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For Richer For Poorer, in Debt Do Us Part? Debt Brought into Marriage and its Effect on Marital Quality

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For Richer For Poorer, in Debt Do Us Part?

Debt Brought into Marriage and its Effect on Marital Quality.

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Michelle Mason

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For Richer For Poorer, in Debt Do Us Part?

Debt Brought into Marriage and its Effect on Marital Quality.

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University of Nebraska, 2003

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This study examines the impact of personal debt accumulated before marriage upon marital quality for individuals. Attention from popular media points to the need for further systematic investigation. This study strives to fill this void in academic research. I use the National Survey of Families and Households to conduct a longitudinal analysis of the effect of debt on marital quality for 433 respondents who were single in 1987-1988 (Wave I), and who were married in 1992-1994 (Wave II). Ordinary Least Squares regression was used to test several hypotheses.

Social exchange theory provides theoretical guidance for the analysis. Exchange theory focuses attention upon an individual's circumstances by providing a framework to connect rational thought to marital quality, which is often viewed as an irrationally driven perception of an individual's relationship. This study examines possible predictors of marital quality including: respondents' background information; type and amount of debt; financial indicators, including debt-to-income ratio, and financial stress; as well as children and health condition.

Results of this study show that *normative* debts (i.e., educational loans) have a negative effect on marital quality while education alone has a positive effect. An individual's level of financial stress acts as a strong predictor for lower marital quality, suggesting that marital quality depends not only on debt brought into the marriage, but also on how one feels about that debt. This is important because people from more educated backgrounds, who expect their educational efforts to be rewarded financially, may find debt less burdensome generally. Higher numbers of children are associated with lower marital quality and higher financial stress. This demonstrates how the expense associated with having children affects marital quality both directly and indirectly. This study provides an understanding of the predictors of marital quality, as well as insight into the implications of debt on an individual's future.

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Introduction

Attaining higher education has become increasingly common in American society. The number of young adults obtaining further education after high school rose from 48 percent in 1970 to 60 percent in 1993 (Arnett and Taber 1994). This increase in college attendance has created a whole new developmental stage for young adults, often referred to as *emerging adulthood.* Arnett (2000) believes this stage begins around the time an individual graduates from high school, age eighteen, and lasts until the late twenties. This stage of the life-course is a time of experimentation as well as exploration.

Young adults' decisions are influenced by their experiences during this stage. The experiences often influence important life choices such as college, marriage, and occupational aspirations (Arnett 1998). This is a time in which young adults experience frequent changes in educational status, occupation and personal relationships. Emerging adulthood poses significant challenges because of these changes. Increasing responsibilities may be the source of high levels of anxiety among this age group because individuals in this stage are often earning less than their potential, while at the same time attempting to manage new expenses (Drentea 2000).

Growing amounts of debt among emerging adults, from student loans and other sources, is an issue that is increasingly recognized in the mass media (Mutari and Lakew 2003; Briggs 2001; Lim *et al.* 2001; Razzi 2001; Wuorio 2001; Bodnar 1999; Quinn and Ahlers 1997; Foust 1996; Kobliner and Davis 1995;). Various types of personal debt are being accumulated. Student loans are becoming increasingly

common, as are debts from credit cards and store charge accounts, and installment loans and purchases.

Young adults borrow money and use credit for several reasons. They may simply be interested in establishing a credit rating that is necessary to acquire commodities as an adult. It is also possible that individuals are using credit to improve their immediate quality of life. Whatever the reason individuals have for borrowing, debt can become problematic if not managed correctly. Many of the articles found in the popular media discuss how certain levels of personal debt accumulated during emerging adulthood will remain with the individual for several years and can become burdensome; this statement will be further discussed and supported by statistics in the 'Background and Literature Review.'

How will debt accumulation by individuals in this stage of the life-course affect future lives, especially concerning marriage? In this study, I will focus on the problem of personal debt accumulated before marriage and how it affects subsequent marital quality.

Theoretical Guidance

Several possible paradigms can be used to examine debt brought into marriage and marital quality. This study uses social exchange theory as theoretical guidance to examine the issues discussed throughout. For the purpose of this study marital quality is defined as, "A subjective evaluation of the couple's relationship" (Larson and Holman 1994: 228).

Social exchange theorists use a micro-level approach to sociological analysis by focusing on the dynamics of exchange in order to understand recurrent patterns of human behavior. According to this theory, individuals use rational thought when interacting and forming relationships with one another (Homans 1961). The basic concepts found in social exchange theory are cost versus rewards, rule of distributive justice, power versus dependence, and expectations (Blau 1964; Emerson 1962; Homans 1961). All of these concepts will be useful in creating a better understanding of marital quality by conceptualizing the rational decision-making process used by the individuals regarding exchange relationships.

Individuals examine their situations by weighing out the costs and rewards resulting from a relationship; in the end, individuals seek to maximize their rewards and minimize their costs (Homans 1961). These costs and rewards differ from culture to culture and even from individual to individual. Costs are associated with the negative aspects of the exchange. Costs have many dimensions and may include sacrifices, losses of something valued to the individual, or lack of power in a situation. In contrast, rewards are associated with positive aspects of an exchange. Acquiring something of value and receiving trust and respect from the other individual in the relationship can be considered rewards.

The rule of distributive justice, proposes that for the relationship to function maximally, the net result (rewards and costs) will be proportional for each member of the relationship and will be equal to each member's investment (Blau 1964; Homans 1961). Problems may arise if an imbalance exists. If an individual believes an injustice in the exchange relationship exists, the relationship may become less

attractive. Such an individual may be more attracted to offers outside of the existing relationship.

The concept of power illustrates an imbalance over the access to resources between the couple. Individuals with less access to resources depend on partners with more access to resources, to accommodate their personal needs. Dependence illustrates that individuals with less access to resources believe the rewards they receive from the relationship outweigh the costs (Emerson 1962). It is possible that each partner depends on the other for things that are not of material nature such as love and affection, understanding, and sexual intimacy.

Individuals enter into an exchange relationship with expectations that differ from individual to individual and are influenced by previous experiences. These expectations influence the individual's perception regarding the outcome of the exchange relationship. The level of expectations determines the amount of personal investment in the exchange. If an individual believes there is an imbalance in the distribution of costs and rewards, their positive expectations are not met and the relationship will be less desirable (Thibaut and Kelley 1959).

Social exchange theory can be applied more specifically to marriage to define the quality of the marital relationship. Quality of marriage is determined by individuals' perceptions of the relationship concerning their attraction to rewards, barriers to exit the relationship, and presence of favorable alternatives outside the relationship (Levinger 1976). If the relationship is found to be unattractive or have weak barriers, and if the individuals are enticed by factors outside the relationship,

marital quality will be poor and the individual will likely leave (Karney and Bradbury 1995).

When social exchange theory is applied to the topic of this paper, one might expect that greater individual debt can make a marriage seem less attractive if the debt is burdensome to the couple, both financially and emotionally. Type of debt may affect marital quality in different ways. For example, educational loans brought into the marriage can be viewed as an investment in couple's future. Those with educational loans bring a cost into the marriage. However, individuals with educational loans also bring rewards into the marriage through higher income and better coping skills as a result of their higher education. Other types of debt such as credit cards and personal loans may bring more costs than rewards to the marriage. These types of debt are not associated with long-term benefits, as are educational loans. It is possible for individuals to have both types of debt. These individuals bring rewards associated with higher education into the marriage, however they also have debt that is unrelated to education and not viewed as an investment in the couple's future. The costs to the couple that result from a combination of debt types brought into the marriage may outweigh the rewards experienced by the individuals in the relationship.

The amount of debt may present more difficulty than the type of debt. Great amounts of either type of debt, or a combination of the two, may create an imbalance in the power distribution between the couple by placing a limitation on available resources. Income, for example, is a resource available to the couple. Repaying high levels of debt limit the income available for other expenses. If one spouse is more

responsible for the debt brought into the marriage, the rule of distributive justice is violated concerning the partner with less debt. If one spouse is better off financially, the barriers against leaving the relationship are weaker for that partner. The less well off partner is more dependent on the other partner and presumably more attracted to the relationship. If the partners are deeply troubled by the debt brought into the marriage, they may be attracted to less stressful circumstances, including independence or finding another partner.

Like most social theories, the concepts used in social exchange theory are closely interrelated. A clear understanding of a social phenomenon such as marital quality requires the use of several concepts. Social exchange theory provides a framework for this study because it focuses on an individual's circumstances and rational decision making rather than on a collective decision-making process. The theory is often criticized for focusing on individuals rather than groups. This limits examination to one side of the relationship and does not explain the exchange relationship in its entirety; however, it should prove to be useful in this situation because my unit of analysis is the individual. Marital quality is often viewed as an irrationally-driven perception of an individual's relationship. Social exchange theory provides a framework in which marital quality can be examined in terms of rational thought.

Background and Literature Review

Types of debt can be understood in terms of *normative* versus *non-normative* debts (Drentea 2000; Drentea and Lavrakas 2000). *Normative* debts are debts that are

easily justifiable in society. Loans for automobiles, homes, and education are considered legitimate once an individual reaches a certain stage in life and can be thought of as an investment. In contrast, *non-normative* debt is often viewed as debt that is less legitimate. Credit cards and installment loans for items such as furniture and electronics or personal loans for other unnecessary expenses are examples of non-normative debt. Often individuals who accumulate high levels of *non-normative* debts are viewed by society as living beyond their means and, on some level, being irresponsible. Excessive amounts of either type of debt could become problematic if the individual's income is inadequate.

Debt Accumulation

College is an environment where the consumer culture swallows people whole. The student population has become one of the most targeted populations in the consumer market. Applications for various credit cards seem to be present in every hallway and classroom on college campuses. They are stuffed into the bags in campus bookstores and in college newspapers. Not surprisingly, the use of credit cards by college students is becoming a social trend. The **Student Monitor®** (www.smcinc.com), a nationally syndicated study of the college student market, has dedicated its existence to examining the consumer behavior of the college student. They sell industry-specific studies for $12,500.00 apiece. Financial services are one such study, focusing largely on student's consumer behavior concerning credit cards.

A recent study conducted by the Nellie Mae Foundation (2000) examined both undergraduate and graduate student credit card debts. The study reported that

the percent of undergraduate students with credit cards rose from 67 percent in 1998 to 78 percent in 2000. The average credit card debt for undergraduates was reported to be $2,748. Thirteen percent of the undergraduates in the Nellie Mae study had credit card debt between $3,000 and $7,000 and nine percent had credit card debt greater than $7,000. The percent of graduate students with credit cards remained steady between 1998 and 2000, at 95 percent. The average credit card debt for graduate students was $4,776. Twenty percent of the graduate students had credit card debt between $6,000 and $15,000.

The following example illustrates the difficulty of repaying credit card debts: If a student with the average credit card debt did not make any additional charges, and used a card with an 18 annual percentage rate (APR), and if the student paid only the minimum monthly payment, it would take fifteen years to pay off a balance of $2,748. In the end, they would have paid as much interest on the loan as was originally borrowed (Nellie Mae Foundation 2000). Clearly, college is not just a place to attain a higher education; it is also a place to acquire debt.

Student loans are another form of debt that is accumulated in college. While student loans can be viewed as an investment in an individual's future, they must still be repaid, with interest. The cost of college at a four-year institution rose 38 percent between 1988 and 1998 while the amount of financial aid intended to lower some of the cost required from parents, dropped by eight percent (Manning 2000). Because of this, many students who wish to attend college have little choice but to take out educational loans. Results of the National Student Loan Survey (NSLS) (1999) conducted by the Nellie Mae Foundation reported that 76 percent of the respondents

said that student loans were extremely or very important in allowing them to continue their education after high school (Baum and Saunders 1999). However, only slightly over half of the respondents that borrowed for education said that the benefits from higher education were worth the unpleasantness of paying off their educational loans.

The NSLS also reported the average undergraduate student's loan indebtedness as $11,400. The average student loan indebtedness for graduate students was $31,700, including undergraduate debt. The results showed that lower income undergraduate students (those who received Pell grants) were more likely to have levels of debt that exceeded $20,000. It is also important to note that the respondents reported having higher non-normative debt than student loan debt, and felt equally burdened by both.

The types and the amounts of debt are different for every individual. Some students may not have any debt at all; while some students may have anywhere from a low amount to an extreme amount of non-normative debt only, normative debt only, or a combination of both types of debt. Although higher amounts of debt may be more burdensome to the individual than lower amounts, this likely depends on the income and financial stability of the individual.

Results of a recent study of the first five years of marriage conducted by the Center for Marriage and the Family at Creighton University (Lawler *et al.* 2000) found that debt brought into marriage was the third most problematic issue reported by the couples they studied. A further analysis of the data reported that debt brought into marriage was the most important problem for married respondents under the age

of thirty. This study identifies debt brought into marriage as a source of unhappiness among married couples; however there is little research on this issue.

Financial Situation and Marital Quality

A vast amount of literature addresses the many different aspects of marital quality (Perrone, Worthington and Everett 2001; Kurdek 1999; Rogers and Amato 1997, 2000; Orbuch and House 1996; Karney and Bradbury 1995; Lee 1995; Larson and Holman 1994). A fair amount of this literature discusses economic problems and their relationship to marital quality (Sassler and Schoen 1999; Kinnunen and Pulkkinen 1998; Conger *et al.* 1990). A definite void exists in academic research on the affect of debt brought into marriage on marital quality. In this section, I review research that explores the relationship between individuals' financial situations and marital quality.

An intergenerational study conducted by Rogers and Amato (1997) examined a possible decline in marital quality due to economic changes and social context. In response to their findings that younger cohorts are more committed to the idea of the life-long marriage, they state, "Reports of marital tensions and difficulties reflect not the struggles of an outmoded social institution, but the inherent difficulties in adapting marriage to a rapidly changing social climate" (Rogers and Amato 1997: 1094). Debt brought into the marriage may be an example of a changing social climate that is producing marital tension and lower marital quality as a result of poor adaptation.

Social factors such as employment status and opportunities, accessibility to adequate partners, economic hardship or political conditions of the country may also have long lasting effects on marriage (Larson and Holman 1994). It can be argued that financial stress can be caused by lack of income, recession, and debt. Financial stress has its most devastating effect on individual development by way of a person's closest social relationships (Kinnunen and Pulkkinen 1998). Spouses who are experiencing financial difficulties are likely to experience instability in their personal relationships as a result of their current economic strain. Economic pressures can have a negative effect on couples' emotions; this may have both direct and indirect effects on marital quality through tension created during their interactions (Lorenz and Conger 1991).

Physical and mental limitations maybe related to both debt and marital quality. Financial stress may have a negative effect on an individual's health. (Drentea 2000; Manning 2000). Drentea and Lavrakas (2000) examined the relationship between health and debt; their findings demonstrated that respondents with high levels of stress related to debt were more likely to have worse health conditions.

Lawler *et al.* (2000) found debt brought into the marriage to be the most problematic issue for respondents under the age of thirty. This debt may be the result of educational loans, other indebtedness, ill health, or social conditions. Regardless of the source, debt can increase the level of financial stress and negatively impact marital quality.

Understanding the relationship between financial situations and marital quality is important because poor marital quality may not only lead to marital breakdown, but may have other detrimental effects. Karney and Bradbury (1995) found that marital distress and instability have a negative impact on the physical and emotional well-being of both spouses and their children, which are some of the leading reasons why people seek psychological guidance. This demonstrates that an individual's health condition may negatively affect an individual's level of financial stress due to expensive health care.

Alternative Explanations

Other factors that may have an effect on both marital quality and debt should be considered when examining the relationship between them. A long-standing debate exists among social researchers over whether men and women have different perceptions of marital quality. (Bernard 1975; Glenn 1975; Schumm *et al.* 1985; Steil 1997; Schumm *et al.* 1998; Heaton and Blake 1999). The concept of marital quality can be somewhat difficult to measure due to developments in society that have resulted in various interpretations for individuals. According to Rogers and Amato (2000: 733), "Changes in gender relations within marriage that have occurred since the 1960s may have contributed to improvements in marital quality by increasing the extent to which marital relationships are flexible, egalitarian, and responsive to changing individual preferences. Alternatively, these changes may have eroded marital quality by elevating normative ambiguity within marriage, increasing the importance of negotiation, and raising potential for conflict."

Respondent's race should be considered when examining the effects of debt on marital quality. Some debate exists about whether race plays a defining role in predicting marital quality (Bulcroft and Bulcroft 1993; South 1993; Sassler and Schoen 1999). However, social scientists agree that race can be used in predicting economic attributes such as income, health, and education (Drentea and Lavrakas 2000), which have their own effects on marital quality (Clark- Nicolas and Gray-Little 1991; Sassler and Schoen 1999). Marital quality for blacks and whites does not differ significantly. Differences among blacks and whites do exist in economic indicators. On average, blacks have lower income and education and often have poorer health than whites (Drentea and Lavrakas 2000; Coltrane and Collins 2001). All of these indicators have a relationship with marital quality.

The number of children present in a relationship can contribute to an individual's marital quality. Studies have shown that couples with children report lower levels of marital happiness than couples without children (Glenn and McLanahan 1982). The direct effect of the presence of children in a marriage has been subject to disagreement; some question as to whether this association exists because having children directly lowers marital quality (Cowan and Cowan 1992); others suggest that the presence of children indirectly affects marital quality by lowering the likelihood of divorce (White, Booth, and Edwards 1986). It is possible that lower marital quality experienced by couples with children is a result of the added expense of caring for children. If the couple has a lower income or high ratio of debt to their income, children can add stress to the situation.

The respondent's socio-economic background is important to consider when examining the level of debt accumulated before marriage. Individuals who originate from a lower income background may be more likely to find debt burdensome due to inadequate income and lower access to other resources. Individuals who originate from higher incomes may be more likely to approach debt with less uncertainty. Credit companies often willingly offer credit to young adults with faith that their parents will come to the rescue if financial problems arise (Manning 2000; Ritzer 1995). However, debt can become burdensome if young adults from more modest backgrounds have parents who are unable to aid in their financial situation.

Hypotheses

Much literature discusses marital quality and economic stress as well as other surrounding issues, however little or no research has been conducted on debt brought into marriage and its affect on marital quality. Rising amounts of debt accumulated by college students may become a problem that a growing number of couples will face. Based on the literature, this research tests several hypotheses about the predictors of marital quality:

H1. Greater debt brought into marriage will result in a lower marital quality.

H2. Lower education is associated with lower marital quality.

H3. Women will report lower levels of marital quality than men.

H4. Lower socio-economic background, reflected in parents' education is associated with lower marital quality.

H5. Higher levels of the financial stress lower marital quality.

H6. Financial stress will mediate some of the effects of debt on marital

quality.

H7. Higher current economic strain as reflected in the debt-to-income ratio

lowers marital quality.

H8. Increased numbers of children lower marital quality.

H9. Individuals with poor health, i.e. have a physical or mental limitation,

will have lower levels of marital quality.

Several relationships between the other factors discussed in the literature are also expected to reveal themselves in this study. These include: higher levels of education are positively associated with the amount of debt brought into marriage; higher income is associated with lower financial stress; a positive relationship is expected between financial stress and current economic strain; healthier individuals will have lower levels of financial stress; respondent's education is negatively associated with increased numbers of children; and increased numbers of children are associated with higher levels of financial stress.

Methodology

I use the National Survey of Families and Households (NSFH) to examine the relationship between debt brought into marriage and its effect on marital quality. The NSFH is a comprehensive survey of American family life that contains detailed measures of marital quality, debt, and family background including ascribed and achieved characteristics. It was conducted by the Center for Demography and Ecology at the University of Wisconsin-Madison. A national probability sample of

over 13,007 respondents was interviewed in 1987 to 1988 (Wave I). Interviews were given to main respondents and their current spouse or partner in Wave I using face-to-face interviews and self-administered questionnaires. Wave II was conducted with 10,005 of the same respondents in 1992 to 1994 using the same method as Wave I. The interviews given in Wave II included original respondents, their original spouse or cohabiting partner and their current spouse or partner. Wave II also included telephone interviews conducted with randomly selected children ages 10 to 23 and with parents of the original respondents. The NSFH is a publicly available data set and is readily accessible via the Internet at http://www.ssc.wisc.edu/nsfh/home.htm. A more thorough explanation of this survey is presented in "The Design and Content of the National Survey of Families and Households" (Sweet, Bumpass and Call 1988: Sweet and Bumpass 1996).

The first and second waves of the NSFH are used for this study in order to conduct a longitudinal analysis that illustrates a level of debt for single respondents in Wave I, and their marital quality in Wave II. The data used for this analysis were primarily from the main respondent's interview in Wave I and interview and self-administered exams from Wave II. The data files from Wave I and Wave II were merged by respondents' ID numbers. The NSFH also provided constructed and weighting variable files that were merged with the respondent's interview files to create the final data file used for this analysis.

The sample used in this study was created by restricting the data set to respondents in Wave I between the ages of 18-29, corresponding with the emerging adulthood stage discussed in the introduction. This resulted in a sample size of

approximately 3,454 respondents. This sample was further restricted to respondents who stated their marital status was "single" (n = 1557) in Wave I but changed to "married" in Wave II; this produced a sample size of 437 respondents. Limiting the sample even further to those with valid responses on the dependent variable resulted in a final sample of 433 respondents (discussed below).

A problem that is common to longitudinal studies examining marital quality is that the most dissatisfied individuals exit the sample through divorce or separation (Orbuch *et al.* 1996). By leaving respondents who were "separated" or "divorced" in Wave II out of the sample, I am losing respondents who most likely would have reported a low marital quality and who might have better illustrated the effect of debt brought into marriage. However, the questions that were used to create the dependent variable were only asked of married respondents. Among married respondents, those who were separated were asked these questions, but their responses consisted of a high amount of missing data; this made it necessary to leave these respondents out of the final sample.

Studies concerning marital quality often use couples, rather than the individuals, as the unit of analysis (Conger *et al.* 1990; Clark-Nicolas and Gray-Little 1991; Williams 1995; Schumm *et al.* 1998; Kurdek 1999). In this study the individual is the unit of analysis for two reasons. First, data about the level of debt brought into the marriage by the spouse is not available. Such data would be necessary in order to use the "couple" as the unit of analysis. Second, the main focus of this analysis is the individual. Debt brought into marriage and its effect on marital quality can be examined on an individual level. Any possible debt brought into the

marriage by the spouse that could also have an effect on the individual's marital quality cannot be directly observed using this method. A ratio of the couple's debt to income is included in the analysis to help overcome this problem.

Variables

Table I: Description of Variables provides a concise description of all variables in the analysis (see Appendix).

Dependent Variable

Marital Quality

In this study marital quality was measured using an index of marital happiness expressed by individual respondents. Married respondents in Wave II of the NSFH were asked a series of questions regarding their level of happiness for various aspects of their relationship. First, respondents were asked: "On a scale from 1 to 7, where 1 is very unhappy and 7 is very happy, taking all things together, how would you describe your marriage?" Second, the same respondents were asked: "How happy are you with the following aspects of your marriage?: a) the understanding you receive from your spouse; b) the love and affection you get from your spouse; c) the amount of time you spend with your spouse; d) the demands your spouse places on you; e) your sexual relationship; f) the way your spouse spends money; g) the work your spouse does around the house; and h) your spouse as a parent." Responses to these questions ranged on the same scale from 1 very unhappy, to 7 very happy.

A preliminary factor analysis illustrated that the majority of these items loaded highly together with the exception of work done around the house and spouse

as a parent. A final index was created using the 7 items that loaded highly on the same factor. This index replicated the index used to measure marital quality as a dependent variable in research by Guzman (2000) who used the same variables from the NSFH. The index included: global marital happiness, understanding from spouse, love and affection from spouse, time spent together, demands placed by spouse, couple's sexual relationship, and spouse's spending behavior. A reliability test conducted for the final index showed a Cronbach's alpha = .88.

The mean scores were computed for respondents who answered at least five of the seven items in the index, which then became the final dependent variable. In this case all but four of the respondents answered at least five of the seven questions in the series used to create the dependent variable. Respondents that answered none of these questions were dropped from the sample entirely; this resulted in the final sample described earlier of 433 respondents.

Independent Variables

Type of Debt

The variables used to determine the types of debt held by the individual before marriage were taken from Wave I of the NSFH. Respondents were asked "Do you owe money for: a) credit card or charge accounts that you're paying off gradually; b) installment loans for major purchases, such as furniture or appliances, but other than auto loans; c) educational loans; d) personal loans from banks and other businesses, other than mortgage or auto loans; e) personal loans from friends and relatives; f) other bills you've owed for more than two months; and g) home improvement loans."

Responses to these questions were either "yes" or "no." These variables were transformed into a set of polychotomous dummy variables that allow a comparison between individuals with different types of debt. Four categories were created for this comparison: **No Debt**; **Normative Debt Only,** which included respondents with only educational loans; **Non-Normative Debt Only**, respondents with credit card debt, installment loans, personal loans from banks and businesses, personal loans from friends and relatives, other debts owed for more than two months or home improvement loans; and **Combined Debts**, respondents with educational loans and credit card debt, installment loans, personal loans from banks and businesses, personal loans from friends and relatives, other debts owed for more than two months or home improvement loans. In the regression analysis, **No Debt** was used as the reference category. Both auto loans and mortgages were not included in the measures for debt because they are viewed as assets and accounted for in the value of the automobile or house.

Amount of debt

These variables correspond with the previous series of variables regarding debt in Wave I. If the respondents answered "yes" to owing a certain type of debt they were immediately asked "How much do you owe on your (debt type)?" for each debt type. This question was answered with a dollar amount. The same categories found in the type of debt variables were used when adding the dollar amounts of each type of debt owed. This provided a measure of the respondent's total debt brought into the marriage.

Measures to control for demographic characteristics included *Gender, Race, Parents' Education*, and *Respondent's Education. Gender* was recoded into a dummy variable so that **Female** = 1 and Male = 0. *Race/Ethnicity* was transformed into a polychotomous dummy variable divided into three groups, **White, Black,** and **Other** including: Mexican American, Chicano, Puerto Rican, Cuban, other Hispanic, American Indian, and Asian. Although the category of **Other** was not an accurate portrayal of any of the race/ethnic groups included, the number of respondents for each race/ethnic group was too small to examine them separately. Black was used as the reference group. These variables allowed an examination of any difference in marital quality among different races.

Parents' Education was used as an indicator of socio-economic background. This concept was measured using the mean of both parents years of education (1 to 17+), if available, otherwise the years of education of the parent that was available. Nine respondents were coded missing due to "don't know" and "inapplicable" responses for both parents education.

Respondent's Education was the level of education in years for the respondent at the time of the first interview. Responses for this variable were a number from 1 to 11 if the respondent had first grade through eleventh grade, 12 = High school diploma or GED, 13 = Some college but no degree, 14 = Associate Degree (2-year), 15 = Enrolled in college for 3 yrs, 16 = Bachelor's Degree, 17 = Enrolled in Post-Graduate school, 18 = Master's Degree, 19 = Enrolled in Post-Master's school, and 20 = Doctorate or Professional Degree. This provided a better understanding of the

amount of debt brought into the marriage, since higher education is likely to lead to higher levels of debt.

Economic predictors included *Income*, *Debt-to-Income Ratio*, and *Financial Stress*. *Income* was measured using a constructed variable provided by the NSFH that was calculated from the sum of the couple's best total gross annual incomes. The couple's total income measured the available economic resources used to cover the cost of living for the respondent and their family.

The *Debt-to-Income Ratio* was used as a measure for current economic strain. This variable was created using debt measures from Wave II that provided an amount in dollars for each type of debt (same as Wave I) held by the respondent and their spouse. Educational loans were excluded from this ratio because payments are made for several years, as opposed to other types of debt that are often expected to be repaid in shorter time periods. Each amount was added to get a final total amount of debt in Wave II. This amount was divided by the income measure. This ratio provided a better understanding of the amount of income relative to debts and more accurately portrays economic hardship than debt by itself.

Financial Stress was measured using a variable from Wave II that asked respondents "How often do you worry that your total family income will not be enough to meet your family's expenses and bills?" The original scale for the responses was modified for this study to match the direction of the dependent variable; values were recoded so that 1 = Never, 2 = Hardly ever, 3 = Once in a while, 4 = Often, and 5 = Almost all the time.

Other control variables included *Number of children*, and *Physical or Mental Limitation*. The variable used to measure the *Number of children* of the respondent in Wave II was created by recoding household composition variables from Wave II that showed the relationship of each household member to the primary respondent. If the relationship was biological child, stepchild, adopted child, foster child, or child of lover/partner, the value was recoded to 1; all other relationships were coded 0. The sum of all household members who were children was computed for each respondent.

Physical or mental limitation was measured using a variable from Wave II that asked all respondents "Do you have any other Physical or Mental Condition or Disability which limits what you are able to do, or which is likely to limit your activities in the future?" Response to this question was either "yes" or "no"; this was recoded to **Healthy** 1 = yes and 0 = no. This variable should illustrate the effects physical and mental limitations have on debt and marital quality.

Weighting Strategy

Weighting variables were provided by NSFH to compensate for interview nonresponse, as well as variations in race/ethnicity, sex, and region in comparison to Census Data and oversampling in Wave I. Four different weights were available for Wave II: a tracing weight; interview nonresponse weight; poststratification weight; and a final weight, which is the sum of the final weight from Wave I and the first three weights from Wave II. The final weight from Wave II was applied to the sample (n = 433) in this study.

Missing Data

The dependent variable had no missing data. The independent dummy variables measuring types of debt brought into the marriage were missing data on less than 1 percent of the respondents. Other variables with missing data included: *Parents' Education* (2 percent of the respondents), *Income* (1 percent of the respondents), *Debt-to-Income Ratio* (4 percent of the respondents), *Financial Stress* (1 percent of the respondents), and *Healthy* (less than 1 percent of the respondents). The mean was substituted for missing data on the independent variables in these cases.

Analytic Approach

This study applied Ordinary Least Squares (OLS) regression to examine the relationship between debt brought into marriage and marital quality. Variables were entered into the regression using time order and rational order. First, variables that measured the respondent's background including gender, race, parents' education and respondent's education were entered. Second, variables that indicated the debt type and amount of debt brought into the marriage were entered. The third set of variables entered into the regression were financial indicators from Wave II of the NSFH that included income, debt-to-income ratio and financial stress. Finally, the number of children and condition of health were entered in order to examine other possible predictors of marital quality.

Descriptive Results

Means and Standard Deviations

The means and standard deviations are presented in Table 2: Means and Standard Deviations (see Appendix). The dependent variable marital quality has a mean of 5.61 units on a scale from 1 to 7 with a standard deviation of 1.10. This illustrates that the respondents in this study tend to be between somewhat happy and happy with their marriage based on the items included in the index. Females represent 42.49 percent of my sample while 57.51 percent of the respondents are men. The lower number of women in this sample may be a result of women's tendency to marry at a younger age than men. Among these young respondents more women would have been married in Wave I, and thus restricted from the final sample.

Race/Ethnicity is divided into three different categories. In this sample white respondents represent the majority at 82.32 percent, 7.59 percent of my sample is black, while 10.09 percent is Mexican American, Chicano, Puerto Rican, Cuban, other Hispanic, American Indian, or Asian. Although the percent of black respondents in this sample seems much lower than one would think compared to the number of blacks in the overall population, the restriction to my sample of change in marital status between Wave I and Wave II limited the number of black respondents included in the study.

The mean level of parents' education is high school (12.12). On average respondent's education is slightly higher than parents' education, at 13.3 years, indicating some college but no degree. However the parents' level of education

deviates more from the mean (s.d. = 3.23) on average than the main respondent's level of education (s.d. = 2.20).

Almost half of the respondents in my sample reported having no debt (45.49 percent). Respondents who have debt normative debt (i.e., education loans) only are 7.41 percent of the sample. Respondents who have non-normative debt make up 35.25 percent and 11.47 percent of the respondents have combined debt. The mean total amount of debt brought into the marriage by the respondent is $3,814.00 based on 1988 dollars.

The mean gross annual income for the respondent and their spouse is $47,332.50 based on 1994 dollars. The average debt-to-income ratio, based on debt reported in Wave II and the couple's total income, is .086 for respondents in my sample. This ratio deviates .18 from the mean on average, which illustrates some respondents have higher levels of current economic hardship than others. On average, the couples owe 8.6 percent of their annual income in debts, which provides a measure of current economic hardship. For example, an individual's experience with $4,000 of debt and an annual income of $13,000 would be dramatically different from the experience of someone with the same amount of debt but an annual income of $50,000. The mean score for financial stress reported by the respondents is 3.10 based on a scale from 1 to 5. On average, respondents worry "once in a while" that their total family income will not meet the family's expenses and bills. Variation exists in this variable with a standard deviation of 1.05.

The average number of children in the household for respondents is .91. This low number can most likely be explained by the age of the respondents and the

limited timeframe of the analyses. At most, the age for any respondent is 34 and the length of marriage is around five years. Finally, 92.22 percent of the respondents in my sample are healthy and have no physical or mental conditions that limit their everyday activities, while only 7.78 percent reported having a limiting condition.

Closer examination of each type of debt and the average amounts of each debt type shows 18.90 percent of respondents have educational loans, also referred to as normative debt. The average amount of educational loans is $1,426.19 (1988 dollars). Nearly 30 percent of the respondents have credit card debt. Installment loans are held by 7.52 percent of respondents, 8.74 percent have personal loans from banks and businesses, 12.47 percent have personal loans from friends and relatives, the 6.96 percent have other debts not mentioned, and less than 1 percent of the respondents have home improvement loans. The average total of all of the non-normative debts combined is $2,387.44 (1988 dollars). As mentioned above some respondents have a combination of normative and non-normative debts, and those with combined debt may find their debt most burdensome.

Correlations

Bivariate correlations for all variables included in the regression are presented in Table III: Zero-Order Correlations (see Appendix). I first discuss correlations between marital quality and the other variables. Respondent's education has a moderate positive correlation with marital quality (r = .151). This offers preliminary support for my hypothesis that lower education is associated with lower marital quality. Marital quality also has a strong negative correlation with financial stress

(r =-.274), providing preliminary support for my hypothesis that financial stress has a negative effect on an individual's marital quality. The number of children has a strong negative correlation with marital quality (r =-.210); this offers preliminary support for my hypothesis that increased numbers of children have a negative effect on quality of marriage.

Notably, several hypotheses received no tentative support in the correlations. No significant correlation between being female and marital quality exists, offering no support for my hypothesis concerning gender and marital quality. The correlation between debt-to-income ratio and marital quality is not significant. I found no support for my hypothesis that an individual's current economic strain has a negative association with marital quality. No significant correlation between parents' education and marital quality exists. Thus my hypothesis that lower socio-economic background is associated with lower marital quality is not supported. An individual's health condition is not significantly associated with marital quality. My hypothesis that healthy individuals have higher levels of marital quality is not supported by these results.

Respondent's education has a moderately positive correlation with total debt brought into the marriage (r =.126). This evidence is consistent with the idea that an individual's level of education affects the amount of debt accumulated. The debt-to-income ratio has a negative correlation with respondent's education (r =-.106); this may seem counterintuitive to my last finding; however, educational loans were not included in the debt-to-income ratio (discussed in the variables section). If they had been included, the correlation between education and debt-to-income ratio would

most likely be positive. There is a strong negative correlation between an individual's income and their level of financial stress (r =-.206). An individual's debt-to-income ratio has a positive correlation with financial stress (r =.178); this is consistent with the idea that higher ratios of debt to income are associated with higher levels of financial stress.

Total debt has a moderately negative correlation with health (r =-.112). Those with health problems have more debt, as also reflected in the negative correlation between health and financial stress (r =-.125). These correlations provide support for the idea that health condition has a relationship with financial stress; possibly a result of higher levels of debt. This idea is also supported by a strong positive correlation between the debt-to-income ratio and financial stress (r =.178). As expected, there is a strong positive correlation between the number of children and financial stress (r = .258), which is consistent with the idea that increased numbers of children require additional expense and raise levels of financial stress for individuals. Number of children also has a strong negative correlation with respondent's education (r = -.259), illustrating that respondent's with lower education tend to have more children.

Regression Analysis

Regression results for four different models are presented in Table IV: Regression Models for Marital Quality on Female, Race, Parents' Education, Respondent's Education, Debt, Income, Financial Stress, Debt-to-Income Ratio, Children and Health (see Appendix). The first model regresses marital quality on the

respondent's background information. Variables entered include female, the race/ethnicity indicators, parents' education and respondent's education. Based on this model, marital quality increases with higher levels of respondent's education (b=.078). This provides tentative support for my hypothesis that lower levels of education lower marital quality. No other background variables were significant predictors of marital quality in this model. There is not a significant relationship between marital quality and being female, race/ethnicity, or socio-economic background. My hypothesis that females report a lower level of marital quality was not supported, nor was my hypothesis that lower socio-economic background results in lower marital quality.

In Model II, types of debt and the amount of debt brought into the marriage were entered into the regression. An F test conducted on the set of dummy variables representing types of debt, showed that the set was statistically significant in predicting marital quality with an $F = 3.09$. Compared to respondents with no debt, those who have a combination debt have a marital quality score that is almost ½ point lower (b =-.420). It is interesting that combination of debt types is significant while normative debt and non-normative debt alone are not. An explanation for this may be the overwhelming nature of combined debt. Respondents with combined debt may experience benefits through higher education, however, they also have debt unrelated to education that is not as easily justifiable.

Higher levels of respondent's education are associated with higher marital quality (b= .102). Once debt is controlled in model II, the effect of education on marital quality increases (from b =.078 to b =.102). The increase in the education

coefficient suggests a suppressor effect. In Model I, the positive effect of education on marital quality is slightly suppressed by its relationship with debt and debt's negative association with marital quality. The results of this model indicate that respondent's education remains a strong predictor of marital quality in Model II (β = .206).

Financial indicators from Wave II including income, debt-to-income ratio and financial stress are added to the regression in Model III. Respondents experience a decrease in marital quality as their financial stress increases (b = -.245). Higher levels of respondent's education lead to an increase in marital quality (b = .075). Individuals who have a combination of debt continue to demonstrate lower marital quality than those who have no debt (b =-.308). Controlling for income, debt-to-income ratio, and financial stress reduces the coefficients for both respondent's education and combined debt; this suggests that the financial indicators mediate the effects of these variables. This model shows that respondent's education remains a moderately strong predictor of marital quality (β = .150). However, financial stress is a very strong predictor of marital quality (β = .253).

Model IV includes number of children and health. In this model, financial stress continues to be associated with lower marital quality (b =-.214). This model also shows that higher numbers of children predict lower marital quality (b= -.162). Respondent's education remains significant in the final model. Higher levels of education are associated with higher marital quality (b = .064). A reduction of the effect of financial stress and respondent's education on marital quality suggests that health and the number of children are mediating the effect of these variables on

marital quality. Financial stress remains the strongest predictor of marital quality among the variables (β = .221). However, the number of children is an important predictor of marital quality considering all other variables entered in the regression (β = .159).

Model IV shows the number of children and health added to the equation simultaneously. However, further analysis (not shown) revealed that the changes in effects among the types of debt indicators were due to both variables. The coefficient for **normative debt only** becomes significant, in addition to combined debt, upon controlling for number of children. Those respondents have a lower marital quality than respondents with no debt (b =-.363). Health is not a significant predictor of marital quality. However, once health is added to the regression, those with the combined debt no longer have significantly lower levels of marital quality than those with no debt. The effect of health on combined debt may be associated with higher levels of non-normative debt accumulated as a result of health problems (Drentea 2000). Once those respondents are controlled for in the regression non-normative debt is no longer a significant predictor of marital quality compared to respondents with no debt.

The final regression model explained 12.6 percent of the variation in marital quality scores within the sample. This is an acceptable amount of explained variation compared to other studies examining marital quality, which tend to have modest R^2 values due to low variation in the response to marital quality indicators, and a lack of strong predictors for the subject matter (Orbuch *et al.* 1996; Conger *et al.* 2001;

Amato *et al*. 2003). The final model explains the highest amount of variation and has the lowest prediction error (SEE = 1.015) compared to the first three models.

Discussion and Conclusions

In this section I will provide a summary of the results in terms of my hypotheses, offer a theoretical explanation, and conclude the study. My interest in this study was to explore different predictors of marital quality, particularly debt brought into marriage. The results of this study lend partial support for my main hypothesis that debt brought into marriage lowers the level of marital quality. Debt brought into marriage was measured by total amount and debt type; the distinction between the two will be discussed in detail below. Several of my other hypotheses also received support from these findings. Lower education is associated with lower marital quality according to these results. My hypothesis regarding financial stress and marital quality is supported by these findings. Respondents with high levels of financial stress experience lower marital quality. In addition, the results show that financial stress mediates some of the effect of debt on marital quality, particularly the type of debt brought into marriage. Supporting evidence that increased numbers of children lower levels of marital quality was found.

Several of my hypotheses are not supported by these results. I found no significant support for my hypothesis that women report lower levels of marital quality. No supporting evidence was provided by these findings that lower socio-economic background is associated with lower marital quality. Debt-to-income ratio is not significantly related to marital quality, failing to support my hypothesis that an

individual's current economic strain has a negative effect on marital quality. Finally, these results do not support my hypothesis that those with poor health have lower levels of marital quality.

Other relationships were revealed in the findings, particularly from the bivariate correlations. Higher levels of education have a positive relationship with level of debt. College education can increase levels of normative and non-normative debts, as discussed in the literature. This can have a negative impact on individuals' lives, however, this may be countered somewhat by the positive effect of education on marital quality. Next, an individual's income is negatively associated with financial stress. This means that as income increases, the level of financial stress experienced decreases. The results also show that there is a positive relationship between financial stress and the debt-to-income ratio. Respondents with high debt-to-income ratios are most likely to have higher levels of financial stress. Increased numbers of children are associated with high levels of financial stress. Finally, higher numbers of children are negatively associated with respondents' education.

Social exchange theory helps explain the results of this study. The variables included in the dependent variable index can be examined using concepts from social exchange theory. This allows a clearer explanation of the findings and provides a way to view them more broadly.

First, global marital happiness can be a measure of the rule of distributive justice. If individuals feel an imbalance in the costs and rewards of the relationship it would most likely be revealed with this variable. Next, understanding from spouse, love and affection from spouse, and the couple's sexual relationship can be viewed as

a reward of marriage because these qualities are an additional bonus of an intimate relationship. An example of a cost in a marital relationship is the demands placed upon the individual by the spouse. The use of the word 'demand' implies the presence of negative aspects. The concept of expectations can be measured using time spent together and spouse's spending behavior. These items tap behaviors that involve activities outside the relationship that can cause problems if not managed correctly, such as work and money.

Social exchange theory can also be used to understand the relationship between each of the independent variables and marital quality. The findings show a positive effect of respondent's education on marital quality; however in the final regression model, respondents who had normative debts (i.e., college loans) as opposed to no debts, experienced lower marital quality. These findings suggest that higher education involves both costs and rewards that affect marital quality. Higher education may generally improve quality of life and may increase an individual's income, which are rewards to the individuals in the relationship. This can reduce their debt-to-income ratio and lower financial stress. However, the loans accumulated as a result of obtaining a higher education are greater and more problematic than no debt at all and result in lower marital quality for respondents who possess them. This finding is surprising because it indicates that educational loans are not viewed as an investment in the couple's future, as discussed earlier in the paper. In general, the rewards associated with higher education seem to outweigh the costs, most likely a result of better coping skills acquired in college and higher levels of income.

Higher levels of education may weaken the barriers to exit the relationship, as a result of the rewards related to increased education such as income and employment opportunities. Education also has a negative correlation with the number of children in a marriage, which results in an even weaker barrier to leave the relationship. If a respondent has a high level of education and no children, and the rule of distributive justice is violated in the relationship, their perceived marital quality will likely be low. If both spouses feel a balance in the costs and rewards of the relationship, the costs along with weaker barriers related to higher education should not be problematic and levels of marital quality should be high.

Results show that financial stress has a negative effect on marital quality among the respondents. Individuals who bring normative debt into the marriage are contributing to the costs of the relationship for their partner by contributing to their financial stress. This can violate the rule of distributive justice by increasing the number of costs for the individuals without debt. Perhaps normative debt is overwhelming to the couple because of the length of time it will take to repay the debt.

Financial stress can also be a result of an imbalance in the power distribution between the couple. The individual with more access to resources may not feel as burdened by their financial situation, whereas the dependent partner may experience more financial stress due to their lack of control over their situation. If a partner is contributing to an individual's financial stress then the relationship can become less attractive for the partner with no debt. If both partners bring normative debt into the

marriage, the levels of financial stress may be high for both partners. However, the power as well costs and rewards are likely to be more evenly distributed.

It is surprising that the respondent's income as well as their debt-to-income ratio were not significant predictors of marital quality. The literature and correlations between related variables such as financial stress and education show an indirect effect of income and debt-to-income ratio on marital quality. Financial stress is higher for respondents with lower incomes as well as higher debt-to-income ratios. Although the hypothesis that higher amounts of debt brought into the marriage would result in a lower marital quality was not supported by the findings in this study, it is safe to argue that the amount of debt contributes to an individual's current economic hardship (debt-to-income ratio) and this may increase level of financial stress. The ability to make a distinction between whether debt brought into the marriage is any more problematic than debt accumulated as a couple remains quite difficult.

As indicated in the first three models of the regression, respondents who had combined debts reported lower levels of marital quality, on average, than respondents who brought no debt into the marriage. Thus, it can be concluded that debt brought into the marriage **does** have a negative effect on marital quality. Based on the results of this study it is the *type* rather than the *amount* of debt that plays a role in predicting marital quality. This is surprising because the amount of debt directly affects the individual's current financial strain. What is even more surprising is that educational loans seem to be the type of debt that is especially problematic. Educational loans have become necessary for many to obtain a college education. One possible explanation for the negative effect of normative debt on marital quality is the young

age of my sample, now ages 23 to 34. Many are just out of college and experiencing the transition from single college student to married career person as they begin to repay educational loans.

The results show a negative effect of the number of children on marital quality. This takes us back to the earlier discussion of the true nature of this effect. The presence of children in a marriage creates a strong barrier to exit the relationship. It is possible that children strengthen barriers that prevent unhappy couples from leaving the relationship. It is also possible that the presence of children violates the rule of distributive justice by unequal distribution of responsibility over the children. My results illustrate a very strong positive correlation between number of children and financial stress. This could be a result of the added cost of children. Higher numbers of children are associated with lower education, which means less income. In addition, a moderate positive correlation between the number of children and the debt-to-income ratio is a further indication that the negative effect of children on marital quality is related to the individual's financial situation. The direction of causality between the number of children and financial indicators is unclear. However, an individual's financial situation is most likely affected by the number of children, rather than a causal relationship in the other direction.

It is important to consider what implications these results could have for young adults currently experiencing the transitions associated with the emerging adulthood stage. Obtaining a higher education increases an individual's overall marital quality in general. However, results of this study illustrate a negative aspect to higher education, which is the negative effect of educational loans on marital quality.

Knowing ahead of time that educational loans can decrease marital quality may ease the transition from college into marriage. It is also important for young adults to understand the effect of financial stress on marital quality. Some of the contributors to financial stress, such as income, are not easily controlled by the individual. However, there is some control over the number of children and the amount of debt accumulated that could minimize the negative effect of financial stress on marital quality if managed wisely.

Perhaps a similar study that uses the couple as the unit of analysis would lend further insight into the effect of debt brought into marriage on marital quality by examining levels of debt as well as marital quality scores of both partners. Another study that may prove to be beneficial is inclusion of separated and divorced respondents; a better understanding as to why these couples were not able to stay married would provide a clearer explanation of the effect of debt brought into the marriage on these couples. However, a preliminary exploratory examination (not shown) of these respondents showed lower amounts of debt brought into the marriage overall. In this case, leaving these respondents out this study did not effect the results.

The results of this study leave me with a few unanswered questions regarding the true nature of financial stress. What is the major contributor to financial stress: is it age, race, income, debt, or a combination of factors? It is somewhat difficult to determine whether or not an individual will experience financial stress, especially when the financial stress is a result of debt; it is very circumstantial to the individual's social environment. Debt is not burdensome in every situation. However, the

potential exists if individuals experience economic strain through loss of job, recession, low income or the onset of poor health. Another question resulting from this study is whether there is a difference between financial stress and stress in general in concerning marital quality. A study that examines different types of stress on marital quality as well as the factors contributing to different types of stress would be able to answer these questions.

The results of this study raise additional questions; however, the findings offer a valuable examination of the relationship between debt brought into marriage and marital quality. Much attention has been focused from the popular media on the increasing accumulation of debt among emerging adults and problems that can result from this debt. This study did find evidence that normative debt brought into the marriage contributes to lower levels of marital quality; however there was no supporting evidence that higher amounts of debt brought into the marriage have a significant effect on marital quality.

The individual's attitude toward debt seems to be a likely explanation for the variation found between the respondents in this study and the respondents mentioned in other studies as well as the popular media discussed earlier in the paper. Results presented in Lawler *et al.* (2000) show debt brought into marriage to be a very problematic issue for respondents in their study. However types of debt as well as amounts of debt were not examined, which may be an explanation for such differences between their results and those presented in this study. Individuals have different perceptions toward debt.

Based on the results of my study the amount of debt did not directly interfere with the respondent's marriages. The type of debt, particularly educational loans, does have a negative effect on marital quality. However, in the end, financial stress is the best predictor of marital quality. The attitude of the individual concerning debt, i.e. whether or not it is a problem, may prove to be a better measure for debt brought into marriage and its effect on marital quality. Future research on this and similar subjects should take this into consideration.

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Appendix

Table I: Description of Variables

Variable Name	Variable Description
Dependent Variable	
Marital Quality [2]	The mean scores provided by an index including: global marital happiness, understanding from spouse, love and affection received, time spent together, demands from the spouse, sexual relationship, and spouses spending behavior where responses range from 1 (very unhappy) to 7 (very happy).
Independent Variables	
Type of Debt [1]	Polychotomous dummy variable divided into four categories: no debt; normative debt—educational loans; non-normative debt—credit card, installment loans, personal loans, old debt or home improvement loans; combined debt. No debt is the reference category.
Amount of Debt [1]	Total dollar amount of each type of debt category.
Gender [1]	Dichotomous dummy variable where Female = 1 and Male = 0.
Race [1]	Polychotomous dummy variable divided into three categories: White; Black; and Other—Mexican American, Chicano, Puerto Rican, Cuban, Other Hispanic, American Indian, and Asian. Black is the reference category.
Parents' Education [1]	Measures socio-economic background using the mean score of both parents' years of education as an indicator.
Respondent's Education [1]	Respondent's years of education at the time of first interview
Income [2]	Sum of couples best total gross annual incomes
Debt-to-Income Ratio [2]	Measures current economic strain. Created using the amount of debt in wave II, excluding educational loans, divided by the couple's best income measure
Financial Stress [2]	Frequency of financial worry measured on a scale where 1=Never, 2=Hardly ever, 3=Once in a while, 4=Often, and 5=Almost all the time.
Number of Children [2]	Total number children in the respondent's household during Wave II
Physical or mental limitation [2]	Dichotomous dummy variable where 1=Healthy and 0=Not healthy

[1] Variable found in Wave I of the NSFH
[2] Variable found in Wave II of the NSFH

Table II: Means and Standard Deviations (n = 433)

	Mean	Standard Deviation
Marital Quality Score	5.61	1.10
Percent Female	42.49	-
Race		
Percent White	82.32	-
Percent Black	7.59	-
Percent Other	10.09	-
Parents' Education in years	12.12	3.23
Respondent's Education at Wave I Interview	13.30	2.20
Type of Debt		
Percent with No Debt	45.59	-
Percent with Normative Debt Only	7.41	-
Percent with Non-Normative Debt Only	35.25	-
Percent with Combined Debts	11.47	-
Total Debt Brought Into Marriage (In 1988 Dollars)	3,814.00	16,924.33
Couples Best Total Annual Income (In 1994 Dollars)	47,332.50	28,784.20
Debt-to-Income Ratio	.09	.18
Financial Stress Score	3.10	1.05
Number of Children	.91	1.09
Percent Healthy	92.22	-
Normative Debt		
Percent with Education Loan Debt	18.90	-
Total Amount of Normative Debt (In 1988 Dollars)	1,426.19	7,832.62
Non-normative Debt		
Percent with Credit Card Debt	28.95	-
Percent with Installment Loan Debt	7.52	-
Percent with Personal Loans from Banks and Businesses	8.74	-
Percent with Personal Loans from Friends and Relatives	12.47	-
Percent with Other Debts not Mentioned	6.96	-
Percent with Home Improvement Loan Debt	.12	-
Total Amount of Non-Normative Debt (In 1988 Dollars)	2,387.44	12,989.76

*Standard Deviations were not entered for Dummy Variables

Table III: Zero-Order Correlations, Part 1

	Marital Quality	Female	White	Black	Other	Par. Ed	R's Ed	No Debt	Norm Debt
Marital Quality	1.00								
Female	.043	1.00							
White	.033	-.043	1.00						
Black	-.028	.052	-.618*	1.00					
Other	-.017	.008	-.723*	-.096*	1.00				
Parents' Education	.052	.043	.198*	-.101*	-.162*	1.00			
Respondent's Education	.151*	.071	.178*	-.119*	-.121*	.457*	1.00		
No Debt	.002	-.061	-.140*	.106*	.084*	-.154*	-.184*	1.00	
Normative Debt	-.038	.018	.057	.001	-.073	-.031	.145*	-.259	1.00
Non-Normative Debt	-.065	-.003	.095*	-.083*	-.047	.075	-.072	-.675	-.209*
Combined Debt	-.063	.008*	.025	-.039	.002	.161*	.280*	-.329*	-.102*
Total Debt	.031	-.024	.050	-.015	-.049	.086*	.126*	-206*	.068
Income	.076	.110*	.129*	-.107*	-.070	.238*	.385*	-.181*	-.016
Debt-to-Income Ratio	-.077	-.055	-.157*	-.105*	.212*	-.135*	-.106*	.039	.081*
Financial Stress	-.274*	-.018	-.128*	.132*	.045	-.069	-.228*	-.029	-.58
Number of Children	-.210*	.017	-.158*	.228*	-.001	-.205*	-.259*	.066	-.106*
Healthy	.075	.030	.012	-.020	.002	-.011	.030	.102*	.019

*Significant P ≤ .05 (one-tailed)

Table III: Zero-Order Correlations, Part 2

	Non-norm Debt	Combined Debts	Total Debt	Income	D-to-I Ratio	Fin Stress	# of Children	Healthy
Marital Quality								
Female								
White								
Black								
Other								
Parents' Education								
Respondent's Education								
No Debt								
Normative Debt								
Non-Normative Debt	1.00							
Combined Debt	-.266*	1.00						
Total Debt	.068	.166*	1.00					
Income	.047	.223*	.161*	1.00				
Debt-to-Income Ratio	-.035	-.073	.022	-.190*	1.00			
Financial Stress	.043	.034	.022	-.260*	.178*	1.00		
Number of Children	.015	-.041	-.021	-.168*	.083*	.258*	1.00	
Healthy	-.007	-.160*	-.112*	.052	-.053	-.125*	.021	1.00

*Significant $P \leq .05$ (one-tailed)

Table IV: Regression Models for Marital Quality on Female, Race, Parents' Education, Respondent's Education, Debt, Income, Financial Stress, Debt-to-Income Ratio, Children and Health (n=433)

	Model I b (s.e)	Model I β	Model II b (s.e)	Model II β	Model III b (s.e)	Model III β	Model IV b (s.e)	Model IV β
Female	.072 (.104)	.033	.094 (.103)	.043	.089 (.101)	.041	.097 (.100)	.045
Race [1]								
Black (reference)	----	----	----	----	----	----	----	----
White	.057 (.196)	.020	.045 (.196)	.016	-.067 (.192)	-.024	-.177 (.193)	-.063
Other	.046 (.245)	.013	.043 (.244)	.012	-.021 (.242)	-.006	-.158 (.243)	-.045
Parents' Education	-.008 (.018)	-.023	-.011 (.018)	-.032	-.0071 (.018)	-.021	-.013 (.018)	-.039
Respondent's Education	.078* (.027)	.157	.102* (.028)	.206	.075* (.029)	-.150	.064* (.029)	.128
Types of Debt [2]								
No Debt (reference)			----	----	----	----	----	----
Normative Debt			-.320 (.207)	-.079	-.309 (.202)	-.076	-.363* (.201)	-.089
Non-Normative Debt			.066 (.116)	.030	.108 (.114)	.048	.115 (.113)	.051
Combined Debt			-.420* (.179)	-.126	-.308* (.177)	-.092	-.275 (.178)	-.082
Total Debt Brought In			.000002 (.000)	.033	.000003 (.000)	.946	.000003 (.000)	.051
Income					-.000002 (.000)	-.040	-.000008 (.000)	-.047
Debt-to-Income Ratio					-.154 (.284)	-.027	-.111 (.282)	-.019
Financial Stress					-.245* (.048)	-.253	-.214* (.049)	-.221
Number of Children							-.162* (.051)	-.159
Healthy							.168 (.188)	.042
Constant	4.59 (.356)		4.35 (.356)		5.58 (.426)		5.80 (.468)	

R²	.024	.045	.104	.126
Adjusted R²	.013	.025	.079	.097
Standard Error of the Estimate	1.061	1.054	1.025	1.015

*Significant $P \leq .05$ (one-tailed)
[1] Race dummies are not significant as a group.
[2] Types of debt dummies are statistically significant as a group, upon entry $F = 3.09$, $P = .027$; Model III $F = 2.655$ $P = .017$; Model IV $F = 2.84$ $P = .018$.