of how to use credit responsibly were better able to use credit in a responsible manner than those who had parents who did not provide a proper example of credit use.

Further research focusing on issues related to economic socialization suggests that the financial attitudes and behavior of parents greatly influences their children's financial attitudes and behavior. One study examined the role of imagined interactions within the context of attitudes toward money and credit card debt between college-aged children and their parents (Allen et al., 2007). Results from Allen et al. (2007) also suggested that those students whose parents had argued about money during their childhood experience more instances of imagined interactions about money with their parents. However, the impetus for these imagined interactions was the college student's belief of a need to rehearse what he or she would say, due to the perceived likelihood that any actual conversation on this subject matter would result in an argument.

Furthermore, these researchers found that college students were likely to have these imagined interactions only if they were already in debt and felt a need for additional financial knowledge and guidance. This finding is in line with a more recent study that found college student motivation for financial knowledge to increase after the occurrence of a financial problem (Brougham et al., 2011).

Additional studies have found parental participation in economic socialization to influence the financial behaviors and attitudes of their children. Norvilitis and MacLean (2010) found that a hands-on mentoring approach during childhood lead to healthier attitudes toward financial matters, including delay of gratification and lower levels of credit card debt. Results from the same study found that individuals whose parents had only provided instruction via discussion reported higher levels of credit card debt. This finding suggests that the process of hands-on teaching and "leading by example" leads to healthier financial attitudes and lower levels of credit card debt, whereas the absence of hands-on mentoring but having discussions

with children about financial issues leads to poorer financial attitudes and higher reported amount of debt. Additional research found that adults who reported receiving higher levels of money-management instruction from their parents during childhood (i.e., modeling, reinforcement, and intentional teaching of skills), possessed higher credit scores and lower amounts of credit card debt in adulthood (Grinstein-Weiss et al., 2011). These results support the idea that economic socialization during childhood greatly influences financial attitudes and behaviors in adulthood.

### **Perceived Behavioral Control**

Perceived behavioral control (PBC) refers to the perceived ease or difficulty of performing the behavior and it is assumed to reflect past experience as well as anticipated impediments and obstacles (Ajzen, 2008). Ajzen (2008) acknowledged the possibility that PBC may be perceived by some as being similar to locus of control or self-efficacy; however, Ajzen argued that there are marked differences that distinguish PBC from both constructs. The fundamental difference between PBC and locus of control is that PBC focuses on a specific situation that a person is trying to control, and locus of control refers to general belief of how much internal or external factors influence one's life (Ajzen, 2008). The difference between PBC and self-efficacy is best illustrated by closely comparing the definition given by the theorists to determine how each construct differs.

Bandura (1995) defined self-efficacy as “the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations” (p. 2). Ajzen argued that “Bandura's concept of self-efficacy usually defines a graded series of potential obstacles to performance of the behavior, and the participants are asked to indicate how likely it is that they could overcome each obstacle” (Ajzen, 2008, Frequently asked questions, para. 14). As



illustrated by Ajzen's (2008) argument, PBC differs from self-efficacy in that it does not specifically pertain to the outcome of a situation but, rather, to how much control one believes he or she possesses over a certain situation.

Although few studies have examined the role of PBC in relation to debt behaviors, recent research provides support for PBC in predicting such behavior. In a study examining college student loan behavior, PBC was found to be a successful predictor of intention to borrow money (Chudry et al., 2011). Furthermore, PBC has also been found to be a negative and significant predictor of reported credit card debt (Kennedy & Wated, 2011). These results provide support for the utility of the construct of PBC in predicting debt behaviors of college students. Despite this preliminary evidence, the limited amount of research on the subject suggests that it may be useful to review studies examining the similar constructs of self-efficacy and locus of control. It is relevant to discuss these results in an attempt to gain some insight into theories of control and credit card debt.

Davies and Lea (1995) studied college students' attitudes toward debt and found that external locus of control was correlated with tolerant attitudes toward debt. Davies and Lea's research further supported previous findings of a positive relationship between external locus of control and tolerant attitudes toward credit card debt (Livingstone & Lunt, 1992; Tokunaga, 1993). The body of research on this subject is consistent and indicates that external locus of control is a valid and reliable predictor of credit card tolerance.

Similarly, research has also been conducted using self-efficacy as a factor contributing to credit card debt in college students. Tokunaga (1993) compared unsuccessful credit users to addicts. The author found that, among the characteristics that define addicts, are external locus of control and low self-efficacy, which also happened to be characteristic of the "unsuccessful

credit user.” Tokunaga is careful in his comparison and stated that, although similarities exist between external locus of control and low self-efficacy among addicts and unsuccessful credit users, there had been no studies to date that have revealed directional causation.

### **Behavioral Intention and Behavior**

Within the theoretical framework of the TPB, attitude toward the behavior, subjective norms, and perceived behavioral control come together to predict behavioral intention which, in turn, mediates the relationship between attitudes, subjective norms, PBC, and actual behavior. Ajzen defined behavior as “the manifest, observable response in a given situation with respect to a given target” (Ajzen, 2008, Behavior, para. 1). It is important to keep in mind that the occurrence of a specific behavior is contingent on a favorable intention as well as the perceived behavioral control associated with the specific behavior (Ajzen, 2008). Even if the intention is favorable, external factors still can limit the individual’s control over the situation and, therefore, influence his or her ability to carry out the behavior (Ajzen, 2008). It is for this reason that PBC also must be taken into consideration when looking at behavioral intention as the direct antecedent of behavior (Hrubes et al., 2001).

The TRA and TPB (Ajzen, 1991) were conceptualized as a method to predict human behavior regardless of situation and also to design interventions to assist people in their attempts to curb risky or unhealthy behavior. Both theories have been used to predict different types of behavior, including financial behaviors such as investments, saving, and debt behaviors (e.g., Chudry et al., 2011; East, 1993; Kennedy & Wated, 2011).

In the first study to examine financial behavior through the framework of the TPB, East (1993) used the TPB to predict personal investment choice. East found that participants’ applications to buy shares of stock was accurately predicted by their measured behavioral

intention. In addition, the researcher found that behavioral intention was explained by the modified version of the TPB used in the study in which East added the factor of past financial behavior to strengthen the model. Even though that study did not examine debt, the researcher did use the TPB to measure financial habits of individuals, illustrating the usefulness of the TPB in predicting financial behaviors.

In more recent years, the TPB has been modified to examine additional issues pertaining to financial behaviors. One study examined the application of the TPB in predicting student borrowing attitudes (Chudry et al., 2011). Although Chudry et al. (2011) examined attitudes toward borrowing from a student loan company rather than “borrowing” from credit card companies, results provide support for the TPB as a predictive model of debt behavior. Results from Chudry et al. (2011) suggested that attitudes and perceived behavioral control have a positive effect on borrowing intention, whereas subjective norms had a negative effect on borrowing intention.

Although work conducted by East (1993) and Chudry et al. (2011) provided evidence for the usefulness of the TPB as a framework for understanding financial behavior, a study conducted by Kennedy and Wated (2011) applied the TPB specifically to predicting credit card debt. Within this study, attitude, subjective norms, and perceived behavioral control were positively correlated with behavioral intention to use credit cards. Despite this promising finding, behavioral intention was not found to mediate the relationship between attitudes, subjective norms, perceived behavioral control and reported credit card debt. When examined individually, parts of the model were found to work. For example, attitude was found to be a significant predictor of behavioral intention and perceived behavioral control coupled with behavioral intention did account for a substantial amount of the variance of reported credit card debt.

However, possible explanations for the failure of behavioral intention to predict reported credit card debt included poor reliability of the behavioral intention measure, a large number of participants reporting that someone else pays their credit card bill, and a significantly lower reported amount of credit card debt when compared to national data.

### **Financial Literacy**

As Americans have struggled with increased indebtedness, rising bankruptcy rates, and the mortgage crisis of 2009, policy makers have called for increased financial education as a means of improving decision making related to financial matters (U.S. House of Representatives, Financial Services Committee 2009). Although researchers had already been examining questions related to whether or not financial knowledge improves financial decision making (Norvilitis et al., 2006), there is a lack of clarity within the literature as to the exact definition of financial literacy (Huston, 2010). Part of this confusion may be due to the seemingly interchangeable use of financial literacy, financial education, and financial knowledge within the literature.

In a recent review of the literature on this subject, Huston (2010) strove to clarify the construct of financial literacy while attempting to identify the best way to measure it. Within this review of the literature, four common categories emerged: personal finance basics, borrowing, saving/investing, and protection. Furthermore, the author proposed that a succinct definition of financial literacy be used that is defined as “measuring how well an individual can understand and use personal finance-related information” (p. 306, Huston, 2010). Due to the lack of clarity of the definition of financial literacy in previous studies, this clear definition provides a standard definition constructed with the meta-analysis of previous data in mind.

Within the credit card debt literature, much of the same ambiguity within the financial literacy/financial knowledge existed. Some researchers examined financial literacy by using the JumpStart Coalition's measure of financial literacy (Norvilitis et al., 2006), which measures overall financial knowledge. Whereas others have used simpler measures of financial knowledge (Chudry et al., 2011; Grable et al., 2006; Jorgensen & Savla, 2010) and at least one used a measure of financial education (Lyons, 2004).

Regardless of what definition researchers used, all of these studies measured the construct of financial literacy/financial knowledge/financial education in order to determine how this skill set, or lack thereof, affected individual's debt totals. Results from these studies (Chudry et al., 2011; Grable et al., 2006; Hayes, 2012; Jorgensen & Savla, 2010; Norvilitis et al., 2006) all supported a lack of knowledge or skills in the personal finance arena to be a contributing factor to greater amounts of credit card debt or poorer financial attitudes and behavior. Despite these findings, one recent study found no relationship between financial knowledge and amount of credit card debt (Mandell, 2008).

As a result of the overall support within the literature suggesting a positive relationship between financial literacy and credit card debt, financial literacy was added to the TPB model. Furthermore, it is likely that financial literacy will improve the predictive ability of the TPB in relation to credit card debt. As financial literacy programs, such as the JumpStart Coalition's program for K-12 students, appear to be the primary intervention used to improve young people's financial behavior (Mandell, 2008), the addition of financial literacy to the other independent variables may provide valuable data as to whether these types of interventions have correctly identified what issues are most problematic. Furthermore, these data may also supplement previous research measuring the efficacy of financial literacy courses (Mandell,

2009), which may help to clarify the importance of educational programs targeting financial literacy among college students.

### **Hypotheses**

The following hypotheses were tested:

H1: There will be a positive relationship between attitudes toward credit card debt, subjective norms, perceived behavioral control and behavioral intention, so that attitudes, subjective norms, and perceived behavioral control will predict behavioral intention.

H2: Perceived behavioral control together with behavioral intention will directly predict reported credit card debt.

H3: Financial literacy will be positively correlated with behavioral intention and will predict behavioral intention above and beyond attitudes, subjective norms, and perceived behavioral control.

H4: Attitudes toward credit card debt, subjective norms, perceived behavioral control, and financial literacy will be positively correlated with behavioral intention and will predict behavioral intention above and beyond the original TPB model.

H5: Behavioral intention will mediate the relationship between attitudes, subjective norms, perceived behavioral control, financial literacy, and reported credit card debt.

### **Method**

#### **Participants**

Participants were recruited from an online participant pool made up exclusively of students enrolled in courses at a major state university in a largely rural state. Upon indicating interest in taking part of the study (i.e., by clicking on a link), participants were transferred to the SurveyMonkey website where they completed a series of surveys measuring attitudes, subjective

norms, perceived behavioral control, behavioral intention, financial literacy, and demographic information. All participants indicated that they were over the age of 18 and were currently enrolled in undergraduate courses. A total of 143 participants completed the survey and were included in the analysis. Given the number of predictors in the regression analyses, this sample provided adequate statistical power (.99) for a large effect size (Cohen, 1992). Of those respondents, 108 identified as female and 35 identified as male. All participants were between 18 and 33 years of age ( $M = 19.67$ ,  $SD = 2.46$ ). White/Non-Hispanic students represented 84.1% of the sample, African American 11%, Asian 3.4%, 0.7% Hispanic; 0.7% of students described themselves as “Other,” and 3.4% did not respond.

## **Materials**

**Attitudes toward credit cards.** Hayhoe’s (1999) modified version of Xiao, Noring, and Anderson’s credit attitude scale (1995) was used in order to assess students’ attitudes toward credit cards (e.g., “My credit card makes me feel happy;” see Appendix C). The scale consists of 12 items rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). A mean score for each participant was computed. Higher scores denote a more positive attitude toward credit card usage. The 12-question scale consisted of three subscales (four questions each) measuring affective, cognitive, and behavioral attitudes toward credit. High scores on the affective and behavioral subscales indicated a favorable attitude toward credit cards, and high scores on the cognitive subscale indicated a negative attitude toward credit cards.

Previous research found this scale to have acceptable reliability for the affective attitude scale ( $\alpha = .76$ ) and adequate reliability for the behavioral attitude scale ( $\alpha = .80$ ). However, the cognitive attitude scale has been found to demonstrate reliability at a level less than commonly accepted ( $\alpha = .58$ ) (Hayhoe et al., 2005). Despite these results, Kennedy and Wated (2011) found

both the affective ( $\alpha = .81$ ) and the behavioral attitude sub-scales ( $\alpha = .90$ ) to be reliable, and the cognitive attitude sub-scale ( $\alpha = .69$ ) was found to be nearly reliable.

**Subjective Norms.** A 6-item measure of subjective norms was constructed by Kennedy and Wated (2011) in accordance with Ajzen's (2002) guidelines for scale construction in the frame of the TPB (see Appendix D). An example of an item is: "Most people who are important to me carry a balance on their credit cards." Items are scored using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) to measure the participants' opinion of how much a friend or family member would approve or disapprove particular credit card behaviors. High scores indicate that the participant felt that the people whose opinions they cared about have stronger feelings of acceptance toward credit card debt. The internal consistency was found to be acceptable ( $\alpha = .77$ ). Despite this finding, items were added to the measure in an attempt to improve reliability. Due to findings suggesting that parental financial behaviors and attitudes influence young adults most in this area (Palmer, et al., 2001), additional items focused on subjective norms set by parent's financial attitudes and behavior.

**Perceived Behavioral Control.** A 4-item measure of perceived behavioral control constructed by Kennedy and Wated (2011) in accordance with Ajzen's (2002) guidelines (e.g., "It is mostly up to me whether or not I stay out of credit card debt") was used (see Appendix E). Items are scored using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). High scores indicate a greater feeling of perceived behavioral control over using credit cards and acquiring credit card debt. Kennedy and Wated (2011) found the perceived behavioral control scale to be highly reliable ( $\alpha = .91$ ).

**Behavioral Intention.** A 6-item measure of behavioral intention was constructed by Kennedy and Wated (2011) in accordance with Ajzen's (2002) guidelines (e.g., "I intend to use



my credit card to pay for daily expenses over the next six months;” see Appendix F). Items were scored using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). High scores indicated a greater intention to use credit cards. Cronbach’s alpha coefficients were calculated by the scale creators and the scale was found to be nearly acceptable ( $\alpha = .68$ ). As a result of only nearly acceptable reliability coefficients, items were added to this scale in an effort to increase the reliability.

**Financial Literacy.** The 2008 JumpStart Coalition for Personal Financial Literacy Among College Students survey (Mandell, 2008; see Appendix G) was administered as a measure of financial literacy. The 31 item multiple choice survey was developed by the JumpStart Coalition for Personal Financial Literacy (2008) and measures knowledge of credit cards, investing, and insurance, among other financial topics. More specifically, nine of the items directly pertain to debt or credit. Performance on this survey is measured by the number of items correct, with scores greater than 60% indicating a passing score

### **Design and Procedure**

Participants were recruited through an online participant pool at a public university in West Virginia. After indicating interest in the study, participants were provided a link to the SurveyMonkey website where they read a cover letter explaining the procedures for completing the study as well as the voluntary nature of participation and anonymity of responses (see Appendix B). Next, participants completed the modified credit attitude scale (Hayhoe et al., 1999), followed by a modified version of Kennedy and Wated’s (2011) subjective norms scale, a perceived behavioral control scale (Kennedy & Wated, 2011), the 2008 JumpStart Coalition for Personal Financial Literacy Among College Students survey (Mandell, 2008), an augmented

version of the behavioral intention scale (Kennedy & Wated, 2011), and a brief demographics questionnaire (see Appendix H).

### **Analyses**

Baron and Kenny's (1986) statistical procedure was used to assess the mediating effect of behavioral intention. Hierarchical regression was used to evaluate the predictive power of the TPB variables as well as financial literacy above and beyond attitudes, subjective norms, and perceived behavioral control.

### **Results**

The average reported amount of credit card debt for the sample was \$443.19. The reported amount of credit card debt for this sample was contrary to data from a national report from Sallie Mae (2009) where the average college student monthly credit card balance was \$3,173. This finding suggests that the reported credit card debt of the current sample was much lower than national reports of credit card debt among college students and also that the current sample of college students was not representative in regards to financial independence.

Descriptive statistics were collected to assess financial status of participants, as a previous study measuring credit card debt among college students had found that 62.7% out of 96 college students reported not being responsible for paying their own credit card bill (Kennedy & Wated, 2011), participants were asked to assess their current level of "financial independence." Although a larger sample size was used in the current study (143 versus 96), over half (53.6%) of participants in the current study indicated that they were financially dependent on someone else and were not personally responsible for paying their own credit card bills. This finding provides additional support to the conclusion that attitudes may vary depending on level of financial independence.

Table 1 presents the means, standard deviations, correlations, and reliability coefficients for all measures. Of the three TPB variables, attitudes ( $r = .46, p < .01$ ) and subjective norms ( $r = .35, p < .01$ ) were positively and significantly correlated with behavioral intention to use credit cards. Perceived behavioral control ( $r = -.43, p < .01$ ) was negatively and significantly correlated with behavioral intention to use credit cards. Attitudes was shown to have a positive and significant relationship with reported credit card debt ( $r = .19, p < .05$ ); however, no significant relationship was observed between subjective norms and reported credit card debt ( $r = .12, ns$ ) or perceived behavioral control and reported credit card debt ( $r = -.09, ns$ ). A positive and significant relationship was also found between financial literacy and perceived behavioral control ( $r = .21, p < .05$ ). In addition, behavioral intention to use credit cards was positively and significantly correlated with reported credit card debt ( $r = .26, p < .01$ ).

Hierarchical regression analysis was used to test the first hypothesis (see Table 2). In step 1, age and number of credit cards were entered into the regression equation as control variables. These demographic variables accounted for a significant proportion of the variance ( $R^2 = .08$ ),  $F(2, 140) = 6.41, p < .01$  with number of credit cards being the most relevant predictor of behavioral intention ( $\beta = .29, p < .01$ ) and age having a negative relationship with behavioral intention ( $\beta = -.21, p < .05$ ). In step 2, attitudes, subjective norms, and perceived behavioral control were entered into the regression equation. The proportion of the variance ( $R^2 = .32$ ) accounted for by the TPB variables was statistically significant,  $F(5, 137) = 13.03, p < .001$ . The most relevant predictor of intention to use credit cards, as indicated by the standardized regression coefficients or beta weight, was perceived behavioral control ( $\beta = -.31, p < .001$ ). Attitudes was also a relevant predictor of intention to use credit cards ( $\beta = .26, p < .01$ ). Subjective norms ( $\beta = .11, ns$ ) was not a significant predictors of intention to use credit cards in

the current sample.

A hierarchical regression analysis was also used to test the second hypothesis (see Table 3). In step 1, age and number of credit cards were entered into the regression equation as control variables. The proportion of variance ( $R^2 = .01$ ) accounted for by these demographic variables was not statistically significant,  $F(2, 140) = .85, ns$ . In step 2, behavioral intention and perceived behavioral control were entered into the regression equation. Behavioral intention and perceived behavioral control predicted reported credit card debt in the current sample,  $F(4, 138) = 2.59, p < .05$  and accounted for a significant proportion of the variance ( $R^2 = .07$ ). The most influential predictor of amount of credit card debt was behavioral intention ( $\beta = .26, p < .01$ ). Perceived behavioral control was not a significant predictor of reported credit card debt in the current sample ( $\beta = .23, ns$ ).

Hierarchical regression analysis was also used to assess the predictive ability of financial literacy as proposed in hypothesis 3 (see Table 4). The model including financial literacy did account for a significant proportion of the variance ( $R^2 = .33$ ),  $F(5, 137) = 11.27, p < .001$ . However, the addition of financial literacy to the model, did not account for a statistically significant change in the proportion of the variance ( $\Delta R^2 = .01, ns$ ) from the model including the control variables, attitudes, subjective norms, and perceived behavioral control.

Hierarchical regression was also used to assess the predictive ability of the modified TPB model to predict behavioral intention above and beyond the original TPB model as proposed in the fourth hypothesis. These results were applied to the regression analysis to test the mediational analysis as proposed in the fifth hypothesis. Table 5 presents the results of the regression analysis computed to test the mediation of behavioral intention between attitudes, subjective norms, perceived behavioral control and actual credit card debt (Baron & Kenny,

1986). Financial literacy was excluded from the regression analysis because it was not found to increase the predictability of the original TPB variables in measuring college student's behavioral intentions to use credit cards and was not significantly correlated with reported credit card debt. In the first step, age and number of credit cards were entered as control variables. Attitudes, subjective norms, and perceived behavioral control were added in step 2. The TPB variables were not found to be a significant predictor of reported credit card debt,  $F(5, 137) = 1.33$ , *ns* (Hypothesis 4). As a result, there is no effect that may be mediated by behavioral intention as proposed in the fifth hypothesis.

### **Discussion**

Overall, the results provided mixed support for the five hypotheses. Attitudes toward credit card debt, subjective norm, and perceived behavioral control did predict behavioral intention. Likewise, perceived behavioral control and behavioral intention did predict reported credit card debt. Although financial literacy was positively correlated with behavioral intention, the addition of financial literacy to the original TPB variables did not increase the overall predictability of the model. Additionally, the TPB variables did not directly predict reported credit card debt, which precluded the possibility of behavioral intention mediating the relationship between attitudes, subjective norms, perceived behavioral control, financial literacy, and reported credit card debt. Each conclusion is explored further below.

The first hypothesis predicted that there would be a positive relationship between attitudes toward credit card debt, subjective norms, perceived behavioral control and behavioral intention, so that attitudes, subjective norms, and perceived behavioral control would predict behavioral intention. As predicted, attitudes, subjective norms, and perceived behavioral control jointly predicted intention to use credit cards among college students. However, attitudes and

perceived behavioral control were the only variables found to be significant predictors of behavioral intention. Specifically, students who held favorable attitudes toward credit cards were more likely to intend to use credit cards than students who held less favorable attitudes toward credit cards. Confirmatory results from the first hypothesis are in line with previous findings supporting the role that attitudes play in the use of credit cards and acquisition of credit card debt among college students (Davies & Lea, 1995; Hayhoe et al, 2005; Kennedy & Wated, 2011; Norvilitis et al., 2006; Norvilitis & Mendes-Da-Silva, 2013). Similarly, students who reported believing they have greater control in their ability to avoid credit card debt had less intention to use credit cards and acquire credit card debt. This finding is also in line with previous research, which supports perceived behavioral control as a predictive variable in behavioral intention (Chudry et al., 2011; Elliot, Armitage, & Baughan, 2007; Gird & Bagraim, 2008). Although, subjective norms was not found to be predictive of behavioral intention in this sample, this is potentially explained by a meta-analysis on the efficacy of the TPB, which found subjective norms to be the weakest predictor among the TPB variables (Armitage & Conner, 2001). More specifically, this result provides support for the idea that college student's perception of friends and family members' credit card behavior may not be an important predictor of credit card debt.

The second hypothesis predicted that perceived behavioral control together with behavioral intention would directly predict reported credit card debt. This hypothesis was also supported as behavioral intention and perceived behavioral control accounted for a substantial amount of the variance in actual reported credit card debt. Although students' intentions to use credit cards did predict the amount of reported credit card debt, students' perception of their ability to control whether or not they acquired credit card debt was not a successful predictor of reported credit card debt. More specifically, students who perceived themselves as possessing

high amounts of control over the ability to refrain from using credit cards or acquiring credit card debt while in college were not more likely to have reported less credit card debt than those students who viewed themselves as having low amounts of control over their credit use.

The third hypothesis, predicted that financial literacy would be positively correlated with behavioral intention and would predict behavioral intention above and beyond attitudes, subjective norms, and perceived behavioral control. This hypothesis was not supported as financial literacy was not found to have a statistically significant relationship with behavioral intention and did not predict behavioral intention better than the original TPB variables. This result suggests that student's knowledge (or lack thereof) regarding personal finance matters did not influence intention to use credit cards and acquire credit card debt.

Furthermore, the fourth hypothesis predicted that attitude toward credit card debt, subjective norms, perceived behavioral control, and financial literacy would be positively correlated with behavioral intention and would predict behavioral intention above and beyond the original TPB model. This hypothesis received only partial support. Attitudes, subjective norms, perceived behavioral control, and financial literacy were found to be positively correlated with behavioral intention; however, the addition of financial literacy to the model did not account for a statistically significant change in predicting behavioral intention. The results of both the third and fourth hypotheses are supported by one recent study (Mandell, 2008). Despite some support, several other studies support the opposite, that a lack of financial literacy contributes to poorer financial attitudes and behavior, as well as greater amounts of credit card debt (Chudry et al., 2011; Grable et al., 2006; Jorgensen & Savla, 2010; Norvilitis et al., 2006).

The fifth hypothesis stated that behavioral intention would mediate the relationship between attitudes, subjective norms, perceived behavioral control, financial literacy, and reported

credit card debt. This hypothesis was also not supported. Attitudes, subjective norms, and perceived behavioral control were not found to be a significant predictor of reported credit card debt. As a result, there is no effect that may be mediated by behavioral intention. As the model including attitudes, subjective norms, perceived behavioral control, and financial literacy did not significantly predict intention to use credit cards, it is possible that these variables are more predictive of intention to engage in a behavior rather than actual performance of a behavior. Regardless, as measured in the current sample with the current measures, behavioral intention does not appear to mediate the relationship among attitudes, subjective norms, perceived behavioral control, financial literacy, and reported credit card debt.

In general, attitudes toward credit card debt and perceived behavioral control most strongly predicted behavioral intention to use credit cards in this sample. This finding suggests that an individual's beliefs, not only in relation to attitudes toward using credit cards, but also beliefs regarding just how much control one believes they have toward whether or not they acquire credit card debt, predicts whether or not they will intend to use credit cards and acquire credit card debt. Despite these positive results, friends and family's attitudes toward credit card debt and behaviors regarding credit card debt (subjective norms) did not affect intention to use credit cards and acquire credit card debt within this sample. This result is contrary to research that specifically suggests that parental financial habits are an important predictive factor in college student's financial behaviors (Chudry et al., 2011; Palmer, et al., 2001). As the measure was not previously validated, it is possible that the modified version of Kennedy and Wated's (2011) subjective norms scale possessed poor construct validity. Although the internal consistency of the modified subjective norms scale (Kennedy & Wated, 2011) was acceptable ( $\alpha = .75$ ), it is possible that the measure did not adequately focus on observed financial behavior of



family members, which previous research showed to be a significant predictor (Hancock et al., 2012; Norvilitis & Mendes-Da-Silva, 2013; Palmer et al., 2001).

The fact that financial literacy did not predict behavioral intention (hypothesis 3) and did not add to the predictability of the original TPB model in predicting behavioral intention (hypothesis 4) contradicts recommendations of previous research (Kennedy & Wated, 2011; Norvilitis et al., 2006), which suggested that a lack of financial literacy is a contributing factor in accruing credit card debt. Despite this finding, there are additional explanations as to why financial literacy was not a successful predictor of behavioral intention in this population. One possible explanation is related to the fact that 53.6% of the participants in the current study were financially dependent on someone else and not personally responsible for paying their own credit card bills. Financially dependent individuals may be using their credit cards without experiencing any negative financial consequences, which potentially lends support to the idea that their credit card behaviors are directly tied to responses made by those who are responsible for paying the credit card bill. The lack of financial independence within the sample also possibly influenced the total amount of credit card debt reported in this sample (\$443.19), which was substantially less than nationally reported figures (\$3,171; Sallie Mae, 2009).

Furthermore, the lack of financial independence and small amount of credit card debt reported in the sample may have also limited the influence of subjective norms on participant's intention to use credit cards and acquire credit card debt. If an individual is not responsible for paying off their credit card debt, it is unlikely that their intentions to use credit cards and actual acquisition of credit card debt will be greatly influenced by parent's financial behavior. For financially dependent individuals, it appears more likely that intentions to use credit cards and

amount of credit card debt will depend on guidelines set forth by the individual actually paying the credit card bill.

The effect of the Credit CARD Act of 2009 is another potential explanation why financial literacy did not successfully predict behavioral intention. The CARD Act also potentially explains why a large percentage of the sample reported not being responsible for paying their credit card bills and also why reported credit card debt was substantially reduced in comparison to figures reported by Sallie Mae in 2009. Although previous research has suggested that the CARD Act has had limited success in curtailing credit card debt on college campuses due to students already having cards (Ludlum et al., 2012), 90.2% of the current sample's reported class standings suggest that they began college following implementation of the CARD Act. If so, this means that students under 21 years of age either had a cosigner or submitted proof of adequate income to receive a credit card. These factors potentially influenced possession of credit cards, total balances, and also financial independence of student's in current sample.

In interpreting these findings, several limitations exist. First, the lack of financial independence and the sample's average reported amount of credit card debt being below national standards (\$443.19 as compared to \$3,173; Sallie Mae, 2009) may have influenced participants' attitudes toward debt. Furthermore, participants were exclusively recruited from a state university in Appalachia through an online research posting. The online data collection method and the location of data collection suggest at least two possibilities. First, that national debt rates do not accurately represent the credit card debt of college students attending state universities in Appalachia. Second, participants did not accurately report their total credit card debt because they did not know their total credit card debt or did not want to disclose it. Regardless of the rationale, the observed discrepancy between the current sample and the national population in

terms of the amount of reported credit card debt may hinder further the generalizability of the results. Future studies should attempt to recruit a more representative sample of college students, including students from various regions of the country, in order to improve external validity.

Mono-method bias was also a limitation in this study. Only one method (an online questionnaire) was used to obtain data for this study, which reduces the likelihood that the method used in this study was a valid measure of the TPB variables (Cook & Campbell, 1979). Although common in survey research, it would benefit future researchers to attempt to use well established measures or to use multiple measures in order to lessen the possibility of mono-method bias. In addition, the construct validity of the measures of subjective norms, perceived behavior control, and behavioral intention is potentially questionable as internal consistency and face validity were the only criteria used to assess each measure. Another potential limitation of the measures is the internal consistency of the subjective norms ( $\alpha = .75$ ) and behavioral intention ( $\alpha = .79$ ) scales as each scale possesses only acceptable internal consistency.

These limitations notwithstanding, the present study does provide further insight into college students' behavior related to the acquisition of credit card debt. Attitudes toward credit cards and perceived behavioral control seem to be important predictors of behavioral intention to use credit cards and acquire credit card debt. In addition, behavioral intention to use credit cards and acquire credit card debt appears to be a successful predictor of reported credit card debt.

An additional important finding of these results suggests that a focus on financial literacy may not be the most important facet of programs or curriculum attempting to teach others how to successfully manage their personal finance. That is not to say that financial literacy is unimportant, but rather that a strong focus on teaching others healthy attitudes toward debt might be a more important component of programs designed to teach college students about personal

finance, and/or help those who struggle with personal finance adjust their attitudes regarding debt. Although potentially an informal component of some financial literacy programs, or possibly a hope among financial educators that learning about financial literacy will help naturally to improve attitudes regarding debt, it appears likely that a strong focus on specifically looking at attitudes toward debt and working toward changing attitudes to consider appropriately the negative impact of debt would be most beneficial.

The findings of the importance of attitudes toward credit card debt and perceived behavioral control of avoiding credit card debt provide support for the potential efficacy of programs aiming to change attitudes toward debt and perceived behavioral control regarding credit card debt. Several potential methods exist for working toward changing attitudes. First, the possible inclusion of cognitive-behavioral methods to examine and change attitudes may be useful in achieving this goal. Second, programs which include a strong emphasis on changing maladaptive attitudes toward debt may be most beneficial. Another possibility to consider is that the CARD Act of 2009 had some positive effects on the current sample and the safeguards enacted by the Act, such as eliminating marketing of credit cards on campus and requiring a cosigner for those under 21 years of age without proof of income, lead to positive change and were demonstrated in this sample.

A final and definitive conclusion that can be drawn from the review of current literature, as well as the results from this study is that additional research is needed to further pinpoint effective components of financial literacy and a debt-free or low debt lifestyle. Despite this need, there appears to be strong evidence that attitudes toward debt are an important component of why college students acquire credit card debt. As the current national push for financial literacy appears to be focused on the accumulation of knowledge related to personal finance, success in

drawing positive results from these efforts appears to be hinged upon changing attitudes. With a change in attitudes toward credit card debt as well as knowledge regarding the negative financial, psychological, and physical health effects of debt, it is possible that college students' attitudes may more closely reflect the beliefs of individuals in the early 20<sup>th</sup> century who viewed debt with abhorrence rather than acceptance.

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Table 1

*Descriptive Statistics, Correlations and Reliability Coefficients*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	19.76	2.70												
2. Gender	1.76	.43	-.13											
3. Ethnicity	1.26	.75	.11	-.04										
4. Financial independence	2.15	1.14	.37**	-.11	-.16									
5. Expected Income	3.22	.97	-.15	.001	-.06	.03								
6. # of CC's	1.88	.92	.37**	.02	.27**	.16	.05							
7. Credit card debt	443.19	1684.58	.06	-.05	.34**	-.14	-.09	.11						
8. Financial Literacy	.53	.15	.21*	-.02	-.11	.20*	.20*	.21**	-.16					
9. Attitudes	2.74	.47	-.07	.07	.18*	-.21*	.14	.27**	.19*	-.05	(.77)			
10. Subjective norms	2.97	.55	.03	.02	.11	-.03	.14	.30**	.12	.05	.39**	(.71)		
11. Perceived behavioral control	4.11	.74	.04	-.12	-.13	.18*	.01	-.19*	-.09	.21*	-.36**	-.30**	(.83)	
12. Behavioral Intention	2.54	.57	-.08	.19*	.08	-.18*	-.01	.26**	.22**	-.11	.46**	.35**	-.43**	(.78)

Note. CC's = Credit Cards. Cronbach's  $\alpha$  reliability in parentheses. Correlations were computed across all participants,  $n = 143$ . \* $p < .05$ . \*\* $p < .01$ .

Table 2

*Hierarchical Regression to Predict College Student's Intentions to Use Credit Cards*

Step	Independent Variable	$\Delta F$	$df$	$\beta^a$	$R^2$	Adj. $R^2$	$\Delta R^2$
<i>Dependent variable: Intention to use credit cards</i>							
1	Age	6.41**	2, 140	-.21*	.08	.07	.08**
	Number of CC's			.29**			
2	Attitudes	13.03***	5, 137	.26**	.32	.30	.24***
	Subjective norms			.11			
	Perceived behavioral control			-.31***			

*Note.* <sup>a</sup> = Standardized beta weight. CC's= credit cards.  $N = 142$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .



Table 3

*Hierarchical Regression to Predict College Student's Amount of Credit Card Debt*

Step	Independent Variable	$\Delta F$	$df$	$\beta^a$	$R^2$	Adj. $R^2$	$\Delta R^2$
<i>Dependent variable: Reported credit card debt</i>							
1	Age	.85	2, 140	.03	.01	-.002	.01
	Number of CC's			.10			
2	Behavioral intention	2.59*	4, 138	.26**	.07	.04	.06*
	Perceived behavioral control			.23			

*Note.* <sup>a</sup> = Standardized beta weight. CC's = credit cards.  $N = 142$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Table 4

*Hierarchical Regression to Predict College Student's Intentions to Use Credit Cards*

Step	Independent Variable	$\Delta F$	$df$	$\beta^a$	$R^2$	Adj. $R^2$	$\Delta R^2$
<i>Dependent variable: Intention to use credit cards</i>							
1	Age	13.03***	2, 140	-.11	.32	.30	.32***
	Number of CC's			.09			
	Attitudes			.26**			
	Subjective Norms			.11			
	Perceived behavioral control			-.31***			
2	Financial Literacy	11.27***	5, 137	-.11	.33	.30	.01

*Note.* <sup>a</sup> = Standardized beta weight. CC's = Credit cards.  $N = 142$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

Table 5

*Behavioral Intention as a Mediator Between Attitudes, Subjective Norms, Perceived Behavioral Control and Reported Credit Card Debt*

Regression Equation	Predictor	$R^2$	Adj. $R^2$	$\Delta R^2$	$\beta^a$
<i>Dependent variable: Reported credit card debt</i>					
1	Age	.01	-.002	.01	.03
	Number of CC's				.10
2	Attitudes	.04	.02	.04	.16
	Subjective norms				.05
	Perceived behavioral control				-.02

*Note.* <sup>a</sup> = Standardized beta weight. CC's = Credit cards.  $N = 146$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

## Appendix A



**Office of Research Integrity**  
 Institutional Review Board  
 401 11th St., Suite 1300  
 Huntington, WV 25701

FWA 00002704

IRB1 #00002205

IRB2 #00003206

March 1, 2013

Keith Beard, Psy.D.  
 Psychology Department

RE: IRBNet ID# 308657-2

At: Marshall University Institutional Review Board #2 (Social/Behavioral)

Dear Dr. Beard:

**Protocol Title:** [308657-2] The Theory of Planned Behavior and Financial Literacy: A Predictive Model for Credit Card Debt?

**Expiration Date:** March 30, 2014

**Site Location:** MU

**Submission Type:** Continuing Review/Progress Report APPROVED

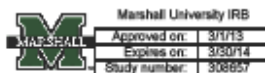
**Review Type:** Exempt Review

The above study and informed consent were approved for an additional 12 months by the Marshall University Institutional Review Board #2 (Social/Behavioral) Designee. The approval will expire March 30, 2014. Since this approval is within 30 days of the expiration date, the fixed anniversary date of 3/30 was maintained. Continuing review materials should be submitted no later than 30 days prior to the expiration date.

This study is for student Brian Kennedy.

If you have any questions, please contact the Marshall University Institutional Review Board #2 (Social/Behavioral) Coordinator Michelle Woomeer, B.A., M.S at (304) 696-4308 or woomeer3@marshall.edu. Please include your study title and reference number in all correspondence with this office.

## Appendix B



You are invited to participate in a research project designed to examine psychological factors involved in credit card debt among college students. The study is being conducted by Keith Beard, Psy.D. and Brian Kennedy, M.S. from Marshall University and has been approved by the Marshall University Institutional Review Board (IRB). This research is being conducted as part of the dissertation requirements for Brian Kennedy.

This survey is comprised of questions about your attitudes towards credit cards, perception of how friends and family use credit cards, self control when using credit cards, intention to use credit cards, basic knowledge of personal finance, personal financial status, and demographic information such as age and gender. Your replies will be anonymous, so do not type your name anywhere on the form. There are no known risks involved with this study. Participation is completely voluntary and there will be no penalty or loss of benefits if you choose to not participate in this research study or to withdraw. If you choose not to participate you may either return the blank survey or you may discard it. You may choose to not answer any question by simply leaving it blank. Once you complete the survey you can delete your browsing history for added confidentiality. Completing the on-line survey indicates your consent for use of the answers you supply. If you have any questions about the study or in the event of a research related injury, you may contact Brian Kennedy at [kennedy79@marshall.edu](mailto:kennedy79@marshall.edu) or Dr. Keith Beard at [beard@marshall.edu](mailto:beard@marshall.edu).

If you have any questions concerning your rights as a research participant you may contact the Marshall University Office of Research Integrity at (304) 696-4303.

By completing this survey and returning it you are confirming that you are 18 years of age or older.

Please print this page for your records

## Appendix C

**Hayhoe's Modified version (1999) of Xiao's Credit Attitudes Scale (1995)**

Please circle one answer for each of the following questions:

## Affective Sub-scale

1. My credit card makes me feel happy.

(*Strongly Disagree*) 1      2      3      4      5      (*Strongly Agree*)

2. I like using credit cards.

(*Strongly Disagree*) 1      2      3      4      5      (*Strongly Agree*)

3. The very thought of using credit cards disgusts me\*.

(*Strongly Disagree*) 1      2      3      4      5      (*Strongly Agree*)

4. I love to have a credit card.

(*Strongly Disagree*) 1      2      3      4      5      (*Strongly Agree*)

## Cognitive Sub-scale

5. I think it is unwise to use any credit card(s).

(*Strongly Disagree*) 1      2      3      4      5      (*Strongly Agree*)

6. Heavy use of credit cards results in heavy debt.

(*Strongly Disagree*) 1      2      3      4      5      (*Strongly Agree*)

7. The cost of using credit cards is too high.

(*Strongly Disagree*) 1      2      3      4      5      (*Strongly Agree*)

8. Because I use a credit card, my debt rises every day.

(*Strongly Disagree*) 1      2      3      4      5      (*Strongly Agree*)

## Behavioral Sub-scale

9. I would like to apply for more credit cards.

(*Strongly Disagree*) 1 2 3 4 5 (*Strongly Agree*)

10. Even though I know it's not easy for college students to acquire credit cards, I always try to apply for one more.

(*Strongly Disagree*) 1 2 3 4 5 (*Strongly Agree*)

11. I want to possess more credit cards than I now have.

(*Strongly Disagree*) 1 2 3 4 5 (*Strongly Agree*)

12. I would like to try all kinds of credit cards.

(*Strongly Disagree*) 1 2 3 4 5 (*Strongly Agree*)

\*Reverse Scored.

## Appendix D

**Modified Version of Kennedy and Wated's Subjective Norms Scale (2011)**

1. Most people who are important to me carry a balance on their credit cards.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

2. The people in my life whose opinions I value carry a balance on their credit cards.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

3. My friends carry a balance on their credit cards.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

4. My parents carry a balance on their credit cards.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

5. Most of my friends have at least three credit cards.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

6. My parents have at least three credit cards.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

7. My friends consider it important to pay off their credit card balance in full each month.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

8. My parents consider it important to pay off their credit card balance in full each month.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

9. Most college students have to use credit cards to help them pay for living expenses

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

10. Credit card debt is just part of the modern day college experience

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

11. Most college students graduate with at least some credit card debt



(*Strongly Disagree*) 1 2 3 4 5 (*Strongly Agree*)

12. My parents sometimes use credit cards to pay for things they cannot afford

(*Strongly Disagree*) 1 2 3 4 5 (*Strongly Agree*)

13. My parents pay their credit card bills on time

(*Strongly Disagree*) 1 2 3 4 5 (*Strongly Agree*)

14. My parents use credit cards (not including debit cards) to pay for living expenses (e.g., food, gas, hygiene supplies)

(*Strongly Disagree*) 1 2 3 4 5 (*Strongly Agree*)

## Appendix E

**Kennedy and Wated's Perceived Behavioral Control Scale (2011)**

1. It is possible for me to stay out of credit card debt while in college.

*(Strongly Disagree)* 1      2      3      4      5      *(Strongly Agree)*

2. If I wanted to, I could stay out of credit card debt while in college.

*(Strongly Disagree)* 1      2      3      4      5      *(Strongly Agree)*

3. I have control over staying out of credit card debt while in college.

*(Strongly Disagree)* 1      2      3      4      5      *(Strongly Agree)*

4. It is mostly up to me as to whether or not I stay out of credit card debt.

*(Strongly Disagree)* 1      2      3      4      5      *(Strongly Agree)*

## Appendix F

**Modified Version of Kennedy and Wated's Behavioral Intention Scale (2011)**

1. I intend to use my credit card to pay for leisure activities during the next two months.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

2. I intend to pay off my credit card(s) balance each month\*

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

3. I intend to put a large purchase on my credit card during the next two months.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

4. I intend to use my credit card to pay for daily expenses over the next two months.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

5. I intend to use my credit card to pay bills during the next two months.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

6. I intend to make the minimum payment to my credit card bill over the next two months.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

7. I intend to pay my credit card bill(s) on time over the next two months.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

8. If an unexpected expense comes up during the next two months, I will use my credit card to pay for this expense.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

9. I intend to purchase new clothing using my credit card (not debit card) over the next two months.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

10. I might be late when paying my credit card bill over the next two months.

*(Strongly Disagree)* 1 2 3 4 5 *(Strongly Agree)*

\*Reverse Scored.

## Appendix G

**JumpStart Survey of Personal Financial Literacy**

1. Inflation can cause difficulty in many ways. Which group would have the greatest problem during periods of high inflation that last several years?
  - a. Older, working couples saving for retirement
  - b. Older people living on fixed retirement income
  - c. Young couples with no children who both work
  - d. Young working couples with children
  
2. Which of the following is true about sales taxes?
  - a. The national sales tax percentage rate is 6%
  - b. The federal government will deduct it from your paycheck
  - c. You don't have to pay the tax if your income is very low
  - d. It makes things more expensive for you to buy
  
3. Rebecca has saved \$12,000 for her college expenses by working part-time. Her plan is to start college next year and she needs all of the money she saved. Which of the following is the safest place for her college money?
  - a. Locked in her closet at home
  - b. Stocks
  - c. Corporate Bonds
  - d. A bank savings account
  
4. Which of the following types of investment would best protect the purchasing power of a family's savings in the event of a sudden increase in inflation?
  - a. A 10-year bond issued by a corporation
  - b. A certificate of deposit at a bank
  - c. A twenty-five year corporate bond
  - d. A house financed with a fixed-rate mortgage
  
5. Under which of the following circumstances would it be financially beneficial to you to borrow money to buy something now and repay it with future income?
  - a. When you need to buy a car to get a much better paying job
  - b. When you really need a week vacation
  - c. When some clothes you like go on sale
  - d. When the interest on the loan is greater than the interest you get on your savings
  
6. Which of the following statements best describes your right to check your credit history for accuracy?
  - a. Your credit record can be checked once a year for free
  - b. You cannot see your credit record
  - c. All credit records are the property of the U.S. Government and access is only available to the FBI and Lenders

- d. You can only check your record for free if you are turned down for credit based on a credit report
7. Your take home pay from your job is less than the total amount your earn. Which of the following best describes what is taken out of your total pay?
- a. Social security and Medicare contributions
  - b. Federal income tax, property tax, and Medicare and Social Security contributions
  - c. Federal income tax, social security, and Medicare contributions
  - d. Federal income tax, sales tax, and social security contributions
8. Retirement income paid by a company is called:
- a. 401 (k)
  - b. Pension
  - c. Rents and profits
  - d. Social Security
9. Many people put aside money to take care of unexpected expenses. If Juan and Elva have money put aside for emergencies, in which of the following forms would it be of LEAST benefit to them if they needed it right away?
- a. Invested in a down payment on the house
  - b. Checking account
  - c. Stocks
  - d. Savings account
10. David just found a job with a take-home pay of \$2,000 per month. He must pay \$900 for rent and \$150 for groceries each month. He also spends \$250 per month on transportation. If he budgets \$100 each month for clothing, \$200 for restaurants and \$250 for everything else, how long will it take him to accumulate savings of \$600?
- a. 3 months
  - b. 4 months
  - c. 1 month
  - d. 2 months
11. Sara and Joshua just had a baby. They received money as baby gifts and want to put it away for the baby's education. Which of the following tends to have the highest growth over periods of time as long as 18 years?
- a. A checking account
  - b. Stocks
  - c. A U.S. Govt. savings bond
  - d. A savings account
12. Barbara has just applied for a credit card. She is an 18-year-old high school graduate with few valuable possessions and no credit history. If Barbara is granted a credit card, which of the following is the most likely way that the credit card company will reduce ITS risk?
- a. It will make Barbara's parents pledge their home to repay Karen's credit card

- debt
- b. It will require Barbara to have both parents co-sign for the card
  - c. It will charge Barbara twice the finance charge rate it charges older cardholders
  - d. It will start Barbara out with a small line of credit to see how she handles the account
13. Chelsea worked her way through college earning \$15,000 per year. After graduation, her first job pays \$30,000. The total dollar amount Chelsea will have to pay in Federal Income taxes in her new job will:
- a. Double, at least, from when she was in college
  - b. Go up a little from when she was in college
  - c. Stay the same as when she was in college
  - d. Be lower than when she was in college
14. Which of the following best describes the primary sources of income for most-people age 20-35?
- a. Dividends and interest
  - b. Salaries, wages, tips
  - c. Profits from business
  - d. Rents
15. If you are behind on your debt payments and go to a responsible credit counseling service such as Consumer Credit Counseling Services, what help can they give you?
- a. They can cancel and cut up all of your credit cards without your permission
  - b. They can get the federal government to apply your income taxes to pay off your debts
  - c. They can work with those who loaned you money to set up a payment schedule that you can meet
  - d. They can force those who loaned you money to forgive all your debts
16. Rob and Mary are the same age. At age 25 Mary began saving \$2,000 a year while Rob saved nothing. At age 50, Rob realized that he needed money for retirement and started saving \$4,000 per year while Mary kept saving her \$2,000. Now they are both 75 years old. Who has the most money in his or her retirement account?
- a. They would each have the same amount because they put away exactly the same
  - b. Rob, because he saved more each year
  - c. Mary, because she has put away more money
  - d. Mary, because her money has grown for a longer time at compound interest
17. Many young people receive health insurance benefits through their parents. Which of the following statements is true about health insurance coverage?
- a. You are covered by your parents' insurance until you marry, regardless of your age
  - b. If your parents become unemployed, your insurance coverage may stop,

- regardless of your age
- c. Young people don't need health insurance because they are so healthy
  - d. You continue to be covered by your parents' insurance as long as you live at home, regardless of your age
18. Don and Bill work together in the finance department of the same company and earn the same pay. Bill spends his free time taking work-related classes to improve his computer skills; while Don spends his free time socializing with friends and working out at a fitness center. After five years, what is likely to be true?
- a. Don will make more because he is more social
  - b. Don will make more because Bill is likely to be laid off
  - c. Bill will make more money because he is more valuable to his company
  - d. Don and Bill will continue to make the same money
19. If your credit card is stolen and the thief runs up a total debt of \$1,000, but you notify the issuer of the card as soon as you discover it missing, what is the maximum amount that you can be forced to pay according to Federal law?
- a. \$500
  - b. \$1,000
  - c. Nothing
  - d. \$50
20. Which of the following statements is NOT correct about most ATM (Automated Teller Machine) cards?
- a. You can generally get cash 24-hours-a-day
  - b. You can generally obtain information concerning your bank balance at an ATM machine
  - c. You can get cash anywhere in the world with no fee
  - d. You must have a bank account to have an ATM Card
21. Matt has a good job on the production line of a factory in his home town. During the past year or two, the state in which Matt lives has been raising taxes on its businesses to the point where they are much higher than in neighboring states. What effect is this likely to have on Matt's job?
- a. Higher business taxes will cause more businesses to move into Matt's state, raising wages
  - b. Higher business taxes can't have any effect on Matt's job
  - c. Matt's company may consider moving to a lower-tax state, threatening Matt's job
  - d. He is likely to get a large raise to offset the effect of higher taxes
22. If you have caused an accident, which type of automobile insurance would cover damage to your own car?
- a. Comprehensive
  - b. Liability
  - c. Term

- d. Collision
23. Scott and Eric are young men. Each has a good credit history. They work at the same company and make approximately the same salary. Scott has borrowed \$6,000 to take a foreign vacation. Eric has borrowed \$6,000 to buy a car. Who is likely to pay the lowest finance charge?
- Eric will pay less because the car is collateral for the loan
  - They will both pay the same because the rate is set by law
  - Scott will pay less because people who travel overseas are better risks
  - They will both pay the same because they have almost identical financial backgrounds
24. If you went to college and earned a four-year degree, how much more money could you expect to earn than if you only had a high school diploma?
- About 10 times as much
  - No more; I would make about the same either way
  - A little more; about 20% more
  - A lot more; about 70% more
25. Many savings programs are protected by the Federal government against loss. Which of the following is not?
- A U.S. Savings Bond
  - A certificate of deposit at the bank
  - A bond issued by one of the 50 States
  - A U.S. Treasury Bond
26. If each of the following persons had the same amount of take home pay, who would need the greatest amount of life insurance?
- An elderly retired man, with a wife who is also retired
  - A young married man without children
  - A young single woman with two young children
  - A young single woman without children
27. Which of the following instruments is NOT typically associated with spending?
- Debit card
  - Certificate of Deposit
  - Cash
  - Credit Card
28. Which of the following credit card users is likely to pay the GREATEST dollar amount in finance charges per year, if they all charge the same amount per year on their cards?
- Jessica, who pays at least the minimum amount each month and more, when she has the money
  - Vera, who generally pays off her credit card in full, but occasionally will pay the minimum when she is short of cash
  - Megan, who always pays off her credit card bill in full shortly after she



- receives it
- d. Erin, who only pays the minimum amount each month

28. Which of the following statements is true?
- Banks and other lenders share the credit history of their borrowers with each other and are likely to know of any loan payments that you have missed.
  - People have so many loans it is very unlikely that one bank will know your history with another bank.
  - Your bad loan payment record with one bank will not be considered if you apply to another bank for a loan.
  - If you missed a payment more than 2 years ago, it cannot be considered in a loan decision.
29. Dan must borrow \$12,000 to complete his college education. Which of the following would NOT be likely to reduce the finance charge rate?
- If he went to a state college rather than a private college
  - If his parents cosigned the loan
  - If his parents took out an additional mortgage on their house for the loan
  - If the loan was insured by the Federal Government
31. If you had a savings account at a bank, which of the following would be correct concerning the interest that you would earn on this account?
- Earnings from savings account interest may not be taxed.
  - Income tax may be charged on the interest if your income is high enough.
  - Sales tax may be charged on the interest that you earn.
  - You cannot earn interest until you pass your 18<sup>th</sup> birthday.

## Part 2 – Classification Questions

32. What is your gender?
- Male
  - Female
33. What is the highest level of education you expect to achieve?
- Associate degree (two-year)
  - Bachelor degree (four-year)
  - Master's degree
  - Doctorate, law or professional (six year or more)
34. What is your best estimate of your parents' total income last year? Consider annual income from all sources before taxes.
- Less than \$20,000
  - \$20,000 to \$39,999
  - \$40,000 to \$79,999
  - \$80,000 or more
  - Don't know

35. What is the highest level of schooling your father or mother completed?
- Neither completed high school
  - Completed high school
  - Some college
  - College graduate or more than college
  - Don't know
36. How do you describe yourself?
- White or Caucasian
  - Black or African-American
  - Hispanic American
  - Asian-American
  - American Indian, Alaska Native, or Native Hawaiian
  - Other
37. When you start to work full-time, after you finish your education, how much do you expect to make per year before deductions for taxes and other items?
- Under \$30,000
  - \$30,000 to \$39,999
  - \$40,000 to \$49,999
  - \$50,000 or more
38. How many credit cards do you use, including store credit cards?
- None
  - One
  - Two
  - Three
  - Four
  - Five or more
39. Which of the following statements best describes the way in which you make payments on your credit cards?
- I always pay off the total balance each month.
  - I occasionally do not pay off the balance for a month or so when I am short on funds.
  - I generally have an outstanding balance but occasionally am able to pay it off.
  - I seldom, if ever, pay off all my balances, but try to pay them down when I can.
  - I generally pay off only the minimum required payment each month.
40. What is the outstanding balance on all of your credit cards?
- Under \$1,000 = 500
  - \$1,000 to \$2,499 = 1750
  - \$2,500 to \$4,999 = 3750
  - \$5,000 to \$9,999 = 7500

- e. More than \$10,000
41. When did you get your first credit card?
- a. Before graduating high school
  - b. When I graduated from high school
  - c. When I started college
  - d. During my first year in college
  - e. After completing my first year of college
42. How often are you late paying your credit card bills?
- a. Never
  - b. Once or twice since I've had credit cards
  - c. Once or twice per year
  - d. More than two times per year
43. When you finish your undergraduate education, how much do you expect to owe in student loans?
- a. Nothing
  - b. Less than \$5,000
  - c. \$5,000 to \$9,999
  - d. \$10,000 to \$19,999
  - e. \$20,000 to \$29,999
  - f. \$30,000 to \$49,999
  - g. \$50,000 or more
44. Aside from any credit card debt or student loans you might have, what other types of debt do you have? (select ALL that apply)
- a. Auto loans
  - b. Home mortgage
  - c. Personal debt or other debt
45. Do you have a checking account?
- a. Yes
  - b. No
46. How often have you bounced a check (had it returned for insufficient funds)?
- a. Never
  - b. Once or twice in my lifetime
  - c. Once or twice per year
  - d. More than twice per year
47. How often do you balance your checkbook?
- a. After every check, deposit and ATM withdrawal
  - b. About once a week
  - c. About once a month
  - d. Several times per year

- e. Once or twice per year
- f. Never

48. In what form do you hold your savings and investments? (select ALL that apply)

- a. Savings accounts
- b. Certificates of deposit
- c. U.S. Savings Bonds
- d. Stocks
- e. Mutual funds
- f. Bonds other than U.S. Savings Bonds
- g. Retirement accounts such as 401K's and IRAs

49. How would you rate the savings and investments that you have?

- a. Adequate for my needs right now
- b. Slightly less than I should have right now
- c. Much less than I should have right now

50. How much do you worry about your debts?

- a. Never
- b. A little
- c. Sometimes
- d. Often
- e. Nearly all the time

51. Who prepares your income taxes?

- a. I do it myself by hand
- b. I do it myself using a computer program
- c. A tax preparer
- d. My parents

52. Which of the following classes did you have in high school? (Select ALL that apply)

- a. An entire course in personal money management or personal finance
- b. A portion of a course where at least a week was focused on personal money management or personal finance
- c. An entire course in economics
- d. A portion of a course where at least a week was focused on economics
- e. A course in which we played a stock market game

53. Which of the following classes have you had in college? (Select ALL that apply)

- a. A semester-length course in personal money management or personal finance
- b. Coverage of money management or personal finance (including part of freshman orientation)
- c. Economics
- d. Finance
- e. Accounting

54. Which of the following best describes your status as a student?
- a. I am a full time undergraduate student at a Four-year college or university
  - b. I am a full-time undergraduate student at a Two-year college or university
  - c. I am a part-time undergraduate student at a Four-year college or university
  - d. I am a part-time undergraduate student at Two-year college or university
55. Which is your class standing?
- a. Freshman
  - b. Sophomore
  - c. Junior
  - d. Senior
56. Which of the following best describes your major or area of interest in college?
- a. Arts
  - b. Business or Economics
  - c. Engineering
  - d. Humanities
  - e. Nursing
  - f. Science
  - g. Social Science
  - h. Other

## Appendix H

**Financial Dependence and Additional Demographics**

1. Please circle the answer that best describes your financial situation.
  - a. I am completely financially dependent on a parent, guardian, or someone else; and someone else pays my credit card bills.
  - b. I am somewhat financially independent, but someone else pays my credit card bills.
  - c. I am somewhat financially independent, but I pay my own credit card bills.
  - d. I am completely financially independent and pay my own credit card bills.
  
2. In the space below, please provide your total estimated credit card debt (including store cards) in USD (\$).  
  
\$ \_\_\_\_\_
  
3. Please provide your age: \_\_\_\_\_

**Brian P. Kennedy, M.S.**  
Curriculum Vitae

## Address

XXXX XXXX XXXXX XXXX  
XXXX XXXXX, XX XXXXX-XXX  
Phone: (XXX) XXX-XXXX  
kennedy79@marshall.edu

**EDUCATION:**

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**Doctor of Psychology**      Marshall University, Huntington, WV  
Clinical Psychology      APA-Accredited Program  
Anticipated August 2013      Dissertation: *The Theory of Planned Behavior and Financial Literacy: A Predictive Model for Credit Card Debt?*

**Master of Science**      Barry University, Miami Shores, FL  
Clinical Psychology      Master's Thesis: *The Theory of Planned Behavior as a Model for Predicting Credit Card Debt among College Students*  
August 2009

**Bachelor of Science**      Xavier University, Cincinnati, OH  
May 2006      Major: Psychology  
Minor: Business

Semester at Sea, Institute for Shipboard Education,  
Charlottesville, VA  
August – December 2004  
Academic Sponsor: University of Pittsburgh  
Program of Study: Global Studies

**CLINICAL EXPERIENCE:**

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**August 2012- Present**      **Pre-doctoral Intern**  
Federal Bureau of Prisons  
Federal Correctional Institution, Fort Worth, TX  
APA-Accredited Pre-doctoral Internship  
Training Director: Pamela Morris, Ph.D.

Responsibilities: General rotation duties include conducting intakes and providing brief counseling, crisis intervention, individual therapy, and group therapy with male inmates. Additional responsibilities on the 6 month Correctional Psychology rotation primarily focus on crisis intervention, mental health screenings, and solution-focused treatment of inmates in Receiving and Discharge, the Special Housing Unit, and the pre-trial and pre-sentencing Jail Unit. Both of these rotations also include thorough training and supervised experience

conducting Suicide Risk Assessments and providing interventions to behaviorally disordered inmates. Additional experience in psychiatric referral and consultation with the psychiatrist. Responsibilities on the 6 month Forensic Evaluation rotation emphasize conducting forensic assessments including competency to stand trial, criminal responsibility, and risk of sexual predation. Additional responsibilities during a 3 month minor rotation in residential drug abuse programming at FCI Seagoville include co-facilitating diagnostic interviews, as well as facilitating psycho-education, cognitive-behavioral and process oriented groups targeting substance abuse and thinking errors contributing to criminal behavior.

**August 2011- July 2012      Psychological Trainee**  
Hudson Forensic Psychology  
Charleston, WV  
Supervisor: Clifton Hudson, Ph.D.

Responsibilities: Administered, scored, and interpreted batteries of psychological tests addressing intellectual, achievement, personality, neuropsychological, parenting, and independent living functioning. Assisted in conducting forensic interviews used in parental fitness evaluations, competency to stand trial evaluations, and evaluation of psychological injury. Also assisted in forensic report writing and; completing treatment planning evaluations of children and adolescents referred from CPS. Additional experience in providing court-ordered anger management.

**August 2010- July 2012      Graduate Assistant**  
Marshall University Psychology Clinic  
Huntington, WV  
Supervisor: Keith Beard, Psy.D.

Responsibilities: Made initial contact with prospective clients to determine psychological service needs, assigned appropriate clients to clinicians and referred clients outside of the clinics' scope of practice to appropriate mental health service providers; provided brief crisis intervention and referral services to clients in crisis; managed assessment inventory; provided supplementary clinic supervision.

**August 2010- August 2011      Psychological Trainee**  
Federal Bureau of Prisons  
Federal Correctional Institution  
Ashland, KY  
Supervisor: Brad Garner, Psy.D.

Responsibilities: Provided individual and group therapy; provided Cognitive Processing Therapy (CPT) to inmates diagnosed with PTSD; completed diagnostic intake interviews and composed reports; completed personality, psycho-educational, neuropsychological, and response bias assessments; participated in psychiatry consults via telehealth; assisted in crisis management with inmates housed in the Special Housing Unit (SHU); participated in SHU rounds.



**July 2010**                                    **Psychological Trainee**  
 Camp New You  
 Huntington, WV  
 Supervisor: Marianna Linz, Ph.D.

Responsibilities: Provided group therapy featuring cognitive and behavioral interventions to adolescents attending a camp aimed at increasing healthy behaviors by promoting a healthy and active lifestyle.

**October 2009- August 2010** **Psychological Trainee**  
 Marshall University Psychology Clinic  
 Huntington, WV  
 Supervisors: Marty Amerikaner, Ph.D.. and Marianna Linz, Ph.D.

Responsibilities: Provided individual therapy to university students and community members; used cognitive-behavioral, gestalt, and humanistic interventions; completed personality, psycho-educational and neuropsychological assessments; provided feedback on assessment results to clients, parents/guardians, teachers, mental health professionals, and physicians; conducted stress management presentations on-campus; provided psychological consultation for Head Start Program (state funded pre-school).

**January 2009- August 2009** **Practicum Student**  
 Summer House Detoxification Center  
 North Miami, FL  
 Supervisor: Edward Konat, LMHC

Responsibilities: Provided psychological consultation as part of an interdisciplinary team with psychiatrists, nurses, and drug treatment specialists; conducted psychosocial interviews, provided individual and group therapy to adults detoxing from alcohol, opioids, cocaine, benzodiazepines, and methamphetamine.

**January 2008- May 2009**    **Reading Interventionist**  
 Miami-Dade County Public Schools, Psychological Services  
 Miami, FL  
 Supervisor: Teresa Floyd, M.S.

Responsibilities: Administered ongoing reading assessments to monitor reading progress related to state-wide benchmarks; provided small group reading intervention to students scoring below benchmark in kindergarten, first, second, and third grades. Participated in Individualized Educational Program meetings and provided feedback to parents.

**August 2006- January 2007 Psychological Assistant**

Omar Lorenzo, Psy.D. and Associates  
 Hialeah, FL  
 Supervisor: Omar Lorenzo, Psy.D.

Responsibilities: Assisted the supervising psychologist conduct intake interviews with adolescents, foster parents, and case managers; assisted in report writing by integrating previous records into history.

**July 2005- May 2006****Psychometrist**

Dr. Kenneth Manges, and Associates, Inc.  
 Cincinnati, OH  
 Supervisor: Kenneth Manges, Ph.D.

Responsibilities: Administered and scored a variety of psychological and vocational assessments and integrated test results into forensic reports; reviewed literature on a variety of forensic subjects and presented case relevant literature to the supervising psychologist.

**RESEARCH EXPERIENCE:**

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**August 2010- April 2013****Co-principle Investigator**

Dissertation: The Theory of Planned Behavior and Financial Literacy: A Predictive Model for Credit Card Debt?  
 Marshall University. Principle Investigator: Keith Beard, Psy.D.

**January 2008- August 2009 Co-principle Investigator**

Master's Thesis: The Theory of Planned Behavior as a Model for Predicting Credit Card Debt among College Students.  
 Barry University. Principle Investigator: Guillermo Wated, Ph.D.

**PUBLICATIONS:**

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**Kennedy, B.** & Wated, G. (2011). Predicting credit card debt among college students: The attitudes-behavior relation. *The Journal of Psychology & Behavioral Sciences*, 22, 43-50.

**Kennedy, B.** (2010). Behavioral analysis in hostage negotiation. *Behavioral Analysis Digest International*, 22, 5-6.

**PRESENTATIONS:**

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**Kennedy, B.,** Wated, G., & Szuchman, L. (2009, March). *Attitudes Toward Credit Card Debt Among College Students*. Poster presented at the 73<sup>rd</sup> Annual Florida Academy of Sciences Conference, St. Leo, FL.

**Kennedy, B., & Wated, G.** (2008, April). *The Theory of Planned Behavior as a Model for Predicting Credit Card Debt among College Students*. Poster presented at the 14<sup>th</sup> Annual Barry University Student Research Forum, Miami Shores, FL.

### **TEACHING EXPERIENCE:**

---

- Spring 2009**                      **Graduate Assistant**  
 Psychology 335: Research Methods and Analysis in Psychology II.  
 Barry University, Miami Shores, FL.  
 Instructors: Lenore Szuchman, Ph.D. and Guillermo Wated, Ph.D.
- Fall 2008**                        **Graduate Assistant**  
 Psychology 335: Research Methods and Analysis in Psychology I.  
 Barry University, Miami Shores, FL.  
 Instructors: Lenore Szuchman, Ph.D. and Guillermo Wated, Ph.D.
- Spring 2008**                    **Graduate Assistant**  
 Psychology 497: Senior Seminar  
 Barry University, Miami Shores, FL.  
 Instructor: Lenore Szuchman, Ph.D.
- Fall 2007**                        **Graduate Assistant**  
 Psychology 284: Professional Development  
 Barry University, Miami Shores, FL.  
 Instructor: Agnes Shine, Ph.D.

### **TRAININGS:**

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- September 2011**            **Advanced Training in the MMPI-2 and the MMPI-RF.**  
 Veteran Affairs Medical Center, Huntington, WV.  
 Presentation by Roger L. Greene, Ph.D.  
 (16 hours)
- January 2011**                **Dialectical Behavioral Therapy: An Introduction to Treatment Techniques.**  
 West Virginia University, School of Medicine, Department of Behavioral Medicine and Psychiatry, Charleston, WV.  
 Presentation by Patrick Kerr, Ph.D. and Jessica Luzier, Ph.D.  
 (2 Hours)
- June 2012**                    **Treatment and Evaluation of Sex Offenders Training 2012**  
 Commonwealth of Kentucky, Department of Corrections  
 Sex Offender Risk Assessment Advisory Board  
 Chairman: James J. Van Nort, Psy.D.  
 (12.5 Hours)

**February 2013      Seeking Safety: An Introduction to Treating Trauma in the Correctional Setting.**

Federal Medical Center- Carswell, Fort Worth, TX

Presentation by: Veronica Tetterton, Ph.D.

(2.5 Hours)

**AWARDS AND SCHOLARSHIPS:**

---

**Summer 2010**                      \$750    Marshall University Graduate College  
Award for Academic Excellence

**Summer 2008**                      \$500    Daniel Brown Memorial Scholarship,  
Barry University Psychology Department

**PROFESSIONAL AFFILIATIONS:**

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American Psychological Association  
*Student Affiliate*

American Psychology-Law Association  
*Student Affiliate*