

The relationship between consumer debt and mental health

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THE RELATIONSHIP BETWEEN CONSUMER DEBT AND MENTAL
HEALTH

by

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A thesis submitted in partial fulfillment of the requirements
for the Honors in the Major Program in Social Work
in the College of Health and Public Affairs
and in The Burnett Honors College
at the University of Central Florida
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ABSTRACT

Consumer debt is a growing phenomenon in the US and throughout the world. The beginning of the 21st century has been defined by such an incredible growth in consumer debt that American families have increased their debt relative to personal income four times faster than in the 1990s. Since the Federal Reserve began measuring the amount of American consumer debt and consumer income in the 1980s, consumer debt never exceeded consumer income until 2004 when it reached 104.8% of income. In the last two decades, researchers have observed a significant correlation between debt and mental health. The purpose of this thesis is to examine a comprehensive sample of previous quantitative research conducted on the relationship between debt and mental health. This thesis discusses the research in the following categories: 1) increased debt as a contributor to decreased mental health; 2) decreased mental health as a contributor to increased debt; 3) high correlation between debt and mental health risks.

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INTRODUCTION

According to the United States Code, consumer debt is “debt incurred by an individual primarily for a personal, family, or household purpose” (“11 usc 101 - definitions,” 2012). Consumer debt is a growing phenomenon in the US and throughout the world (Kamleitner, Hoetzle, & Kirchler, 2012). The beginning of the 21st century has been defined by such an incredible growth in consumer debt that American families have increased their debt relative to personal income four times faster than in the 1990s (Bucks, Kennickell, Mach, & Moore, 2009; Walstad, 2008). Since the Federal Reserve began measuring the amount of American consumer debt and consumer income in the 1980s, consumer debt never exceeded consumer income until 2004 when it reached 104.8% of income (Weller, 2006; Bucks, Kennickell, & Moore, 2006). The purpose of this study is to examine the existing literature pertaining to the possible association between consumer debt and poor mental health.

SUMMARY

The following is a comprehensive review of the literature on the relationship between consumer debt and mental health. The purpose of this literature review is to examine all possible relationships between consumer debt and mental health. The research examined in this literature review is divided into three categories: 1) increased debt as a contributor to decreased mental health; 2) decreased mental health as a contributor to increased debt; 3) high correlation between debt and mental health risks.

The first section will include literature which investigates consumer debt as associated with mental health issues. The second section will include literature which investigates consumer debt as a contribution to mental health issues. And the third section will include literature which suggests a high correlation between the two. Each category will be divided into subcategories based on the available research. The literature reviewed has been placed in its respective category based on the results of each work of research.

When examined together, the information in these three categories should provide a more detailed view of the relationship between consumer debt and mental health than there currently exists. Examining the relationship between consumer debt and mental health at each of these levels should provide a comprehensive review of the literature. The research presented in this literature review should provide greater insights to professionals seeking to understand all facets of mental health.

METHODOLOGY

The databases that were used in examining the literature for the effects of debt on individuals' health included EBSCO Host, PsychInfo, OneSearch, Academic Search Premier, and JSTOR. Keywords used were: debt; finances; compulsive buying; credit; locus of control; depression; mental health; history; women; youth OR teens OR young adults; stress; low-income OR lower-class; credit; education; marriage AND debt; cultures AND finances; and religion AND finances. Although numerous articles were found when applying the keywords, further research should be conducted.

REVIEW OF THE LITERATURE

The research in the literature review is presented in order to explore a possible relationship between debt and mental health. The results of this research could have great implications for social worker and any other professionals working in the field of mental health. In order to present as accurate a depiction of this relationship as is possible, the following sections will be labeled: 1) increased debt as a contributor to decreased mental health; 2) decreased mental health as a contributor to increased debt; 3) high correlation between debt and mental health risks.

Increased Debt as a Contributor to Decreased Mental Health.

This section reviews literatures, the authors of which—based on the results of each study—suggest that an increase in debt may contribute to reduced mental health. It is important to note that the research studies in this section were categorized based on their results. The results of studies in this section support the postulation that consumer debt is an independent variable which may be associated with mental health problems (dependent variable).

Age. The early research that has been done concerning the mental and physical effects of debt has shown that debt-holding has a dramatic effect on the mental and physical well-being of older adults (Jacoby, 2002). However, only recently have researchers begun to explore the possible effects of debt-holding on young adults (Dwyer, McCloud, & Hodson, 2011). This is due to the fact that studies prior to 2012 have shown a tendency for young adults to use more credit than any other age demographic (Drentea & Lavrakas, 2000). However, a more recent study conducted by the Pew Research Center found that households which were headed by adults

aged 35 years or below had lowered their credit card balances from 48% in 2007 to 39% in 2010, a much greater decline than any other age demographic (Fry, 2013).

Dwyer, McCloud and Hodson (2011) found that credit card debt is considered a positive experience for lower and middle-class youth and that it supports a positive sense of control, self-worth and mastery when transitioning into adulthood. Mastery refers to the measure to which a person sees themselves as having adequate power over their future (Pearlin et al., 1981). Credit card debt held little to no effect on upper-class youth, likely because they have more available payment options. However, Dwyer, McCloud and Hodson (2011) also found that individuals aged 28 and older experience significantly reduced feelings of mastery and self-esteem with the presence of education debt, which supports the findings of previous researchers (Jacoby, 2002). Self-esteem refers to a person's opinion about their own self-worth (Pearlin et al., 1981). The findings of these researchers are supported by the 2006 and 2008 Behavioral Risk Factor Surveillance System (see **APPENDIX, Tables 1 & 2**). This may be due to the fact that, according to the Bankruptcy Abuse Prevention and Consumer Protection Act (2005), education loans cannot be written off through bankruptcy.

Religion. Religion has played a key role in the lives of human beings throughout history. Entire governments have been based off of religious laws (Pabst, 2010). With religious laws comes dissonance; and with the phenomenological rise of consumer debt in the 21st century, religious laws concerning debt are likely to have a considerable effect on religious people. However, very little research exists concerning the role that religion plays in the relationship between debt and mental health.

Religious laws have covered most common subjects that are consistent throughout the human experience (Takim, 2011). From relationships to clothing, most religions contain rules that govern the behavior of followers. However, a person who self-identifies as religious yet whose lifestyle fails to adhere to all of their religious laws can experience cognitive dissonance. For example, Sherry, Adelman, Whilde and Quick (2010) found that homosexuals who considered themselves to be highly religious (the religions being studied were Protestantism, Catholicism, Islam, and Judaism) and prescribing to conservative religious beliefs were more likely to experience high levels of guilt and shame.

Almost every major religion in the world contains laws concerning finances and specifically debt. Islam, Christianity, and Judaism among others each contain laws and regulations concerning debt (Bekkum, 2011; Karlberg, 2011). Because all of these religions have strict rules concerning debt and do not condone debt acquisition, it is reasonable to assume that members of these major religions who self-identify as strongly religious may have feelings of guilt and shame if they have acquired debt (Bekkum, 2011; Karlberg, 2011; Takim, 2011).

However, Abdul-Muhmin (2008) studied the possibility that positive attitudes toward consumer debt influenced the level of consumer debt in the Islamic country Saudi Arabia. Abdul-Muhmin found there to be no significant relationship between consumer debt levels and individuals' positive attitudes toward consumer debt. However, Abdul-Muhmin was unable to include a scale of religiosity in the study, which would have been useful in determining if levels of religiosity has an effect on debt attitudes and debt acquisition.

(See **APPENDIX, Table 3** for the variables and analysis from each study)

Decreased Mental Health as a Contributor to Increased Debt

This section reviews research studies, the authors of which—based on the results of each study—suggest that a decrease in mental health status may contribute to an increase in debt. It is important to note that the research studies in this section were categorized based on their results. The results of studies in this section support the exploration of poor mental health as an independent variable affecting debt acquisition (the dependent variable). While it may seem obvious that poor mental health can be a cause of individuals becoming financially indebted, it is important to be specific about this relationship. It is clear that the cost of treatment methods for poor mental health can easily cause financial strain and even exacerbate the issue. Therefore, this section focuses on research which views debt as a symptom of poor mental health.

Compulsive buying tendencies. Conventional wisdom would say that individuals with high levels of financial knowledge do not have high levels of debt. However, the research shows that with people who have compulsive buying tendencies (CBT) this is normally not the case. According to O’Guinn and Faber (1989) compulsive buying consists of persistent repetitive buying, usually in response to negative events or emotions. In a study done by Brougham, Jacobs-Lawson, Hershey, and Trujillo (2011) the participants’ level of financial knowledge was in no way associated with participants’ levels of CBT, suggesting that the development of CBT lies in underlying emotional, social, or psychological issues, and that a person with a high level of financial knowledge is just as likely to develop compulsive buying tendencies as a person with little financial knowledge.

In addition, the same study found that high levels of CBT are not associated with high levels of anxiety in relation to finances. Participants with a high level of CBT were no more

likely to experience financial anxiety than those with low levels of CBT. Both of these findings in conjunction suggest that the cause and continuance of CBT lies in the emotional, social or psychological realm and that raising a person's financial knowledge, while helpful in developing financial skills, may not be the best practice in resolving underlying issues.

Parents and children. Evidence shows that individuals learn more about finances from their parents than they do from any other social institution (Norvilitis & MacLean, 2010). Norvilitis and MacLean (2010) studied the effects of parental behavior on students' debt-management skills. Lower credit card debt levels were associated with higher levels of parental involvement and financial mentoring. Hayhoe (2002) found that if parents used money as a reward for their children completing chores or for good behavior and did not discourage immediate spending, the children's CBTs with credit cards increased when they were in college.

The financial situations of parents may also play a role in children's financial skills development. Norvilitis et al. (2006) found that parental debt and financial stress had no effect on the likelihood of their children acquiring debt. However, others found that parental debt and financial stress decreased children's likelihood of acquiring debt (Stone & Maury, 2006). Anderson and Nevitte (2006) suggest that parents who are in debt and who experience financial stress may put more emphasis on teaching their children to not incur debt.

Class differentiation. Christen and Morgan (2005) found that the measure of inequalities in America positively correlates with the amount of consumer credit in use. This could suggest that the ever-widening gap between the extreme upper-class and lower-class (see **APPENDIX, Table 4**) has directly influenced the amount of credit being offered to individuals. Christen and Morgan (2005) proposed that consumption in the upper-class raises the standards

for everyone else. This is in agreement with Palan, Morrow, Trapp, & Blackburn (2011) who found that credit usage is influenced by a person's tendency to compare themselves with others.

Contrary to popular wisdom, the middle-class seems to hold the most consumer debt, which could be explained by the middle-class holding more mortgage loans (Kamleitner, Hoetzl, & Kirchler, 2012). Anderson and Nevitte (2006) found that debt levels rise with income and savings decrease. Kamleitner, Hoetzle, & Kirchler (2012) suggest that low-income groups use debt in order to meet basic needs and to maintain their lifestyles, whereas higher income groups use debt to improve their standard of living.

Class differentiation among young adults. Dwyer, McCloud and Hodson, 2011, found that credit card debt has been shown to increase a sense of self-control, self-worth and mastery in young adults. However, they also found that these effects seem to be influenced by class position. For lower-class youth, increases in the sense of self-control, self-worth and mastery are determined by the amount of debt held. The researchers suggest that youth from the lower-class may view debt as an investment in their future. Future research should explore the possible differentiation in time orientation between economic and social classes.

Unlike the lower-class, whose mastery and self-esteem are increased by both education and credit card debt, the researchers found that middle-class youth seem to be significantly affected by credit card debt alone. Any amount of credit card debt increases self-worth and mastery. This also may indicate that some amount of education loans may be viewed as a social norm for middle-class youth. Upper-class youth were not significantly affected by either credit card debt or education loans. The researchers suggest that this may be due to the fact that upper-class youth have more financial options available. Also, the research seemed to show that those

who viewed debt as a positive investment were those who had the least amount of available options for achieving their goals. Draut (2006) warns that even if educational loans make it possible for lower-class youth to improve their educational status, the burden of paying it off will likely cause a significant level of financial stress.

(See **APPENDIX, Table 3** for the variables and analysis from each study)

High Correlation between Debt and Mental Health Risks.

This section examines literatures, the authors of which—based on the results of each study—have observed a high correlation between consumer debt acquisition and poor mental health. Additional literature in this section includes research conducted by the Federal Reserve Board. The statistics from the Federal Reserve Board concerning consumer debt have not been statistically calculated in conjunction with national depression and anxiety levels. Therefore it is important to note that no correlation has been statistically computed and that further work in this area should be conducted.

Compulsive buying tendencies. Elliott, Eccles, and Gournay (1996) suggest that compulsive buying can be more accurately described as an addiction. For example, individuals with high CBT report more credit card debt than those with low CBT (Joireman, Kees, & Spratt, 2010). Other studies have linked CBT with an increased presence of depression, anxiety, and stress (Ridgway, Kukar-Kinney, & Monroe, 2008).

Gender. Thorne (2010) found that in most heterosexual relationships, financial matters were shown to normally be the woman's responsibility. Those who were in charge of the finances tended to bear the most guilt when difficult financial situations occurred. Clarkberg and Moen (2001) found that when debt levels are high in families, wives are more likely than

husbands to work extra hours. Information from the 2006 and 2008 Behavioral Risk Factor Surveillance System may support these findings (see **APPENDIX, Tables 5 & 6**). Women increasing work hours during financially difficult times may be due in part to women's work hours being more flexible than men's on average. The research only spans a few cultures—usually Western culture—and does not include same-sex marriages. However, the research that does exist has some significant implications for women.

Marriage. Finances have been shown to be the most frequent source of arguments in marriages (Kamleitner, Hoetzl, & Kirchler, 2012). In a study conducted by Dew (2007) the presence of credit alone had a significant impact on the extent of marital conflict. Those who were separated, divorced, widowed, or who had never married reported being less financially stable than married persons because they had much higher mortgage rates in comparison to household income.

College Students. Morra, Regehr and Ginsburg (2008) studied the effects of debt on the well-being of medical students at the University of Toronto. A correlation was found between perceived financial stress and current debt levels. Perceived future debt was suggested to be a higher source of stress than current debt. However, the results might be skewed because students' GPAs were not taken into account. Students with better grades may be less stressed about current debt. Their perceived likelihood of paying back their debts could be greater than those with lower grades.

Credit Cards and Young Adults. Nelson, Lust and Ehlinger (2008) were able to associate high levels of credit card debt (>\$1,000) with being overweight or obese, a lack of exercise, watching too much television, binge drinking, skipping breakfast, eating fast food,

substance abuse, violence, and moderate to high stress levels. Many of these have been highly correlated with the development of depression and suicidal ideation (Newman & Newman, 2012). Nock et al. (2008) assert that psychiatric, psychological and biological factors can lead a person to develop suicidal tendencies, and that stressful life events often occur that greatly increase the risk of suicide. Acquiring and paying off high levels of debt could reasonably be considered a highly stressful life event (Kamleitner, Hoetzl, & Kirchler, 2012).

Credit card debt with young adults has been associated with smoking, alcoholism, little exercise, and a significant number of self-reported poor mental health days (Berg et al., 2010). Interestingly, students who hold higher levels of debt seem to be as happy as those without any debt, based on self-reported results (Zhang & Kemp, 2009). However, they also reported that financial stress reduced their overall life satisfaction. These behavioral and emotional effects of debt are similar to symptoms of depression (Newman & Newman, 2012).

Race and ethnicity. The literature has shown that debt levels are also highly correlated with ethnicity and race. Weller (2009) states that discrimination likely has influence over certain groups' credit access. Gallmeyer and Roberts (2009) suggest that the accessibility of alternative sources of credit may amplify debt problems related to demographics.

Lum (2011) found that the percentage of debt-holding African American students is much higher than that of the non-Hispanic, White population. Grable and Joo (2006) also found that higher financial stress was more likely to be reported among African American students than among Asian American, European American, or Hispanic American students. Because the percentage of European Americans in debt is so disproportionately low in comparison with African Americans and Hispanic Americans, it is clear that these populations

face issues that could include racism, discrimination, and neighborhood disadvantages, which have also been highly correlated with anxiety and depressive symptoms (Lum, 2011; Santiago, Wadsworth, & Stump, 2011). Research from the 2006 and 2008 Behavioral Risk Factor Surveillance System seem to support this possibility (see **APPENDIX, Tables 7 & 8**).

Credit Cards vs. Mortgage and Education Loans. The Federal Reserve has yet to release the 2010 Survey of Consumer Finances (SCF), which is the most updated survey to date. Information presented in the 2010 SCF Chartbook is cause for some speculation.

According to the 2010 SCF Chartbook (2012), the percent average of families with debt rose 1.3 percentage points from 75.1 to 76.4% between 2001 and 2004, then rose 0.6 percentage points from 76.4 to 77.0% between 2004 and 2007, and then fell 2.1 percentage points from 77.0 to 74.9% between 2007 and 2010. Similarly, the percentage of families with credit card balances rose 1.8 percentage points from 44.4 to 46.2% between 2001 and 2004, declined .1 percentage points from 46.2 to 46.1% between 2004 and 2007, and then declined a record of 6.7 percentage points from 46.1 to 39.4% between 2007 and 2010.

The percent of all families with education installment loans between 2001 and 2004 rose 1.7 percentage points from 11.8 to 13.5%, rose another 1.7 percentage points from 13.5 to 15.2% between 2004 and 2007, and rose 4.0 percentage points from 15.2 to 19.2% between 2007 and 2010. Also, the percent average of all families with mortgages or home-equity loans rose 2.5 percentage points from 43.4 to 45.9% between 2001 and 2004, rose another 0.4 percentage points from 45.9 to 46.3% between 2004 and 2007, and then declined 1.1 percentage points from 46.3 to 45.2% between 2007 and 2010. Also, the percent average of all families with primary residences rose 1.4 percentage points from 67.7 to 69.1% between 2001 and 2004, declined 0.5

percentage points from 69.1 to 68.6% between 2004 and 2007, and declined another 1.3 percent from 68.6 to 67.3% between 2007 and 2010 (2010 SCF Chartbook, 2012).

Finally, the percentage of adults aged 18 years or older who ever received a diagnosis of depression in their lifetime increased .4 percentage points from 15.7 to 16.1% between 2006 and 2008 (see **Table 1**). The percentage of adults aged 18 years or older who ever received a diagnosis of anxiety in their lifetime increased 1.0 percentage points from 11.3 to 12.3% between 2006 and 2008 (see **Table 2**). It is interesting to note that all of the above statistics—excluding credit card debt—seem to have a pattern similar to the number of diagnosed cases of depression and anxiety between 2006 and 2008.

Because the percentage of all families with debt declined between 2007 and 2010 as did the percentage of all families with credit card debt, in conjunction with the 2006 to 2008 depression and anxiety statistics and the strong implication that the use of credit cards actually increases a person's self-esteem and sense of mastery (Dwyer, McCloud, & Hodson, 2011), it would appear that mortgage loans and education loans may have a much greater likelihood of increasing the risk for depression and anxiety than credit card debt. However, the 2007 peak in credit card debt may be due to nation-wide financial crisis in which people were not able to accumulate credit card debt because banks and credit card companies didn't extend new credit at that time.

Although mortgage and home-equity loans decreased during the 2004 to 2010 period, it is important to note that the decline in the percentage of all families with primary residences during this time frame likely has influenced this decline. The decline in the percentage of families with primary residences likely reflects an increase either in homelessness and/or in the number of

families taking up residence with friends or other family members. If this is the case, this is likely to have a large influence on the rates of diagnosed depression and anxiety.

(See **APPENDIX, Table 3** for the variables and analysis from each study)

IMPLICATIONS

Clearly, rising consumer debt in the US is a phenomenon that needs to be fully understood. The research gathered shows that while some debt may have positive mental health effects on a few groups, these effects are short-lived and the longer debt is held, the more financial stress and physical and emotional harm seems to occur. National statistics from the Centers for Disease Control, the Federal Reserve, and the U.S. Census Bureau show that a positive association does exist between national depression and anxiety statistics and consumer debt statistics. Social workers and other professionals need to be aware of this relationship when working with clients. Agencies working in the field of mental health can incorporate financial counseling as part of their services. Debt management agencies may also need to be trained on recognizing symptoms of mental illnesses such as depression and anxiety and to incorporate referral services for mental health counseling.

Implications for undergraduate social work education. It may be beneficial for undergrad social work students to attempt to understand the relationship between consumer debt and mental health. Many undergraduate social work students are taught the biopsychosocial model to working with clients, to discover how various aspects of clients' lives may influence a client's situation. The research shows that consumer debt may a part of the biopsychosocial model which should not be overlooked by social workers.

Implications for social work practice. There are many areas in which understanding the relationship between consumer debt and mental health will likely have some effect on social work practice. However, agencies with financial assistance programs are likely to be the most impacted. Agencies with financial assistance programs often see clients who are in crisis and

their employees should use sound crisis intervention techniques when working with financially insecure individuals and families.

FURTHER RESEARCH

Further research needs to be conducted in order to carry out a more comprehensive investigation. The role of religion in the relationship between debt and mental health should be further researched as there is so little existing literature on the subject. Compulsive buying tendencies, age, gender, socioeconomic class, and ethnicity seem to play significant roles in the relationship and should be the main focus of further research. Also, future researchers should not combine all forms of consumer debt into their research but should seek to distinguish between the various forms in order to improve the effectiveness of their research.

APPENDIX

Table 1. Percentage of adults aged 18 years and over who received a diagnosis of depression in their lifetime, by age demographic—Behavioral Risk Factor Surveillance System, United States, 2006 and 2008

Characteristic	2006*			2008†		
	No.	%	(95% CI)	No.	%	(95% CI)
Total	215,576	15.7	(15.4–16.1)	91,377	16.1	(15.6–16.6)
Age group (yrs)						
18–24	9,652	14.5	(13.3–15.8)	3,081	14.8	(12.9–17.0)
25–34	25,525	14.4	(13.7–15.2)	8,584	14.4	(13.2–15.7)
35–44	36,586	16.7	(16.0–17.5)	13,444	16.7	(15.6–17.9)
45–54	44,877	19.3	(18.6–20.0)	18,937	19.9	(18.9–20.9)
≥55	97,304	14.4	(14.0–14.8)	46,637	14.9	(14.3–15.5)

Abbreviation: CI = confidence interval.

* Data from 38 states, District of Columbia, Puerto Rico, and U.S. Virgin Islands

† Data from 16 states.

Source: U.S. Department of Health and Human Services, Offices of Surveillance, Epidemiology, and Laboratory Services, Centers for Disease Control and Prevention. (2011). *Mental illness surveillance among adults in the united states*. Atlanta, GA: Centers for Disease Control and Prevention.

Table 2. Percentage of adults aged 18 years and over who received a diagnosis of anxiety in their lifetime, by age demographic—Behavioral Risk Factor Surveillance System, United States, 2006 and 2008

Characteristic	2006*			2008†		
	No.	%	(95% CI)	No.	%	(95% CI)
Total	215,522	11.3	(11.0–11.6)	91,339	12.3	(11.8–12.7)
Age group (yrs)						
18–24	9,660	11.3	(10.2–12.5)	3,079	13.0	(11.2–15.1)
25–34	25,530	11.6	(10.9–12.3)	8,574	11.9	(10.8–13.1)
35–44	36,589	12.0	(11.4–12.7)	13,443	13.6	(12.5–14.7)
45–54	44,868	12.9	(12.3–13.5)	18,945	14.1	(13.2–15.0)
≥55	97,246	9.8	(9.5–10.2)	46,606	10.3	(9.8–10.8)

Abbreviation: CI = confidence interval.

* Data from 38 states, District of Columbia, Puerto Rico, and U.S. Virgin Islands.

† Data from 16 states.

Source: U.S. Department of Health and Human Services, Offices of Surveillance, Epidemiology, and Laboratory Services, Centers for Disease Control and Prevention. (2011). *Mental illness surveillance among adults in the united states*. Atlanta, GA: Centers for Disease Control and Prevention.

Author	Variables Examined	Relationship	Relationship Suggested or Statistically Analyzed
Anderson and Nevitte (2006)	Whether the respondent has children, the respondents' sense of self control and precaution, risk attitudes related to gender, and improvement motive measured by financial satisfaction.	Mental health contributes to debt	Statistical analysis
Berg et al., (2010)	Age, sex, type of school attended, credit card debt, smoking, alcohol use, level of exercise, and poor mental health	High Correlation	Statistical analysis
Brougham, Jacobs-Lawson, Hershey, and Trujillo (2011)	Sex, financial anxiety, money management, general financial responsibility, financial knowledge, introversion, emotional stability, materialism and future time perspective.	Mental health contributes to debt	Statistical Analysis
Dew (2007)	Age, education, income, marital duration, number of children, number of marriages currently in, gender, and whether participants are Non-Hispanic White.	High Correlation	Statistical Analysis
Draut (2006)	Race/ethnicity, immigration, income and poverty, age groups, and military personnel concentration, median household income (MHI), the percent of the population falling below 185% of the federal poverty line,	Mental health contributes to debt	Statistical Analysis

	and labor force composition.		
Dwyer, McCloud, and Hodson (2011)	Mastery, self-esteem, education debt, credit card debt.	Debt contributes to mental health <i>and</i> mental health contributes to debt	Statistically Analyzed
Grable and Joo (2006)	African-American students, Non-Hispanic White students, gender, age, class standing, work status, marital status, automobile loan debt, installment debt, monthly housing costs.	High Correlation	Statistical Analysis
Hayhoe (2002)	Affective credit attitude score, age, cognitive credit attitude score, gender, having taken a class in personal finance, borrowing from friends and relatives, retention money attitude, money used as a reward in family of origin, and preparing a list before shopping.	Mental health contributes to debt	Statistical Analysis
Jacoby (2002)	Health and indebtedness	Debt contributes to mental health	Suggested
Joireman, Kess, and Sprott (2010)	university business students, credit card usage, compulsive buying tendencies, consideration of future consequences	High Correlation	Statistical Analysis
Kamleitner, Hoetzl, and Kirchler (2012)	middle class holds more consumer debt	Mental health contributes to debt	Suggested
Lum (2011)	African American students, non-Hispanic White students, debt levels	High Correlation	Statistical Analysis
Morra, Regehr, and Ginsburg (2008)	medical students, well-being, perceived financial stress, current debt levels	High Correlation	Statistical Analysis

Nelson, Lust and Ehlinger (2008)	weight, height, physical activity, diet, weight control, stress, credit card debt violence, moderate to high stress levels	High Correlation	Statistical Analysis
Norvilities and MacLean (2010)	U.S college students, gender, year in college, age, ethnicity, GPA, parental education about finances.	Mental health contributes to debt	Statistical Analysis
Norvilitis, et al. (2006)	Financial knowledge, tolerant attitudes toward debt and credit card use, compulsive spending, materialism, delay of gratification, sensation seeking, number of credit cards, number of hours worked each week (to pay off debt), frequency of credit card use, grade point average, age, year in school, stress, perceived financial well-being.	Mental health contributes to debt	Statistical Analysis
Palan, Morrow, Trapp, and Blackburn (2011)	Self-esteem, power prestige, risk taking.	Mental health contributes to debt	Statistical Analysis
Ridgeway, Kukar-Kinney, and Monroe (2008)	Social desirability, OCD, materialism, self-esteem, negative feelings, depression, anxiety, stress, positive feelings, hiding behavior, returning items, family arguments, credit cards paid in full, credit cards within \$100 of limit, frequency of buying, amount spent per occasion.	High Correlation	Statistical Analysis
Santiago, Wadsworth and	Age, sex, poverty-related stress, income-	High Correlation	Statistical Analysis

Stump (2011)	to-needs ratio, Socioeconomic Status, education, poverty, unemployment, neighborhood mobility, aggression, delinquency, attention problems, social problems, anxious/depressed, withdrawn, somatic complaints, thought problems.		
Stone and Maury (2006)	Age, parents' attitude toward credit card use, number of credit and store cards, pay grade, perceived financial condition, vehicle ownership, money beliefs and behavior, life altering events, financial events of respondent, financial events of parents, stress over financial difficulty, ability to pay needed medical care, methods of stress relief.	Mental health contributes to debt	Statistical Analysis
Thorne (2010)	Bankruptcy, debt, emotional distress, gender inequality, household financial management.	High Correlation	Statistical Analysis
Zhang and Kemp (2009)	debt levels, self-reported happiness, financial stress, life satisfaction	High Correlation	Statistical Analysis

Table 4. Persons below poverty level, by selected characteristics, race, and Hispanic origin: United States, selected years 1973-2009

	1973	1980	1985	1990	1995	2000	2004	2008	2009
All persons	Percent below poverty								
All races	11.1	13.0	14.0	13.5	13.8	11.3	12.7	13.2	14.3
White only	8.4	10.2	11.4	10.7	11.2	9.5	10.8	11.2	12.3
Black or African American only.....	31.4	32.5	31.3	31.9	29.3	22.5	24.7	24.7	25.8
Asian only	--	--	--	12.2	14.6	9.9	9.8	11.8	12.5
Hispanic or Latino	21.9	25.7	29.0	28.1	30.3	21.5	21.9	23.2	25.3
Mexican	--	--	28.8	28.1	31.2	22.9	--	--	--
Puerto Rican.....	--	--	43.3	40.6	38.1	25.6	--	--	--
White only, not Hispanic or Latino . .	7.5	9.1	9.7	8.8	8.5	7.4	8.7	8.6	9.4

Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (2012). *Health, united states, 2011: With special feature on socioeconomic status and health*. Hyattsville, MD: National Center for Health Statistics.

Table 5. Percentage of adults aged 18 years and over who ever received a diagnosis of depression in their lifetime, by sex demographic—Behavioral Risk Factor Surveillance System, United States, 2006 and 2008

Characteristic	2006*			2008†		
	No.	%	(95% CI)	No.	%	(95% CI)
Total	215,576	15.7	(15.4–16.1)	91,377	16.1	(15.6–16.6)
Sex						
Male	82,284	11.1	(10.6–11.5)	34,481	11.2	(10.6–11.9)
Female	133,292	20.2	(19.7–20.6)	56,896	20.7	(20.0–21.3)

Abbreviation: CI = confidence interval.

* Data from 38 states, District of Columbia, Puerto Rico, and U.S. Virgin Islands

† Data from 16 states.

Source: U.S. Department of Health and Human Services, Offices of Surveillance, Epidemiology, and Laboratory Services, Centers for Disease Control and Prevention. (2011). *Mental illness surveillance among adults in the united states*. Atlanta, GA: Centers for Disease Control and Prevention.

Table 6. Percentage of adults aged 18 years and over who ever received a diagnosis of anxiety in their lifetime, by sex demographic—Behavioral Risk Factor Surveillance System, United States, 2006 and 2008

2006*				2008†		
Characteristic	No.	%	(95% CI)	No.	%	(95% CI)
Total	215,522	11.3	(11.0–11.6)	91,339	12.3	(11.8–12.7)
Sex						
Male	82,288	8.2	(7.8–8.7)	34,447	9.1	(8.5–9.7)
Female	133,234	14.3	(13.9–14.6)	56,892	15.2	(14.6–15.9)

Abbreviation: CI = confidence interval.
 * Data from 38 states, District of Columbia, Puerto Rico, and U.S. Virgin Islands.
 † Data from 16 states.
 Source: U.S. Department of Health and Human Services, Offices of Surveillance, Epidemiology, and Laboratory Services, Centers for Disease Control and Prevention. (2011). *Mental illness surveillance among adults in the united states*. Atlanta, GA: Centers for Disease Control and Prevention.

Table 4. Percentage of adults aged 18 years and over who ever received a diagnosis of depression in their lifetime, by racial/ethnic demographic—Behavioral Risk Factor Surveillance System, United States, 2006 and 2008

Characteristic	2006*			2008†		
	No.	%	(95% CI)	No.	%	(95% CI)
Total	215,576	15.7	(15.4–16.1)	91,377	16.1	(15.6–16.6)
Race/Ethnicity						
White, non-Hispanic	165,506	17.2	(16.8–17.6)	73,604	17.3	(16.8–17.8)
Black, non-Hispanic	17,650	11.2	(10.4–12.0)	5,280	12.3	(10.7–14.0)
Other, non-Hispanic§	13,245	15.1	(13.7–16.6)	6,783	12.2	(10.5–14.1)
Hispanic	17,044	12.6	(11.6–13.7)	4,807	12.8	(11.1–14.7)

Abbreviation: CI = confidence interval.
 * Data from 38 states, District of Columbia, Puerto Rico, and U.S. Virgin Islands
 † Data from 16 states.
 § Asian, Native Hawaiian/Pacific Islander, American Indian/Alaska Native, other race, and multiple races.
 Source: U.S. Department of Health and Human Services, Offices of Surveillance, Epidemiology, and Laboratory Services, Centers for Disease Control and Prevention. (2011). *Mental illness surveillance among adults in the united states*. Atlanta, GA: Centers for Disease Control and Prevention.

Table 8. Percentage of adults aged 18 years and over who ever received a diagnosis of anxiety in their lifetime, by racial/ethnic demographic—Behavioral Risk Factor Surveillance System, United States, 2006 and 2008

2006*				2008†		
Characteristic	No.	%	(95% CI)	No.	%	(95% CI)
Total	215,522	11.3	(11.0–11.6)	91,339	12.3	(11.8–12.7)
Race/Ethnicity						
White, non-Hispanic	165,498	12.2	(11.9–12.5)	73,577	12.9	(12.5–13.4)
Black, non-Hispanic	17,634	8.6	(7.8–9.4)	5,270	9.3	(7.9–10.8)
Other, non-Hispanic§	13,231	12.0	(10.6–13.7)	6,781	11.8	(9.9–13.9)
Hispanic	17,041	9.0	(8.2–9.8)	4,806	9.7	(8.2–11.3)

Abbreviation: CI = confidence interval.

* Data from 38 states, District of Columbia, Puerto Rico, and U.S. Virgin Islands.

† Data from 16 states.

Source: U.S. Department of Health and Human Services, Offices of Surveillance, Epidemiology, and Laboratory Services, Centers for Disease Control and Prevention. (2011). *Mental illness surveillance among adults in the united states*. Atlanta, GA: Centers for Disease Control and Prevention.

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