

Three essays investigating the bequest intentions and  
expectations of older adults

by

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B.S., University of Rhode Island, 1992

M.B.A., Pace University, 1997

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Personal Financial Planning  
College of Health and Human Sciences

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

2021

## **Abstract**

Most wealth transfers occur at death, rather than during life, and children are the primary recipients of an inheritance upon the passing of a surviving spouse. Given these factors, this dissertation investigates older adults' intentions and expectations of making a bequest to their children. The first essay explores the relationship between positive and negative social support with parents' intentions of making a bequest. The second essay investigates a possible link between parents' personality traits and the intention to make unequal bequests. The third essay researches the association between changes in wealth and a change in bequest expectations during and following the Great Recession. Data are collected from the Health and Retirement Study (HRS), a longitudinal study of over 43,000 U.S. adults over age 50.

Several important findings have emerged from this research. First, a positive relationship exists between positive social support and bequest intentions but only conditioned upon having a will or trust. No relationship is found between negative social support and bequest intentions. Second, a negative relationship is found between conscientiousness and intentions to make unequal bequests. Also, this study finds a positive relationship between extraversion and agreeableness and intentions to make unequal bequests. Third, decreases in net worth are associated with a drop in bequest expectations during the Great Recession but increases in net worth are not associated with a rise in bequest expectations during the same period. Also, only respondents who experienced a net worth increase in the highest end of the distribution following the Great Recession are associated with a return to pre-recession bequest expectations. The findings of this research can be used by financial planners to help clients make important and highly personal decisions regarding the distribution of wealth to their children.

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# **Chapter 1 - Introduction**

## **Statement of the Problem**

Individuals are afforded a great deal of flexibility to decide how their wealth will be transferred. For example, individuals may gift their wealth during life (inter vivos transfers) or make a bequest at death (testamentary transfers). Research has found that most wealth transfers are in the form of bequests. Using data from the 1989 to 2007 Survey of Consumer Finances (SCF), Wolf and Gittleman (2014) found that 84% of all transfers were bequests. Individuals can also choose the recipient(s) of their wealth including family, friends, or charitable organizations. While there are well known examples of wealthy individuals such as Warren Buffett and Bill and Melinda Gates who have announced plans to leave the vast majority of their wealth to charity, most Americans are interested in leaving their wealth to their children. Almazora (2018) reported that over the next 25 years, 88% of wealth transfers will be made to heirs, while 12% will be made to charities. Given these overwhelming preferences, the research interest of this dissertation is bequests to children.

Unfortunately, approximately 70% of all intra-family wealth transfers fail by the third generation (Williams & Preisser, 2003). A failed wealth transfer occurs when a beneficiary involuntarily loses control of the assets. The loss of control may be due to poor management, bad investments, or family conflicts. According to Williams and Preisser (2003) one of the main reasons wealth transfers fail is a lack of trust and communication among family members. These breakdowns occur when children misinterpret parent intentions or there is a misalignment of expectations between the parents and children. This erosion of wealth not only destroys a family's legacy, but also has adverse consequences for financial planners and their practices (Osterland, 2019).

Wealth transfer planning will become increasingly important as the U.S. population continues to age. According to Accenture (2015), an estimated \$30 trillion in financial and non-financial assets will transfer to younger generations over the next 30 to 40 years. At its peak between 2031 and 2045, 10% of the total wealth in the United States will change hands every five years. Although the transfer of wealth is an important part of the financial planning process, client procrastination is common (Reardon, 2020). Reasons for procrastination include reluctance to consider one's own death, legal costs and complexities, or simply the desire to avoid making difficult decisions regarding family members (Tilse et al., 2016).

Recent events, however, have refocused the public's attention on wealth transfer planning. First, the devastating impact of the coronavirus has caused many Americans to consider contingency plans in the event either spouse becomes ill. As a result, demand for estate planning attorneys has surged across various demographic groups. For example, young families with children are interested in choosing potential guardians and providing for their children (Plohetski, 2020). Business owners and corporate executives are concerned about succession planning and the nuances of transferring illiquid wealth (Beaver, 2020). With an increased demand for estate planning attorneys, many individuals are turning to online service providers (Borzykowski, 2020).

The second event is the election of Joe Biden. Earlier in 2020, the Biden campaign announced plans for higher income, gift, and estate taxes for Americans earning more than \$400,000 if elected (Anders, 2020). While it is still too soon to know if these proposed tax hikes will become law, many Americans are presently evaluating their options. For example, individuals with highly appreciated securities are seeking advice regarding the immediate gifting of these assets (Winokur-Munk, 2020). Other families are establishing trusts now with the intent

of transferring property to these trusts should tax hikes become imminent (Frank, 2020).

According to Frank (2020), estate planning attorneys have seen an “explosion” of client activity.

Financial planners are encouraged to leverage the public’s newly found interest in estate planning to reengage their clients. In some cases, previously reluctant clients may be more willing to proceed, while in other cases, a review of existing wealth transfer arrangements may be warranted. Using the findings from this dissertation, financial planners will be better equipped to advise their clients regarding the potential pitfalls of bequest planning and make suitable suggestions to help clients formalize a plan reflective of their goals, values, and life’s purpose.

### **Purpose**

The primary audience for this dissertation is financial planners. Financial planners are expected to advise all areas of their clients’ financial lives including bequest planning (Schmidt & Forbes-Stowell, 2018), and have a duty to ensure their clients’ assets are properly secured for the future benefit of loved ones (Simpson & Rosenfeld, 2017). This dissertation’s primary objective is to help financial planners better understand client intentions and expectations regarding three separate, but related, topics. Specifically, planners should understand their clients’ reasons for why they intend to make a bequest to their children, how any bequests will be divided among multiple children, and whether the intended bequest may change given an unexpected increase or decrease in the clients’ wealth.

Because bequests take place in the future, this dissertation focuses on intentions and expectations. Clients may have formed intentions regarding bequests but have not thoroughly considered the potential ramifications of their decisions nor explored viable alternatives. Additionally, a client’s existing plan may not accurately reflect their wishes. Similarly, clients may hold expectations that are unrealistic or may need to be revised given new information. A

planner's thorough understanding of client intentions and expectations is important because this information will help inform goal setting and action steps.

The dataset used for this dissertation is the Health and Retirement Study (HRS). The HRS is a longitudinal study conducted every two years that includes 43,000 individuals over age 50 (Fisher & Ryan, 2018). The HRS is ideal to study bequest intentions and expectations because several questions are asked regarding plans for the timing, amounts, and recipients of the respondents' wealth (James, 2015). Upon the death of a respondent, the HRS attempts to conduct an exit interview with the respondent's family. Exit interviews provide information about how a decedent's wealth was actually distributed, however, the sample would be too small to perform a cross-sectional analysis for the years under investigation without introducing the potential for biased estimates (UCLA Institute for Digital Research and Education, 2020).

## **Description of Studies**

### ***Essay One***

The research question for essay one is, "Was there a relationship between the support received from children and parents' intentions of making a bequest?" The motivation for this study lies in the growing importance of family as clients age (Rappaport & Tacchino, 2018). As health issues become more prevalent, older individuals are less able to live independently. Family members, namely children, are frequently relied upon for various types of emotional and physical support. To entice children to provide this support, Bernheim et al. (1985) introduced the idea of strategic bequests. Strategic bequests are based upon social exchange theory, which suggests a party will engage in a transaction with another party if the perceived benefits outweigh the costs (Homans, 1958). In the context of a bequest, parents use the prospect of an inheritance to influence the behaviors of their children. The desired behaviors may be intangible,

such as displaying love and affection, or tangible, such as physical help or financial assistance. Children, in turn, will weigh the potential benefit of receiving an inheritance with the costs incurred, both direct and indirect, for providing support to their parents.

Research has found mixed results for social exchange theory as an explanation for why parents make bequests to their children. One reason for the disparity has been the various ways support has been operationalized. Some researchers used frequency of contact measures while others explored the types of support provided. A third measure, proximity, has also been used as a proxy for social support. Very few studies used scales, and a thorough literature review found no research that used both positive and negative social support scales. Formally stated, the hypotheses for this study are:

H1: Positive and negative social support will add predictive power over a model that includes known determinants of parents' intentions to make a bequest to children.

H2: There is a positive relationship between positive social support received from children and parents' intentions of making a bequest to children.

H3: There is a negative relationship between negative social support received from children and parents' intentions of making a bequest to children.

### ***Essay Two***

The research question for essay two is, "Was there a relationship between parents' personality traits and the intention of making unequal bequests to their children?" While the majority of individuals in the United States plan to divide their estate equally among their children, as many as 32% plan to divide their estate unequally (Francesconi et al., 2015). Finding a link between personality traits and the intention to make unequal bequests will provide financial planners with additional insights into the client's decision-making process. These

insights are important because they can help frame discussions with the client regarding the unforeseen implications of unequal bequests. For example, children who receive a smaller inheritance compared to their siblings may interpret a lower share as less parental love or affection (Bernheim & Severinov, 2003) or cause competition among the siblings for a larger share of the family's estate (Faith et al., 2008). Unequal bequests can also lead to litigation brought by the children (Grant, 2016).

The theoretical framework used for this essay was the Five-Factor Model (McCrae & Costa, 1991). This model suggests that personality traits can be grouped into five major domains: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (or OCEAN). Researchers have used the Five-Factor Model to explore a variety of interests, including the association with relationship quality, financial well-being, and the probability of expecting to leave an inheritance. Formally stated, this study's hypotheses are:

H1: The Five-Factor Model personality traits will add predictive power over a model that includes a known determinant of unequal bequests.

H2: There is a positive relationship between openness and the intention to make unequal bequests to children.

H3: There is a negative relationship between conscientiousness and the intention to make unequal bequests to children.

H4: There is a positive relationship between extraversion and the intention to make unequal bequests to children.

H5: There is a negative relationship between agreeableness and the intention to make unequal bequests to children.



H6: There is a positive relationship between neuroticism and the intention to make unequal bequests to children.

### ***Essay Three***

The first research question for essay three is, “What was the relationship between changes in wealth and a change in bequest expectations during the Great Recession?” Hurd and Smith’s (2001) model of consumption and saving suggested a positive relationship between changes in wealth and changes in bequest expectations. The purpose of this study, however, was a deeper exploration of whether a modest or significant decline in wealth that occurred during the Great Recession was linked with respondents lowering their bequest expectations. Formally stated, the first hypothesis is:

H1: There is a positive relationship between changes in wealth and changes in bequest expectations during the Great Recession.

The second research question for essay three is, “What was the relationship between wealth changes following the Great Recession and a return to pre-recession bequest expectations?” Using Hurd and Smith’s (2001) model, an increase in wealth following the recession would be associated with a rise in bequest expectations. The purpose of this study, however, was to identify how much of an increase in wealth following the recession was associated with a recovery in expectations. Formally stated, the second hypothesis is:

H2: There is a positive relationship between increases in wealth following the Great Recession and a return to pre-recession bequest expectations.

### **Potential Implications and Summary**

Decisions regarding the distribution of wealth among family members are highly personal. A financial planner can not only be a source of council but also help clients discuss this

topic with their families. A startling 61% of high-net-worth individuals are not comfortable talking to their families about money (Alamzora, 2018). Providing assistance, such as moderating a family meeting, may help a financial planner transition from their client's advisor to the family's advisor. This transition is critical because research has found that 80% of children replace their parent's financial planner after inheriting their wealth (Osterland, 2019).

The first essay explores the connection between social support and intentions of making a bequest to children. Understanding how and why a client may use a strategic bequest can provide a financial planner a useful framework for additional considerations. For example, the financial planner might ask if their client's intention has been explicitly or implicitly communicated to the children and are the children prepared and capable of providing the desired services. Regarding the latter, if the children fail to fulfill their promises, a financial planner may inquire how the client would obtain the support needed and if the children are subsequently disinherited, who would be the recipient of the client's estate. Addressing these complex and difficult issues can help clients prepare for various future contingencies.

The second essay investigates whether personality traits are linked to the intention of making unequal bequests to children. The role of the financial planner is not to dissuade clients from dividing their estate unequally, but rather to help clients understand the implications of their decision and explore ways to minimize the potential for negative outcomes. For example, if clients display low levels of conscientiousness, they may not be able to foresee the future implications of unequal bequests. In this case, the planner might suggest the client imagine how they would respond to their children who are disappointed by a smaller inheritance compared to their siblings. The planner might also suggest a family meeting to communicate those thoughts, offering the children an opportunity to ask questions.

The third essay researched how a change in wealth was associated with a change in bequest expectations during the Great Recession and how a change in wealth after the recession was associated with a return to pre-recession bequest expectations. Evidence that small wealth losses, or even wealth gains, are associated with the probability of a drop in bequest expectations suggests that individuals may have a tendency to become overly conservative during periods of economic turmoil. This reaction may prompt financial planners to help the client take a long-term perspective regarding their wealth transfer plans. Similarly, if individuals are found not to update their bequest expectations after a rebound in wealth levels, planners must be prepared to provide the necessary intervention. Perhaps some clients may still be traumatized by the Great Recession and underestimate their ability to meet their original bequest intentions. These clients would require additional attention, education, and a thorough review of their current goals and objectives. Most importantly, if a client significantly lowers their bequest expectations, any prior commitments or promises made to their children may need to be revisited.

When advising clients about their bequest plans, financial planners may be able to use the implications from this dissertation. First, clients need to decide if they intend to make a bequest to their children, and if so, are there any conditions attached to their children receiving an inheritance. The next topic involves clients with multiple children and the decision to make equal or unequal bequests. Unequal bequests may require additional considerations and an understanding of the client's personality traits can help financial planners offer suitable recommendations. Finally, unexpected changes in wealth may cause clients to reevaluate their bequest expectations. Using data from the Great Recession and subsequent recovery may provide financial planners with new insights into how client bequest expectations change during periods of economic volatility.

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## **Chapter 2 - Social Support and Bequest Intentions**

### **Introduction**

As individuals age during retirement, they may be less able to live independently as health impairments become more severe (Rappaport & Tacchino, 2018). The role of family members, therefore, becomes increasingly important to provide the emotional and physical support needed. These responsibilities often fall to adult children. In some cases, children may not be willing or able to provide the support required, particularly as their parent's needs escalate. To elicit the desired behaviors from their children, therefore, parents may use the promise of financial transfers (Bernheim et al., 1985). Known as a strategic bequest motive, positive behaviors may be rewarded by writing children into the will or through the promise of a larger inheritance. Conversely, negative behaviors are met with the threat of a lower share of the family estate, or worse, complete disinheritance. The degree to which a strategic bequest motive is operational may be explicitly stated by the parents or carefully signaled to the children through lifetime gifts.

Transferring wealth to children in exchange for support received in the past, present, or future is based upon social exchange theory. Social exchange theory conceptualizes how two or more individuals value the resources or services traded between the parties (Cook & Gerbasi, 2012). The theory posits that individuals will make an exchange with another party if the exchange maximizes one's own self-interests (Chibucos et al., 2004). In the context of wealth transfer, parents are hypothesized to make gifts and bequests to their children in exchange for receiving various forms of support. The existing body of literature provides inconsistent and conflicting evidence that support social exchange theory as an explanation for why parents

transfer wealth to their children. One reason for the inconclusive results may be the varying approaches used to operationalize support.

The research question for this study is, “Was there a relationship between the support received from children and parents’ intentions of making a bequest?” The variables of interest, a positive and negative social support scale, were a unique feature of this study. Incorporating these scales may provide additional insights about the validity of social exchange theory. The dataset used for this study was the 2016 wave of the Health and Retirement Study (HRS). The HRS is a longitudinal study of U.S. adults over age 50. To investigate the research question, a full and restricted sample was drawn. The full sample included all respondents with at least one child. The restricted sample included all respondents with at least one child and a legal will or trust. The resulting sample sizes were 3,311 and 1,534, respectively. A two-block hierarchical binary logistic regression model was used to test the predictive power of the positive and negative social support scales and to investigate the possible link between each social support scale and parents’ intention to make a bequest to their children.

Helping clients plan for receiving the social support they will need as they age is critical but not common in traditional financial planning practices (Rappaport & Tacchino, 2018). Financial planners interested in differentiating their service model can help clients evaluate their support options and using a strategic bequest may be one viable solution. Practitioners will be able to use the findings from this study to explore strategic bequests with their clients, pointing out the potential for new areas of opportunity and pitfalls to avoid.

## **Literature Review**

A review of the literature revealed that support was frequently operationalized by a single item and can be categorized as either frequency of contact, type of support, or proximity between

the parents and children. Frequency of contact was measured over a specified period of time. Types of support may have included financial assistance, help with chores around the house, and caregiving. Proximity measures were used to determine if the children lived within a specified distance from their parents, such as 10 or 20 miles. Some studies investigated all three categories while others used a single social support scale. The literature review will conclude with an overview of research that offered an alternative explanation for why parents transfer wealth to their children.

### ***Measures of Social Support***

#### ***Frequency of Contact***

The first major study of social exchange theory as an explanation for bequest motives was Bernheim's et al. (1985) analysis. In this study, a bequest motive was considered "strategic" if evidence linked the actions of the children to the financial resources of their parents. The analysis used data from the 1969, 1971, 1973, and 1975 waves of the Longitudinal Retirement History Survey. The dependent variable was attention received per child. This variable was constructed using the total number of children, number of children who visited or called their parents weekly, and number of children who visited or called their parents monthly. The independent variables were measures of liquid assets that can be transferred, non-liquid assets that cannot be transferred, age, health status, and retirement status.

There were three primary conclusions drawn from the results. First, a positive relationship was found between the parents' liquid wealth and the attention provided by children, however, there was no relationship found between illiquid wealth and attention. This finding suggested the supply of attention children are willing to provide was correlated with their potential inheritance. Second, a positive relationship was found between the interaction of liquid



wealth and poor health and attention provided by children. With the prospect of receiving a bequest soon, children of wealthy parents in poor health provided more attention than children of non-wealthy parents in poor health. Finally, these relationships were found only in families with at least two children. This finding suggested bequest intentions based on social exchange may only apply when a viable alternative beneficiary was present.

In their paper, Bernheim et al. (1985) provided two additional reasons that supported the strategic bequest motive. First, the vast majority of transfers occur as bequests rather than lifetime gifts. The underutilization of gifts, given the preferential tax treatment, suggested that most families prefer to delay the transfer of wealth as long as possible. This delay maximizes the amount of time parents have to receive the desired services from their children, while maintaining the incentives necessary to elicit desired behaviors. Further, families may not be comfortable with an outright “quid pro quo” arrangement that trades a monetary gift upon receipt of attention or services from a child. Second, most bequests are distributed equally to children. This fact alone, however, does not necessarily reject the strategic bequest motive. After all, if the children comply with their parent’s requests, the threat of a smaller share of the estate or outright disinheritance is removed.

A second study that used a compatible dependent variable found no support for the strategic bequest motive (Perozek, 1988). Using data from the 1987 National Survey of Families and Households, the original Bernheim et al. (1985) model specifications showed a positive relationship between liquid wealth and attention per child. The inclusion of additional variables, however, significantly altered the results. First, the researcher suggested that not including the number of children created omitted variable bias in the original model. Specifically, more children likely meant parents had less time to spend with each child. Also, raising children is

expensive and the number of children was likely negatively related to liquid wealth. A revised model that included number of children as a control variable found no relationship between liquid wealth and attention per child. A second model was specified to include child-level variables that may have influenced attention paid to parents. These additional variables included gender, having their own children, marital status, and age of each child. The second model also found no relationship between liquid wealth and attention per child. Daughters, married children, and having children were found to be positively related to attention per child while the child's age was negatively related to attention per child.

### ***Types of Support***

The second way social support has been operationalized was by using variables that measured specific services provided by the children. Within the literature, researchers have investigated the relationship between social support and parent bequests, parent lifetime gifts, and both parent bequests and lifetime gifts. Regarding parent bequests, Groneck (2017) investigated the relationship between the hours of help with instrumental activities of daily living received and the actual inheritance left to each child using the Health and Retirement Study. Six exit interview waves from 2002 through 2012 were used resulting in a final sample of 8,157 children receiving bequests from 2,878 parents. An instrument variable and family fixed-effects models identified a strong association between child caregiving and bequests. Specifically, children who provided caregiving had a 5% to 21% higher probability of receiving a bequest and the amount of the bequest was \$20,000 to \$77,000 higher, depending upon the model's specification. The study calculated an implicit hourly wage of \$20 for caregiving services.

Caputo (2002) examined the relationship between support provided by adult daughters and the assets available for bequests after all parental debts were repaid. No relationship was

found between providing personal care and household chores and the size of a potential inheritance, but a positive relationship was found between providing financial assistance and the size of a potential inheritance. Caputo (2002) concluded that the motivation for providing personal care and household chores was due to social norms and filial responsibility, however, the motivation for providing financial assistance was self-interest, offering support for the social exchange model.

In a survey of 1,927 bequest recipients in Japan, Hamaaki et al. (2019) operationalized parental support as having maintained co-residence and had provided financial assistance. The study found a positive relationship between co-residency and receiving a larger bequest amount compared to siblings that did not maintain co-residence with a parent. No relationship was found between providing financial assistance and bequest amounts. The researchers noted that in Japan, most individuals do not have wills. Instead, the distribution of a decedent's property is negotiated among surviving family members.

Two papers investigated the relationship between social support and lifetime gifts. First, using data from the 2004 wave of the Survey on Health, Ageing, and Retirement in Europe (SHARE), Alessie et al. (2014) investigated the relationship between the financial resources of children and the support provided to their parents. The level of education was used as a proxy for children financial resources. Support was operationalized using two questions. The first asked how much time was spent by children helping parents with paperwork, such as completing forms and settling financial or legal matters. The second asked how much time was spent by children helping parents with household chores, such as repairs, transportation, gardening, etc. The authors found a negative relationship between child financial resources and providing both paperwork and household help. As predicted by social exchange theory, the children with the

greatest financial need and thus would benefit the most from financial gifts, provided more services to their parents. The results also found that daughters were more likely to provide help than sons, and mothers were more likely to receive help than fathers. Older parents in poor health were also more likely to receive help. Additional models found no relationship between the financial resources of the children and gifts made by parents.

Second, Cox and Soldo (2013) analyzed the “Benevolence and Obligation” special module that was fielded as part of the 2000 Health and Retirement Study (HRS). The module investigated children motives for providing assistance to their parents. Regarding social exchange, respondents were asked if they agree or disagree with the following statements, “I only help relatives and friends that have helped me in the past,” and “I only help relatives and friends who I want to have help me in the future.” Approximately 20% of respondents agreed with these statements suggesting minimal support for social exchange theory. Conversely, social norms, pressure, and traditions were found to have a significant impact on children willingness to support their parents.

Lastly, researchers have investigated the connection between social support and both bequests and lifetime gifts. Norton and Van Houtven (2006) found that children who provided caregiving to their parents were more likely to receive lifetime gifts than children who did not provide caregiving to their parents, but caregiving had no impact on parental bequest intentions. The results were consistent across a pooled and fixed effects logistic regression model. Norton and Van Houtven (2006) reasoned that social exchange motives can be satisfied more effectively through lifetime gifting than bequests because gifts are easier to facilitate, do not require updating a will, and can be kept secret from family members. Taking a different approach, Ciani

and Dieana (2018) found that respondents who received help from their parents with the purchase or down payment of a home were more likely to provide care later in life.

An investigation of the first two waves of the Irish Longitudinal Study on Ageing collected from 2009 through 2013 explored the relationship between support and parental gifts (Nivakoski, 2018). Support was defined as either receiving household help or assistance with paperwork while gifts were divided into small transfers (between 250 and 5,000 euros) and large transfers (5,000 or more euros). Respondents were also asked if they expected to make a bequest. The study found a positive relationship between providing any help and the probability of making a small gift but no relationship between providing any help and the probability of making a large gift. No relationship was found between providing any help or the number of help hours provided and the probability of making any bequest.

### ***Proximity***

Some researchers have used proximity as a proxy for support provided to parents. The reasoning was parents will purchase more services from children when the cost is low. Children who are required to travel short distances demand a lower price compared to children who must travel longer distances. A study of inheritances received in Sweden from 2002 to 2004 found children who lived in the same parish as the parent received larger bequests than children who lived in a different parish (Erixson & Ohlsson, 2018). In addition, being married had a significant negative moderating effect on the relationship between living in the same parish and amounts inherited. The researchers concluded that married children were less likely to provide support to their parents compared to single children because their costs were higher. No relationship was found between child resources and amounts inherited.

Taking a different approach (Fu, 2019) found that parents make financial transfers to their children before they require assistance. Using proximity as the independent variable, the study concluded that by making transfers to children who live close by, children have more incentive to live close to their parents and therefore, be able to conveniently provide care when the need arises. Once children began actively providing care to their parents, the study found that the strength of the relationship between proximity and financial transfers diminished.

### ***Multiple Support Items and Scales***

Unlike the studies discussed earlier, other researchers used multiple items or scales to operationalize social support. The investigation by Cox and Rank (1992) is one of the most widely cited studies that found evidence in support of the social exchange model. In this analysis, support was operationalized using three different items. These items included the amount of contact measured by visits and calls with children, whether the children provided help such as work around the house, transportation, advice, and repairs, and the distance between parents and children. A positive relationship was found between contact with children and help around the house and the probability of making a gift. No relationship was found, however, between the amount of contact or help provided by the children and the dollar amount of gifts received. A negative relationship was found between distance and the probability of making a gift, indicating that services provided by the children were more expensive the further they were required to travel. This study also made inferences based upon the income of parents and children. For example, a positive relationship was found between parents' income and gifts made to children. This finding suggested that demand for services from the children increased with income. Also, there was a negative relationship between child income and the probability of receiving a gift. The researchers concluded that the price required by the children to supply

services increased with income. Lastly, a positive relationship was found between child income and the amount of the gift, indicating that when services were provided by higher-earning children, the services were more expensive.

Using data from the Family Exchanges Study, Kim et al. (2012) investigated the expectations of making or receiving an inheritance among 327 parent-child dyads consisting of 600 individuals. Parents responded yes or no to whether they expected to leave an inheritance while children responded yes or no to whether they expected to receive an inheritance. Support that parents provided to children and support that children provided to parents was measured using the Intergenerational Support Scale. This scale measured how often participants provided and received six types of support (emotional, practical assistance, advice, socializing, financial, and communication about daily lives) on an 8-point scale. The scale ranged from 1 (*less than once a year or never*) to 8 (*daily*). Other variables included economic resources, family characteristics, beliefs on family obligations, and demographics. For the entire sample, no relationship was found between children providing social support to their parents and expectations regarding an inheritance. A second model that compared dyads with similar inheritance expectations to dyads with dissimilar expectations also found no relationship between children providing parents support and inheritance expectations. Interestingly, downward support from parents to children was positively associated with inheritance expectations in both models.

### ***Altruism and Indirect Reciprocity***

Some research outright rejects social exchange theory in favor of an alternative framework to explain why parents make bequests to children. One such framework is the altruism model (Becker, 1974). This model suggests that the parents' goal is to maximize the

utility of the family as a single unit. Altruistic transfers are compensatory, that is, the amounts transferred are negatively related to the financial resources of the recipient. In addition, children will automatically display positive behaviors because it is in their best interest to maximize the family's total income. The key characteristic of the altruism model is that a "rotten kid," no matter how selfish, will recognize the benefit of increasing the family's income and cooperate with household members without the need for incentives.

A study of 3,383 families with 10,064 children found a negative relationship with financial transfers and child resources (McGarry, 2012). Using data from the Health and Retirement Study (HRS), this study found that transfers were made in response to child short-term income fluctuations and life events such as divorce and job loss. Similarly, using data from the German Socio-Economic Panel Study, Leopold and Schneider (2011) found a positive relationship between child marriage and divorce and the likelihood of parents making a gift of "great value." Haider and McGarry (2018) found no evidence that parents provided greater transfers to children who incurred lower college costs. Rather, the study found that children who were younger, had lower income, and had more children of their own were more likely to receive larger gifts.

In a survey administered in Japan, China, India, and the United States, 67% of respondents within the United States identified with altruism, compared to 33% who identified with an exchange motive, as their primary motivation for making a bequest to children (Horioka, 2014). Interestingly, the findings were similar for India but opposite for China and Japan. A study of inheritances in Sweden and the United States found a negative relationship between lifetime resources of the children and amounts inherited, offering support for the altruism model (Laitner & Ohlsson, 2001).



Other research has found that indirect reciprocity rather than either the altruism or social exchange models may explain bequest motives. Indirect reciprocity is characterized by providing repayment to a third party rather than the party who provided the initial benefit or service (Arrondel & Masson, 2006). In a study of families over three generations, Arrondel and Masson (2001) found that the middle generations' transfer behavior was strongly influenced by the behavior of their own parents. Parents who received a transfer were more likely to make a transfer to their children than parents who did not receive a transfer. Similar tendencies were found by DeBoer and Hoang (2016). Using five waves of data from the Survey of Consumer Finances (SCF), individuals who received an inheritance were 14% more likely to leave an inheritance compared to those who did not receive an inheritance. The authors also found that those who expected to receive an inheritance were 25% more likely to leave an inheritance, compared to those who did not expect to receive an inheritance. Examining three generations of French families, Jellal and Wolff (2002) found individuals were more likely to provide assistance to their children if they received assistance from their own parents, although the magnitude of assistance was smaller for the second generation compared to the first generation studied.

## **Theoretical Framework and Hypotheses**

### ***Theoretical Framework***

The origin of social exchange theory can be traced to Homans (1958) who suggested that exchanges are interactions in which individuals try to obtain a greater reward than the cost incurred. This theory is based upon three underlying assumptions (Chibucos et al., 2004). First, individuals are rationale actors and reactors in social exchanges. Second, individuals are rationally attempting to maximize their profits from the exchange. Third, the potential for rewards will influence social interactions between two or more people. In other words,

individuals will seek others to obtain rewards, while being sought themselves when perceived to offer rewards.

Rewards and costs are defined by the individual (Chibucos et al., 2004). For example, a higher income individual will receive less utility from a financial gift compared to a lower income individual. Also, an emotional reward such as a compliment from a family member or praise in the workplace may be highly valued by one person but not another. Members of an exchange also incur costs. Investment costs represent the effort and emotional commitment an individual makes in an exchange. The direct costs are time and financial resources provided. Opportunity costs are the potential benefits forfeited as a result of the exchange. For example, parents may sacrifice career advancement opportunities in order to raise children.

In a social exchange, those with less to gain hold power over those who have more to gain (Cook & Gerasi, 2012). An individual's dependency of a reward, that is, the extent to which the reward is needed and the lack of viable alternatives will determine the amount of power one party has over the other. Power structures can shift over time as individuals may form coalitions with others or locate the desired resources elsewhere. These dynamics have been commonly found among family members, and in particular, parents and children (Chibucos et al., 2004).

Individuals who engage in a social exchange are concerned with fairness. Specifically, individuals expect that the resources offered are approximately equal to the resources obtained (Homans, 1958). Over time, individuals will assess the fairness of their relationships by keeping track of the cumulative rewards and costs. The assessment will compare actual rewards and costs to expected rewards and costs. Further, actual rewards and costs will be compared to alternative exchange opportunities as individuals decide whether a better outcome may be found elsewhere.

Another aspect of fairness is reciprocity (Homans, 1958). In many social exchanges, a resource or service is delivered with the expectation of obtaining a benefit at some future date. A delayed repayment is part of the cost incurred by the delivering party, and failure of the receiving party to reciprocate will undermine the relationship. In other cases, there is no negotiation or bargaining (Molm, 2010). Molm (2010) refers to these interactions as “reciprocal exchange relations.” In these exchanges, one party will provide a benefit to another with the expectation of reciprocity at a future date. These exchanges entail greater risk than a negotiated exchange as one party does not know if, and when, the other party will reciprocate. Despite the higher level of risk, reciprocal exchange relations involve greater levels of solidarity and commitment. These feelings create positive emotions, further strengthening the connection among exchange members.

### *Hypotheses*

This study’s research question is, “Was there a relationship between the support received from children and parents’ intentions of making a bequest?” Research that has explored social exchange theory and its ability to explain bequest intentions has yielded inconclusive and conflicting results. This study will attempt to find additional evidence that supports social exchange theory using positive and negative social support scales. Scales offer the opportunity to account for the multiple dimensions of constructs (Trochim & Donnelly, 2007). Further, negative social support may have as much, if not more, impact on an individual’s mental health and emotional well-being as positive social support (Schuster et al., 1990).

This study will first investigate if positive and negative social support add predictive power over a model that consists of variables that explain parents’ intentions of making a bequest to children. Hurd and Smith (2001) found a positive relationship between financial

resources such as net worth and income and the likelihood of leaving an inheritance to someone other than a spouse. Other factors that were also positively related to the likelihood of leaving an inheritance were white and educational attainment. Formally stated, therefore, this study's first hypothesis is:

H1: Positive and negative social support will add predictive power over a model that includes known determinants of parents' intentions to make a bequest to children.

According to social exchange theory, parents will use bequests as an incentive to elicit the desired behaviors from their children (Bernheim et al., 1985). Therefore, if parents obtain utility from their children's positive actions, then they would have stronger intentions of making a bequest. Conversely, if parents obtain disutility from their children's negative actions, then they would have weaker, or perhaps no intention, of making a bequest. Formally stated, therefore, this study's next two hypotheses are:

H2: There is a positive relationship between positive social support received from children and parents' intentions of making a bequest to children.

H3: There is a negative relationship between negative social support received from children and parents' intentions of making a bequest to children.

## **Methods**

### ***Data***

The dataset used for this study was the Health and Retirement Study (HRS). The HRS is a nationally representative longitudinal study of more than 43,000 individuals over age 50 (Fisher & Ryan, 2018). The HRS was established to provide a national resource for data on the changing health and economic circumstances associated with aging in the United States (Sonnegga et al., 2014). The HRS biannual interview consists of several broad topics including

employment history, retirement, earnings, pensions, housing, assets, liabilities, estate planning, expectations of future events, demographic characteristics, and health status. The rich information collected by the HRS make it an ideal dataset to study the estate planning behaviors of older Americans (James, 2015).

The initial HRS cohort was recruited in 1992, consisting of persons born between 1931 and 1941 and their spouses of any age. A second cohort was added in 1993 that captured people born between 1890 and 1923. These two cohorts were merged in 1998, and two new cohorts were added consisting of people born between 1924 and 1930 and 1942 and 1947. The HRS employs a steady-state design, replenishing the sample every six years with a younger cohort. The most recent cohort was added in 2016, bringing the total number of cohorts to seven.

Most initial interviews are conducted face-to-face. Since 2006, half of the follow-up interviews were conducted face-to-face and half by telephone. Respondents receive a face-to-face interview every four years. In other words, a respondent who was interviewed face-to-face in 2010 will be interviewed by telephone in 2012 and interviewed face-to-face in 2014. Face-to-face follow-up interviews involve an enhanced interview which includes a psychological and lifestyle leave-behind questionnaire. The leave-behind questionnaire relates to the respondent's well-being, lifestyle, social relationships, personality, work, and self-related beliefs. The completed questionnaire is mailed back by the respondent.

The HRS sample is based upon a multi-stage area probability design involving geographical stratification and clustering. Additionally, African Americans and Hispanics are oversampled. The major implication of this survey design is that individuals and households have different probabilities of being selected into the sample (Sonnegga et al., 2014). As a result, inferences to the U.S. population will be biased. To generate accurate point estimates, standard

errors, and to generalize the results across the U.S. population, this study used sample weights and sample design information (Nielsen & Seay, 2014).

To make the HRS data more accessible to researchers, the RAND Center for the Study of Aging makes available several data products (RAND, 2019). This study used the RAND Longitudinal file which provides a single, user-friendly file derived from all waves of the HRS. The file contains cleaned, respondent-level data with intuitive naming conventions.

### *Sample*

The sample was drawn from the 2016 wave of the HRS. The 2016 wave was used because it was the last wave including in the most recent RAND longitudinal file. Because this study's research interest was about the relationship between social support provided by children and parent bequest intentions, the sample was limited to respondents with at least one living child. In coupled households, the HRS assigns each spouse or partner as either a financial or a family respondent. Questions about housing, income, and assets are asked of the financial respondent, and questions about family composition are asked of the family respondent. This study's sample was limited to financial respondents, as these individuals were likely more knowledgeable about their family's estate plan and provisions contained within the will. Lastly, the sample was further restricted to only those respondents who completed the leave-behind questionnaire that contained the social support items, reducing the sample size by approximately half. The final sample was 3,311 respondents.

Among this sample, a review of the data revealed that 53% (weighted) of respondents did not have a will or trust. Absent these documents, it may be reasonable to assume that the respondent did not intend to make a bequest to their children. On the other hand, a respondent may have had bequest intentions but had not yet executed the necessary legal documentation.

Without a clear indication of the respondent’s bequest intentions, the results from this sample may be ambiguous. To further explore the research question, therefore, a second sample was drawn restricting participation to respondents with a will or trust. The restricted sample contained 1,534 respondents.

***Dependent Variable***

The HRS asked a series of questions regarding a respondent’s bequest intentions. First, respondents were asked, “Do you currently have a will that is written and witnessed?” Answers included ‘yes, will,’ ‘yes, will and trust,’ ‘no will, but have trust,’ and, ‘no will.’ Only those respondents who had a will and/or trust were asked, “Have you made provisions in your [will/trust] for any family members [other than husband/wife/partner]?” Only those respondents who answered ‘yes’ were asked, “Does that include any of your children or stepchildren?” If the respondent answered yes to this final question, the dependent variable was coded as ‘1’ intend to make a bequest to children; ‘0’ otherwise. A summary of how the dependent variable was coded can be found in Table 2.1

**Table 2.1**

*Measurement of Bequest Intentions*

Variable	Measurement
Bequest Intentions	1 if the will or trust includes any children or stepchildren; 0 otherwise

***Variables of Interest***

Social support from children was operationalized using positive and negative scales created by items in the leave-behind questionnaire (Schuster et al, 1990; Turner et al., 1983). The positive social support scale consisted of three items. These items were, “How much do they really understand the way you feel about things,” “How much can you rely on them if you have a serious problem,” and “How much can you open up to them if you need to talk about your

worries?” Responses were captured using a 4-point Likert-type scale ranging from 1 (*a lot*) to 4 (*not at all*). To create the scale, each item was reverse coded, meaning higher scores are associated with greater perceived levels of positive support. The final score was set to missing if more than one item had a missing value. Based upon the full sample, the alpha reliability for the positive social support scale was 0.826.

The negative social support scale consisted of four items. These items were, “How often do they make too many demands on you,” “How much do they criticize you,” “How much do they let you down when you are counting on them,” and “How much do they get on your nerves?” Responses were captured using a 4-point Likert-type scale ranging from 1 (*a lot*) to 4 (*not at all*). To create the scale, each item was reverse coded, meaning higher scores are associated with greater levels of negative support. The final score was set to missing if more than two items had a missing value. Based upon the full sample, the alpha reliability for the negative support scale was 0.775. A summary of how the variables of interest were coded can be found in Table 2.2.

**Table 2.2**

*Measurements of Positive and Negative Social Support*

Variable	Measurement
Positive Social Support	Average of 3 ordinal variables measured using a 4-point Likert-type scale; higher scores indicate higher positive social support
Negative Social Support	Average of 4 ordinal variables measured using a 4-point Likert-type scale; higher scores indicate higher negative social support

***Control Variables***

In accordance with the models used by Hurd and Smith (2001), several demographic control variables were included in the analysis. Net worth was calculated as assets minus liabilities. Assets consisted of real estate, business interests, and investable assets such as stocks,



bonds, and cash. Liabilities consisted of mortgages, home equity loans, other debt, and mortgages on second homes. To adjust for positive skewness and because of negative values, net worth was transformed using an inverse hyperbolic sine function (Pence, 2006) and coded as a continuous variable.

The log of income was used because of positive skewness. Income was the sum of household earnings, pensions, annuities, Social Security payments, unemployment benefits, workers compensation, other government transfers, capital income, and other income. The log of income was coded as a continuous variable.

Age was coded as a continuous variable and age squared was included because of the non-linear relationship between age and the dependent variable. Marital status was coded as a categorical variable that included single and couple. Self-reported health was coded as a categorical variable that included poor, fair, good, very good, and excellent. Employment status was coded as a categorical variable that included fully retired, partially retired, and not retired. Education attainment was coded as a categorical variable that included less than high school, high school, some college or college graduate, and postgraduate. Ethnicity was coded as a categorical variable that included white, black, Hispanic, and other. The final two variables were gender and a binary variable indicating if the respondent provided for a charity in their will or trust. In the full sample, if the respondent did not have a will or trust, the charitable bequest variable was coded as '0.' A summary of how the control variables were coded can be found in Table 2.3.

**Table 2.3**

*Measurements of Control Variables*

Variable	Measurement
Net worth	Inverse hyperbolic sine transformation: $\log[(x^2 + 1)^{1/2} + x]$

Income	Natural logarithm of 1 if income=0; else natural logarithm of income
Age	Continuous variable
Age squared	Continuous variable
Marital status	
Single	1 if single; else 0
Couple	1 if couple; else 0
Health status	
Poor	1 if poor; else 0
Fair	1 if fair; else 0
Good	1 if good; else 0
Very good	1 if very good; else 0
Excellent	1 if excellent; else 0
Retirement status	
Fully retired	1 if fully retired; else 0
Partially retired	1 if partially retired; else 0
Not retired	1 if not retired; else 0
Education attainment	
Less than high school	1 if less than high school; else 0
High school	1 if high school; else 0
Some college/grad.	1 if some college or college graduate; else 0
Postgraduate	1 if postgraduate; else 0
Ethnicity	
White	1 if white; else 0
Black	1 if black; else 0
Hispanic	1 if Hispanic; else 0
Other	1 if other; else 0
Gender	
Female	1 if female; else 0
Charitable bequest	
Yes	1 if charity is provided for in will or trust; else 0

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### *Analysis*

To investigate the relationship between social support and the intention of making a bequest, a logistic regression model was used. A logistic regression model is appropriate when the dependent variable is binary (Allison, 2012). This model can be expressed with the formula:

$$\log \left[ \frac{(p_1)}{(1 - p_1)} \right] = \alpha + \beta_1 p s_i + \beta_2 n s_i + \beta_3 z_i + u_i$$

where  $p_i$  is the probability that the parent intends to make a bequest to their children. Further,  $ps$  represents positive social support,  $ns$  represents negative social support, and  $z$  is a vector of the control variables.

## Results

### *Descriptive Statistics*

The characteristics for this study's full sample are illustrated in Tables 2.4 and 2.5, and the characteristics of the restricted sample are illustrated in Tables 2.6 and Tables 2.7. These tables apply the appropriate weights to account for the Health and Retirement Study's (HRS) multi-stage area probability design and the oversampling of African American and Hispanic respondents.

As expected, there were notable differences between the full and restricted sample. Comparing the two samples, a greater percentage of respondents in the restricted sample were married (63% versus 57%), in very good or excellent health (48% versus 40%), fully retired (55% versus 45%), and on average slightly older (69 versus 67). The average net worth of the restricted sample was \$883,000 compared to \$554,000 and the average income was \$111,000 compared to \$90,000. Lastly, among the restricted sample, 8% of respondents intended to provide for charity compared to 4% in the full sample.

In the full sample, the average positive social support was higher and the negative social support was lower among the respondents who intended to make a bequest to their children. The average positive social support was 3.30 compared to 3.15 and the average negative social support was 1.65 compared to 1.80. Similarly, in the restricted sample the average positive social support was 3.30 compared to 3.04 and the average negative social support was 1.65 compared to 1.72.

In the full sample of 3,311 respondents, 41% of respondents had bequest intentions and 59% of respondents did not have bequest intentions. Among the latter, 88% did not have a will nor trust and 12% had a will or trust but it did not include children. In the restricted sample of 1,534 respondents, 87% had bequest intentions and 13% did not have bequest intentions.

**Table 2.4**

*Sample Characteristics of Categorical Variables, Full Sample (N=3,311)*

Variables	Full Sample (%)	Intended Bequest (%) Yes - 41%	Intended Bequest (%) No - 59%
Marital status			
Single	43.29	38.02	47.02
Couple	56.71	61.98	52.98
Health status			
Poor	5.93	3.72	7.48
Fair	19.33	12.98	23.81
Good	34.84	33.39	35.86
Very good	31.00	38.17	25.94
Excellent	8.90	11.74	6.91
Retirement status			
Fully retired	45.42	53.93	39.42
Partially retired	11.57	11.96	11.31
Not retired	43.01	34.13	49.27
Education attainment			
Less than high school	10.57	4.70	14.70
High school	51.55	47.84	54.17
Some college/grad.	27.61	32.45	24.20
Postgraduate	10.27	15.01	6.93
Ethnicity			
White	74.00	90.82	62.14
Black	11.52	4.56	16.43
Hispanic	9.71	2.27	14.95
Other	4.77	2.35	6.48
Gender			
Male	49.78	51.14	50.41
Female	50.22	48.66	49.59
Charitable bequest			
Yes	3.81	7.86	0.94
No	96.19	92.14	99.06

*Source:* 2016 HRS. Variables are weighted to account for complex survey design and oversampling techniques used by HRS.

**Table 2.5**

*Sample Characteristics of Scales and Continuous Variables, Full Sample (N=3,311)*

Variables	Full Sample Mean	Intended Bequests-Yes Mean	Intended Bequests-No Mean
Social Support Scale			
Positive (1-5)	3.21 (0.02)	3.30 (0.02)	3.15 (0.02)
Negative (1-5)	1.74 (0.01)	1.65 (0.02)	1.80 (0.02)
Net worth	554,261 (42,163)	913,302 (75,834)	301,140 (35,266)
Income	90,082 (3,633)	112,858 (5,495)	74,026 (4,177)
Age	66.59 (0.29)	69.09 (0.47)	63.12 (0.32)

*Source:* 2016 HRS. Standard errors are in parentheses. The Taylor series method (Wolter, 1985) was employed to incorporate HRS's weighting and complex sample design information.

**Table 2.6**

*Sample Characteristics of Categorical Variables, Restricted Sample (N=1,534)*

Variables	Full Sample (%)	Intended Bequests (%) Yes - 87%	Intended Bequests (%) No - 13%
Marital status			
Single	36.63	38.03	26.85
Couple	63.37	61.97	73.15
Health status			
Poor	4.31	3.72	8.43
Fair	13.83	12.98	19.76
Good	33.54	33.39	34.54
Very good	37.36	38.17	31.80
Excellent	10.96	11.73	5.47
Retirement status			
Fully retired	54.85	53.93	61.35
Partially retired	11.82	11.94	10.94
Not retired	33.33	34.13	27.71
Education attainment			
Less than high school	5.51	4.70	11.20
High school	47.33	47.84	43.74
Some college/grad.	32.33	32.45	31.50
Postgraduate	14.83	15.01	13.56
Ethnicity			
White	89.67	90.82	81.54
Black	4.58	4.56	4.73
Hispanic	3.10	2.35	8.42
Other	2.65	2.27	5.30
Gender			
Male	52.20	48.87	40.32
Female	47.80	51.13	59.68
Charitable bequest			
Yes	8.04	7.85	9.36
No	91.95	92.14	90.63

Source: 2016 HRS. Variables are weighted to account for complex survey design and oversampling techniques used by HRS.

**Table 2.7**

*Sample Characteristics of Scales and Continuous Variables, Restricted Sample (N=1,534)*

Variables	Full Sample Mean	Intended Bequests-Yes Mean	Intended Bequests-No Mean
Social Support Scale			
Positive (1-5)	3.26 (0.02)	3.30 (0.02)	3.04 (0.09)
Negative (1-5)	1.66 (0.02)	1.65 (0.02)	1.72 (0.07)
Net worth	883,137 (69,793)	913,302 (75,807)	671,840 (114,769)
Income	110,500 (5,140)	112,858 (5,489)	93,983 (14,578)
Age	69.20 (0.42)	69.09 (0.45)	69.95 (1.04)

Source: 2016 HRS. Standard errors are in parentheses. The Taylor series method (Wolter, 1985) was employed to incorporate HRS's weighting and complex sample design information.

### ***Logistic Regression Models***

The results for the full sample are illustrated in Table 2.8. For Model 1, the Wald chi-squared was 16.22, the adjusted r-squared was 36.52, and the c-statistic was 0.834. For Model 2, the Wald chi-squared was 15.54, the adjusted r-squared was 36.83, and the c-statistic was 0.835. The likelihood ratio statistic was the difference between the -2 Log L for each model. Using a chi-squared distribution and 2 degrees of freedom, adding positive and negative social support did not improve the predictive power of Model 2 ( $p=0.568$ ) (UCLA Institute for Digital Research and Education, 2020a).

Further, no evidence was found to support a relationship between positive or negative social support and the intention of making a bequest to children. The direction of these relationships reflected this study's hypotheses, but neither result was statistically significant at a 5% level. Among the control variables in Model 2, both net worth and income transformed were positively associated with the intention of making a bequest. Specifically, for a 10% increase in net worth and income, the odds of intending to make a bequest increased by 1.05% and 2.02%, respectively. Compared to respondents in good health, the odds of intending to make a bequest

were 29% higher for respondents in very good health and 83% higher for respondents in excellent health. Education attainment was negatively related to the intention to make a bequest as respondents who did not finish high school had 65% lower odds and high school graduates had 28% lower odds compared to respondents with some college education or college graduates. All three ethnic categories were negatively related to the intention of making a bequest to children. Specifically, compared to whites, blacks had 64% lower odds, Hispanics had 79% lower odds, and other ethnic groups had 70% lower odds. Lastly, respondents who provided for a charity in their will or trust had 4.5 times the odds of intending to make a bequest to children compared to respondents without a charitable intention.

The results for the restricted sample are illustrated in Table 2.9. For Model 1, the Wald chi-squared was 4.91, the adjusted r-squared was 10.71, and the c-statistic was 0.685. For Model 2, the Wald chi-squared was 4.07, the adjusted r-squared was 13.18, and the c-statistic was 0.697. The likelihood ratio statistic was the difference between the -2 Log L for each model. Using a chi-squared distribution and 2 degrees of freedom, adding positive and negative social support improved the predictive power of Model 2 ( $p < 0.001$ ) (UCLA Institute for Digital Research and Education, 2020a).

A positive relationship was found between positive social support and the intention of making a bequest to children. Specifically, for each one unit increase in positive social support, the odds of making a bequest increased by 71%. No evidence was found supporting a relationship between negative social support and the intention of making a bequest to children. Similar to the full sample models, net worth, income, and excellent health were positively related to the intention of making a bequest to children. Similarly, not finishing high school and other ethnicity groups were negatively related to the intention of making a bequest to children. One

notable difference between the full and restricted sample models involved marital status. Among the restricted sample, single respondents had 2.5 times the odds of intentions to make a bequest to children compared to coupled respondents. This relationship was not significant in the full sample.

Table 2.8

*Logistic Regression Results Predicting the Association Between Positive and Negative Social Support and Bequest Intentions, Full Sample (N=3,311)*

Variables	Model 1				Model 2			
	$\beta$	Standard Error	p-value	Odds Ratio	$\beta$	Standard Error	p-value	Odds Ratio
Intercept	-6.881	2.769	0.015		-7.370	2.899	0.013	
IHS net worth	0.109	0.021	<0.001	1.115	0.109	0.021	<0.001	1.115
Log income	0.206	0.723	0.006	1.230	0.207	0.073	0.006	1.230
Age	0.033	0.078	0.674	1.034	0.041	0.079	0.607	1.042
Age squared	0.000	0.000	0.705	1.000	0.000	0.000	0.806	1.000
Marital status (ref=couple)								
Single	0.102	0.136	0.455	1.107	0.104	0.137	0.453	1.109
Health status (ref=good)								
Poor	-0.403	0.274	0.145	0.668	-0.346	0.269	0.202	0.708
Fair	-0.125	0.156	0.427	0.883	-0.093	0.152	0.545	0.912
Very good	0.254	0.120	0.377	1.289	0.254	0.120	0.037	1.289
Excellent	0.623	0.210	0.004	1.865	0.603	0.215	0.006	1.827
Retirement status (ref=not retired)								
Fully retired	0.257	0.160	0.113	1.293	0.253	0.160	0.117	1.288
Partially retired	0.095	0.201	0.627	1.100	0.101	0.199	0.614	1.106
Education attainment (ref=some college/grad.)								
Less than high school	-1.003	0.250	<0.001	0.367	-1.045	0.244	<0.001	0.352
High school	-0.314	0.142	0.030	0.731	-0.328	0.141	0.023	0.721
Postgraduate	0.018	0.193	0.927	1.081	0.005	0.192	0.979	1.005
Ethnicity (ref=white)								
Black	-1.571	0.246	<0.001	0.208	-1.085	0.175	<0.001	0.388
Hispanic	-1.082	0.171	<0.001	0.339	-1.572	0.245	<0.001	0.208
Other	-1.183	0.393	0.004	0.306	-1.192	0.400	0.004	0.304
Gender (ref=male)								
Female	0.200	0.133	0.135	1.222	0.177	0.129	0.174	1.194
Charitable bequest (ref=no)								
Yes	1.510	0.465	0.002	4.524	1.507	0.452	0.001	4.514
Social Support								



Positive		0.142	0.082	0.088	1.153
Negative		-0.093	0.082	0.271	0.912
Wald chi-squared	16.22	15.54			
Adjusted r-squared	36.52	36.83			
c-statistic	0.834	0.835			
Likelihood ratio statistic		10.34		0.568	

Source: 2016 HRS. Results are weighted to account for complex survey design and oversampling techniques used by HRS.

**Table 2.9**

*Logistic Regression Results Predicting the Association Between Positive and Negative Social Support and Bequest Intentions, Restricted Sample (N=1,534)*

Variables	Model 1				Model 2			
	$\beta$	Standard Error	p-value	Odds Ratio	$\beta$	Standard Error	p-value	Odds Ratio
Intercept	-1.906	3.709	0.609		4.363	3.991	0.278	
IHS net worth	0.073	0.016	<0.001	1.076	0.075	0.017	<0.001	1.078
Log income	0.119	0.052	0.026	1.126	0.120	0.059	0.045	1.128
Age	0.048	0.088	0.632	1.049	0.071	0.099	0.475	1.073
Age squared	-0.000	0.000	0.572	1.000	-0.000	0.000	0.388	0.999
Marital status (ref=couple)								
Single	0.951	0.260	<0.001	2.587	0.935	0.243	<0.001	2.547
Health status (ref=good)								
Poor	-0.417	0.382	0.278	0.659	-0.355	0.352	0.317	0.701
Fair	-0.322	0.281	0.256	0.725	-0.222	0.295	0.455	0.801
Very good	0.141	0.244	0.564	1.152	0.105	0.247	0.672	1.110
Excellent	0.793	0.340	0.023	2.210	0.801	0.349	0.025	2.227
Retirement status (ref=not retired)								
Fully retired	-0.230	0.270	0.397	0.794	-0.235	0.265	0.378	0.791
Partially retired	-0.063	0.326	0.847	0.939	-0.027	0.334	0.936	0.973
Education attainment (ref=some college/grad.)								
Less than high school	-0.574	0.309	0.067	0.563	-0.738	0.308	0.019	0.478
High school	0.135	0.228	0.554	1.145	0.133	0.226	0.588	1.142
Postgraduate	-0.18	0.411	0.965	0.982	-0.087	0.396	0.826	0.916
Ethnicity (ref=white)								
Black	0.011	0.354	0.974	1.012	0.102	0.379	0.790	1.107
Hispanic	-0.647	0.391	0.103	0.524	-0.644	0.380	0.094	0.525
Other	-1.350	0.384	<0.001	0.259	-1.422	0.399	0.001	0.241
Gender (ref=male)								
Female	0.291	0.212	0.174	1.338	0.223	0.214	0.303	1.249
Charitable bequest (ref=no)								
Yes	-0.363	0.388	0.353	0.696	-0.366	0.375	0.333	0.694

Social Support				
Positive		0.539	0.162	0.001 1.714
Negative		0.083	0.199	0.677 1.087
Wald chi-squared	4.91	4.07		
Adjusted r-squared	10.71	13.18		
c-statistic	0.685	0.697		
Likelihood ratio statistic		21.42		<0.001

*Source:* 2016 HRS. Results are weighted to account for complex survey design and oversampling techniques used by HRS.

### ***Robustness Check***

In addition to whether the respondent had a will and if so, whether the children were included, the HRS asked a series of questions about the probability of leaving a minimum inheritance amount. First, respondents were asked, “Think about an inheritance you and your (husband/wife/partner) might leave but not including any inheritance you might leave to each other. Including property and other valuables that you might own, what are the chances that you and your (husband/wife/partner) will leave an inheritance totaling \$10,000 or more?” Respondents’ answers ranged from 0 for absolutely no chance to 100 for absolutely certain. For respondents who answered greater than 0, the question was repeated, only the bequest target was \$100,000 or more. For respondents who answered greater than 0, the question was repeated again with a bequest target of \$500,000.

Although this series of questions did not specifically name children as the recipient, Almazora (2018) reported that over the next 25 years, upon the death of the surviving spouse 88% of wealth transfers will be made to heirs, while 12% will be made to charities. Three OLS regression models, therefore, were specified to potentially gain additional insights into the connection between social support and bequest intentions. The dependent variable was a continuous variable reflecting a probability range of 0 to 100. All other variables were identical to those included in the logistic regression models.

The results for the robustness check are illustrated in Table 2.10. First, a positive relationship was found between positive social support and the probability of leaving an inheritance of at least \$10,000. Specifically, for each one unit increase in positive social support, the probability increased by 3.680 units. There was no relationship, however, with negative social support. Second, a marginal positive relationship was found between positive social support and the probability of leaving an inheritance of at least \$100,000 ( $p=0.058$ ). Negative social support, however, was not related to the probability of leaving an inheritance. Lastly, no relationship was found between positive or negative social support and the probability of leaving an inheritance of at least \$500,000.

Table 2.10

*OLS Regression Results Predicting the Association Between Positive and Negative Social Support and the Probability of Leaving an Inheritance of at Least \$10,000, \$100,000, and \$500,000, Full Sample (N=3,311)*

Variable	At least \$10,000			At least \$100,000			At least \$500,000		
	B	S.E.	p-value	$\beta$	S.E.	p-value	$\beta$	S.E.	p-value
Intercept	33.469	33.157	0.316	-6.423	33.472	0.848	34.613	34.490	0.319
Social Support									
Positive	3.680	1.014	0.001	2.559	1.329	0.058	1.254	0.932	0.182
Negative	2.094	1.469	0.158	-0.650	1.312	0.622	0.363	1.138	0.752
IHS net worth	2.233	0.136	<0.001	2.038	0.188	<0.001	1.066	0.079	<0.001
Log income	3.292	0.529	<0.001	3.955	0.510	<0.001	3.319	0.524	<0.001
Age	-0.728	0.882	0.412	-0.077	0.949	0.936	-1.760	0.963	0.071
Age squared	0.004	0.006	0.474	-0.001	0.007	0.932	0.012	0.007	0.086
Marital status (ref=couple)									
Single	0.509	1.886	0.788	-2.701	2.030	0.187	-1.530	1.616	0.347
Health status (ref=good)									
Poor	-8.179	2.866	0.006	-3.596	3.328	0.283	-1.074	2.291	0.641
Fair	-7.128	2.218	0.002	-7.022	2.801	0.014	-0.153	1.556	0.922
Very good	2.786	1.263	0.030	6.423	1.971	0.002	6.527	1.515	<0.001
Excellent	6.996	2.234	0.002	9.750	3.277	0.004	11.770	3.104	<0.001
Retirement status (ref=not retired)									
Fully retired	0.862	2.098	0.682	3.895	1.945	0.004	3.790	1.680	0.027

Partially retired	1.060	2.002	0.598	5.268	2.929	0.076	7.499	2.904	0.012
Education attainment (ref=some college/grad.)									
Less than HS	-20.647	2.903	<0.001	-21.133	2.807	<0.001	-8.907	1.819	<0.001
High school	-7.554	1.732	<0.001	-12.566	1.864	<0.001	-8.902	1.697	<0.001
Postgraduate	-0.029	1.444	0.984	4.564	2.619	0.085	7.706	2.814	0.008
Ethnicity (ref=white)									
Black	-7.559	2.257	0.001	-8.155	1.917	<0.001	-0.678	1.425	0.636
Hispanic	-11.273	2.301	<0.001	-6.553	2.696	0.017	-0.709	1.954	0.718
Other	-7.423	3.373	0.031	-3.593	3.796	0.347	-1.697	4.150	0.684
Gender (ref=male)									
Female	-6.086	1.728	0.001	-4.612	2.054	0.028	-4.947	1.455	0.001
Charitable bequest (ref=no)									
Yes	0.145	2.357	0.951	8.715	3.735	0.022	19.008	4.631	<0.001
R-squared	38.00			35.14			25.68		

*Source:* 2016 HRS. Results are weighted to account for oversample techniques and complex survey design used by HRS.

## Discussion

The purpose of this study was to investigate the relationship between social support and the intention of making a bequest to children. One of the challenges in addressing this research interest was that the Health and Retirement Study (HRS) did not explicitly ask this question of all respondents. A multi-faceted approach, therefore, was necessary to gain insights into evidence of whether this relationship existed and if so, the intensity of the relationship.

The full sample consisted of all respondents who had at least one child. A majority of these respondents did not have a will or trust and were therefore categorized as not having a bequest intention. Using these definitions, there was no evidence that social support added predictive power over a restricted model nor evidence of a relationship between social support and bequest intentions. These findings are consistent with earlier literature that asked respondents about their intentions but not the provisions contained within their wills or trusts. For example, Kim et al. (2012) found no relationship between social support and parents' intentions to make a bequest to children. Similarly, Nivakoski (2017) found no relationship

between social support and parents' expectations of leaving an inheritance to someone other than a spouse or partner.

This study's restricted sample, on the other hand, limited participation to respondents with a will or trust. In this case, social support added predictive power over a restricted model ( $p < 0.001$ ) offering support for Hypothesis 1. Additionally, a strong positive relationship ( $p = 0.001$ ) was found between positive social support and the intention of making a bequest to children, offering support for Hypothesis 2. Similar to the findings of Groneck (2017), this study concludes that when intentions are codified in a will or trust, evidence suggests a positive association between positive social support and bequest intentions. The restricted models did not, however, find evidence that linked negative social support with bequest intentions.

As a robustness check, three additional models investigated the relationship between social support and the probability of leaving an inheritance of at least \$10,000, \$100,000, and \$500,000 to someone other than a spouse or partner. Although children were not named as the recipient in the question, the literature review finds sufficient evidence that upon the death of the surviving spouse, the majority of wealth passes to children (Almazora, 2018). The first model found a strong positive relationship ( $p = 0.001$ ) between positive social support and the probability of leaving an inheritance of at least \$10,000 offering support for Hypothesis 2. The second model found a modest positive relationship ( $p = 0.058$ ) between positive social support and the probability of leaving an inheritance of at least \$100,000. No evidence was found in the third model.

In accordance with Hurd and Smith (2001), financial resources such as net worth and income were found to be positively related to parents' intentions of a making a bequest to their children. Also, respondents in excellent health, compared to respondents in good health, were

more likely to have bequest intentions. A possible reason for this result is that healthy respondents anticipated lower lifetime medical expenses, thus increasing the likelihood of leaving an inheritance to their children. The restricted sample models also found that single respondents were more likely to have bequest intentions than coupled respondents. This result was expected as children are often the primary recipients of a surviving spouse's estate (Almazora, 2018). Finally, in the full sample intentions to make a charitable bequest were positively related to intentions of making a bequest to children, although the relationship was not significant in the restricted sample.

Taken in the totality, these results find some evidence that positive social support is linked to the intention of making a bequest. More specifically, this conclusion can be drawn when conditioned upon having a will or trust. Further, positive social support is linked to the probability of leaving an inheritance of at least \$10,000. The significant finding of this study, however, is the asymmetrical relationship between social support and bequest intentions. Namely, no evidence was found between negative social support and bequest intentions in any of the models as predicted by Hypothesis 3. The robustness check also did not find evidence that negative social support was negatively related to the probability of leaving a \$10,000, \$100,000, or \$500,000 inheritance. This study concludes that parents are not inclined to disinherit their poorly behaved children. Perhaps parents are unwilling to write children out of the will or plan to leave a smaller inheritance because of their love for their children or other factors. On the other hand, desired behaviors exhibited by the children appear to be rewarded, given the conditions discussed above. Using both a positive and negative social support scale was a differentiated approach to addressing this research question, yielding findings that contribute to practitioners' understanding of bequest intentions.

Researchers from other disciplines have also garnered additional insights using both positive and negative social support scales. For example, Khondoker et al. (2017) found that positive social support received from children was negatively related to developing dementia but negative social support received from other family members was positively related to developing dementia. In a study of race and subjective well-being, Tang et al. (2019) found that positive social support, but not negative social support, was more important to whites than African Americans. These examples along with this study's primary findings confirm the importance of operationalizing both positive and negative social support scales as proposed by Schuster et al. (1990).

### **Limitations**

One of the limitations of this study is that the social support items were asked about children in general, and not for each individual child. For example, it is possible that within families of two or more children, some children provide high levels of positive social support to their parents, while the other children provide high levels of negative social support. In these cases, it would be helpful to investigate whether there is a relationship between the children who provide positive social support and inclusion in parent wills and between the children who provide negative social support and exclusion in parent wills. Absent this delineation, the data only permitted the study of children as a group.

An area of future research may include how changes in social support are associated with changes in bequest intentions. This study used the 2016 wave from the Health and Retirement Study to perform a cross-sectional analysis reflecting a specific point in time. A panel study, however, may reveal additional information such as whether an increase in positive social support is associated with creating a will or trust. Also of interest would be whether an increase

in negative social support is associated with removing children from an existing will or trust. Another potential area for future research is to explore the HRS exit files. Upon the death of a respondent, the HRS attempts to conduct an exit interview with the respondent's family. Exit interviews provide information about how a decedent's wealth was actually distributed, however, the 2016 sample would have been too small to perform a cross-sectional analysis without introducing the potential for biased estimates (UCLA Institute for Digital Research and Education, 2020b). Nonetheless, pooling several years of data may reveal whether the relationship between the social support responses obtained from the most recent leave-behind questionnaire and the actual distribution of a respondents' estate is consistent with this study's findings.

### **Implications and Conclusions**

There are several important takeaways for financial planners based upon this study's findings. First, the majority of Americans over age 50 do not have a will or trust. The primary benefit of wills and trusts are to provide the timely and orderly distribution of an individual's estate. Wills and trusts, however, also may serve a purpose in cases of a strategic bequest motive. Specifically, wills and trusts act as a "contract" between the parents and children (Groneck, 2016). Groneck (2016) found a positive relationship between providing care to parents and the size of a child's bequest. A positive relationship was also found between providing care to parents and having a will. When providing care and having a will were interacted, however, there was a strong positive moderating effect while each variable became insignificant. Groneck (2016) concluded that a will must be present in order for a social exchange to work. The lesson for clients is that if any part of their wealth transfer plan is contingent upon certain behaviors of their children, having a will or trust may provide the necessary framework to set expectations.



Another important takeaway for financial planners is the role of family as their clients age. According to Rappaport and Tacchino (2018), most retirees ages 85 and older suffer from some type of health impairment which restricts their ability to live independently. As a result, these individuals often turn to family members to provide the physical and emotional support they need. Planners can be instrumental in helping clients prepare for these scenarios such as assessing the potential role of children. There may be scenarios where a client may wish to use a strategic bequest motive to solicit the social support they may need. Clients will need to consider how best to communicate these intentions, and a financial planner can provide valuable advice regarding these potentially difficult family discussions.

This study found no evidence that children who display high levels of negative social support are excluded in the will. Apparently, parents are reluctant to disinherit their children. If parents fail to carry out their threats, strategic bequest motives may not prove effective. In these cases, financial planners may wish to help their clients consider, if not their children, then who will provide the support needed as they age in retirement. Alternatives may include other family members, friends, religious organizations, or community services. Rappaport and Tacchino (2018) suggested that these issues are not likely addressed in traditional financial planning practices and can be extremely valuable to clients who may face potentially difficult challenges ahead.

Lastly, there appears to be a link between positive social support and both the likelihood of making a bequest and the probability of leaving an inheritance of at least \$10,000. Planners should work closely with clients to ensure their financial plan is aligned with stated goals and objectives. For example, a strategic bequest motive that is understood to comprise “anything left over” might not require much planning. On the other hand, if parent and child expectations are

based upon specific assets or amounts, additional steps may be necessary. Retitling of property and ensuring that trusts are properly funded are two areas financial planners can help oversee. Further, clients on a fixed income or who are incurring out-of-pocket medical expenses might reconsider life insurance beneficiary designations to uphold “their end of the bargain.”

In summary, this study finds an association between positive social support and the intention to make a bequest to children, conditioned upon having a will or trust. Also, this study finds a relationship between positive social support and leaving an inheritance of at least \$10,000. Conversely, no association is found between negative social support and the intention to make a bequest to children or the probability of leaving an inheritance of any amount. It appears from these results that parents are likely to reward helpful children but not punish unhelpful children. These findings contribute to the existing body of literature and provide important insights for financial planners. Namely, a reluctance to disinherit unhelpful children may limit the overall effectiveness of a strategic bequest motive.

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## **Chapter 3 - Personality Traits and Unequal Bequests**

### **Introduction**

Individuals have the flexibility to decide whether to make a bequest to their children, and if so, the relative amounts each child receives. While the majority of individuals intend to divide their estate equally, a non-trivial percentage intend to make unequal bequests. Studies have found that the percentage of individuals who plan unequal bequests ranges from 20% (Light & McGarry, 2004) to as high as 32% (Fransconi et al., 2015). Research has explored various reasons parents choose unequal bequests including the desire to assist those children who have the greatest need, to repay children who provided emotional or physical help, the presence of step-children or adopted children, and the overall quality of parent-child relationships. A thorough review of the literature, however, revealed that personality traits have not been used to explain unequal bequests.

One of the most widely accepted frameworks for describing personality traits and the theoretical basis used for this study is the Five-Factor Model (McCrae & Costa, 1991). The Five-Factor Model categorizes personality traits into the following domains: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (or OCEAN). The original purpose of the Five-Factor Model was to provide counselors and other mental health professionals a tool to better understand their patients' emotional, interpersonal, experiential, and motivational styles. Since its creation, the Five-Factor Model has been used to investigate numerous topics including the association between personality traits and relationship quality, financial well-being, and inheritance expectations.

The intention to make unequal bequests is a personal decision that should not be construed as wrong, but rather, a course of action that requires additional planning. For example,

research has suggested that a lower share of the family estate may inadvertently signal to a child lower levels of love and affection compared to their siblings (Bernheim & Severinov, 2003). Another proposed consequence of unequal bequests is costly rent seeking behavior, as each child competes for a larger share of the family estate (Faith et al., 2008). The resulting hurt feelings and sibling rivalries can manifest into strayed family relationships or worse, potential litigation (Grant, 2016).

Understanding the specific traits that are informing a client's decision-making process to make unequal bequest may provide financial planners with valuable insights. For example, a client with a low level of conscientiousness may have difficulty anticipating the ramifications of their decisions (Heckman, 2011). These clients who decide to make unequal bequests may not realize that the child who receives a lower share may misinterpret their smaller inheritance as being cared about less than their siblings (Bernheim & Severinov, 2003). A financial planner might suggest that the client explain their intentions to their children and stress that the division of the estate is not indicative of love or affection.

The research question for this study is, "Was there a relationship between parents' personality traits and the intention of making unequal bequests to their children?" The sample was drawn from the 2016 wave of the Health and Retirement Study (HRS). The HRS is a longitudinal study of U.S. adults over age 50. The population of interest was respondents with at least two living children and a written will that included any of the children, resulting in a final sample of 1,202. A two-block hierarchical binary logistic regression model was used to investigate the predictive power of personality traits and the association between each trait and the intention to make unequal bequests.



Wealth transfers fail primarily because of poor management, bad investments, or in the case of unequal bequests, the potential for family conflicts (Williams & Preisser, 2003).

Financial planners will be able to use this study to counsel clients regarding the potential implications and additional considerations of dividing an estate unevenly among their children.

## **Literature Review**

The following literature review is divided into three sections. The first section discusses research that explored why individuals intended to make unequal bequests. The second section details the Five-Factor Model personality traits. The last section highlights how researchers have used the Five-Factor Model to explain relationship quality, financial well-being, and inheritance expectations.

### ***Explanations for Unequal Bequests***

There are three primary explanations that have been explored in the literature regarding unequal bequests: financial resources of the children, social support provided by the children, and presence of adopted and/or stepchildren. First, researchers posited that parents would provide a larger bequest to the children with the fewer financial resources. Using the Minnesota Twins Survey, Behrman and Rosenzweig (2004) investigated the inheritances received among 530 respondents (265 pairs of twins) who reported both parents had died. The study's descriptive statistics found that approximately two-thirds of respondents received a bequest and the average size of the bequest was about half of current full-time earnings. Considerable differences in lifetime earnings and education attainment among twins were also found. The primary conclusion from this study was that no relationship existed between children's income disparity and unequal bequests. Additionally, parents did not use bequests to equalize differences in investments made towards each twin's human capital. Another study using data from the Study

of Assets and Health Dynamics Among the Oldest Old (AHEAD) also found no relationship between the differences in the income of children and probability of receiving unequal bequests (McGarry, 1997). Differences among the children's ages and educational attainment levels, however, were found to be positively related to the probability of receiving unequal bequests. The researcher suggested that educational differences may be a better indication of each child's permanent income. Since bequests occur in the future and a child's future income is unobservable, an altruistic parent may rely on educational attainment to make compensatory transfers. Various parent characteristics were statistically insignificant in explaining unequal bequests. The lack of a relationship between a child's income and unequal bequests was also found to be present among the top end of the wealth distribution (Wilhelm, 1996). Based on estate tax return filings of 4,188 respondents who made a bequest to children, no relationship was found between a child's earnings and unequal bequests. These findings were consistent after adjusting the bequest amount by a plus or minus 2% margin. Restricting the sample only to children who received unequal bequests, a positive relationship was found between earnings and bequest amounts, but the magnitude was small.

Another explanation for unequal bequests was the desire to reward children who provided various forms of social support. In a study of the Health and Retirement Study from 2002 through 2012, Groneck (2017) investigated the relationship between caregiving activities and relative bequest amounts. The study found that children who provided care to their parents increased the relative share of their inheritance by 10% compared to their siblings who did not provide any care. In addition, Groneck (2017) found that children who provided 10% more hours of care than their siblings received a relative bequest amount 9% to 14% larger, depending upon the model's specifications.

A third explanation for unequal bequests was the presence of stepchildren or adopted children. Using Health and Retirement Study data from 1995 through 2010, Francesconi et al. (2015) found that 32% of all respondents planned to make unequal bequests, however, 61% of parents with stepchildren planned unequal bequests compared to only 26% of parents with genetic children. In addition, this study investigated actual bequests using the HRS exit files. The exit files capture data on respondents who died since their last interview. According to the data, 53% of estates were actually divided unequally, suggesting a deviation between respondent intentions and final transfers. The difference between parents with stepchildren and genetic children was also far less pronounced, with 58% of parents with stepchildren making unequal bequests compared to 51% of parents without stepchildren. A regression model found a positive relationship between stepchildren and unequal bequests for both the core and exit data. The effect was stronger for parents who were female, divorced, widowed, or in poor health. This study also investigated the relationship between the amount of contact with children and unequal bequests. Infrequent contact with step or genetic children yielded a positive relationship with unequal bequests. Specifically, infrequent contact with a genetic child increased the likelihood of excluding the child from the will by 25%, and no contact increased the probability of exclusion by 28%. When the child was not the parent's genetic child, infrequent contact increased the likelihood of excluding the child from the will by 11%, and no contact increased the probability of exclusion by 28%.

A relationship between complex families and unequal bequests was also found in a study of the National Longitudinal Survey of Mature Women and Young Women (Light & McGarry, 2004). Among a sample of 1,618 mothers with at least two children and written wills, a logistic regression found a positive relationship between stepchildren and adopted children and the

probability of leaving unequal bequests. Other variables positively associated with unequal bequests were poor or fair health and the presence of grandchildren.

In study of Swedish estates, Erixson and Ohlsson (2019) investigated all three explanations for unequal bequests. This study drew a sample consisting of 8,156 estates where there was no surviving spouse, more than one child, and a legally executed will. Among the sample, 1,166 estates were divided unequally, and 6,990 estates were divided equally. Child income and wealth, having had provided parental support, and a mix of biological and adopted children were all positively related to making unequal bequests.

### ***Five-Factor Model Personality Traits***

According to McCrae and Costa (1991), personality traits influence an individual's emotional, interpersonal, experiential, and motivations styles. From a clinical perspective, understanding patient personality traits can be as important as their age, gender, and educational background. McCrae and Costa (1991) developed a framework to help counselors better assess their patients' personality. The assessment is called the Five-Factor Model and groups personality traits into five domains: openness, conscientiousness, extraversion, agreeableness, and neuroticism.

Individuals who display high levels of openness to new experiences have a wide range of interests, value intellectual matters, and think in unconventional terms (Heckman, 2011). Open individuals are curious, imaginative, insightful, creative, resourceful, and original.

Conscientiousness is a trait associated with individuals who are organized, thorough, dependable, responsible, and productive (Heckman, 2011). These individuals are able to delay gratification, behave ethically, and have high aspirational levels. Conscientious individuals prepare for upcoming challenges, and thus may be able to cope with stressful events (Pai & Ha,

2012). Additionally, these individuals are deliberate and thoughtful before taking action (Heckman, 2011).

Extraverted individuals are talkative, gregarious, outgoing, and behave assertively (Heckman, 2011). Extraverts are likely to have large social circles and close relationships with friends and family. Individuals with high levels of extraversion are likely to seek help proactively when facing difficulties and feel that their social networks will provide the necessary support (Pai & Ha, 2012).

Agreeableness refers to the degree individuals are cooperative and behave in an unselfish manner (Heckman, 2011). These individuals are kind, sympathetic, forgiving, and willing to compromise their own interests for the benefit of others. These individuals tend to carefully assess social situations and the impact their behavior may have on others before taking action (Taufik et al., 2019).

Lastly, neuroticism describes an individual's chronic level of emotional instability (Heckman, 2011). Emotional instability is characterized by high levels of anxiety, depression, sadness, and hostility. These individuals do not respond favorably to criticism, can have frequent mood swings, and are quick to view others as unsupportive. As a result of this trait, individuals with high levels of neuroticism may struggle with their interpersonal relationships.

## ***Personality Traits and Behaviors***

### ***Relationship Quality***

The association between the Five-Factor Model personality traits and individual relationships among friends, colleagues, and strangers has been extensively studied. One study used data collected from 136 adults, ages 18 to 89, who reported their feelings of momentary happiness following 50,000 social interactions (Mueller et al., 2019). To measure personality

traits, participants completed the Five-Factor Inventory at the beginning of the study. Immediately following each social interaction, participants reported in a diary how happy they felt. The most significant finding was that individuals with high levels of neuroticism benefited more from interaction with friends than did individuals low in neuroticism. Additionally, a positive relationship was found between momentary happiness following social interactions with extraversion, agreeableness, and conscientiousness.

A study of 342 college students investigated the relationship between personality traits and relational aggression (Deason et al., 2019). Relational aggression behaviors may include social exclusion, malicious gossip, and ignoring someone. Participants completed a seven-item peer relationship aggression scale and a 50-item International Personality Item Pool Big-Five Factor Market Scale. The study found that students higher in extraversion and neuroticism and lower in agreeableness were more relationally aggressive. In a hierarchical regression model, these traits explained an additional 20% of the variance in relational aggression beyond gender.

Prior research has also investigated the association between personality traits and the quality of adolescent child-parent relationships. For example, Prinzie et al. (2009) conducted a meta-analysis of 30 studies and found an association between parent personality and parenting style. Parents with higher levels of extraversion, agreeableness, conscientiousness, and openness and lower levels of neuroticism were found to engage in more warm and structured parenting. Parents who scored higher on agreeableness and lower on neuroticism were more supportive of their child's autonomy than other parents.

Using both the Big Five and Parent-Child Relationship Inventory (PCRI), Batool and Ahmad (2016) investigated the association between personality traits and relationship quality measures. The PCRI is an instrument used to measure attitudes towards parenting and

relationships with children. The 78-item PCRI consists of seven constructs: support, satisfaction, involvement, communication, limit setting, autonomy, and role orientation. Using a multivariate analysis, openness was positively related to parental support, agreeableness was positively related to satisfaction, and openness and extraversion were positively related to communication. A similar study by Denissen et al. (2009) regressed parental warmth and control on the Five-Factor Model domains. Extraversion and conscientiousness were positively related to parental warmth, while openness was negatively associated with parental control.

Other research has explored the connection between personality traits and the quality of relationships between parents and their adult children. Fingerman et al. (2006) investigated predictors of respondent ambivalence towards their adult children. The researchers reasoned that unlike relationships with adolescents, there are few norms that govern relationships with adult children. Fewer norms result in feelings of ambivalence in which parents have both positive and negative sentiments towards their children. In a study of 213 families and 474 individuals, ambivalence was operationalized using a scale that consisted of two items that reflected positive feelings and two items that reflected negative feelings. Neuroticism was measured using the 12-item Revised Eysenck Personality Questionnaire. The study found that respondents with high levels of neuroticism felt more ambivalence towards their children than respondents with low levels of neuroticism. In addition, parents felt more ambivalence when their children reported higher levels of neuroticism.

Pai and Ha (2012) explored the impact recent widowhood had on parent-child relationships. Drawing from the greater Detroit area and over the course of several follow-up interviews, the final sample consisted of 299 individuals who had at least one child. Among the participants, 193 were recently widowed and 79 were married. Two models were specified with

positive and negative interactions with adult children as the dependent variables. The variables of interest were a binary measure of widowhood and the 'Big Five' Personality Scale. The study found that agreeableness had a moderating effect on the association between widows and their adult children and positive interactions. The researchers concluded that individuals who are highly agreeable are likely to be approachable and minimize the risk of conflict. Additionally, openness strengthened the relationship between widowhood and fewer negative interactions. Individuals who have high levels of openness desire creativity and imagination and may be better able to integrate children into their lives than individuals with low levels of openness.

### ***Financial Well-being***

The Five-Factor Model has also been used to explain an individual's overall financial well-being (Borghans et al., 2008). For example, assessing the financial literacy among young Canadian adults, Killins (2017) found that highly extraverted individuals had lower levels of understanding fundamental investment, budgeting, and retirement planning concepts. Conversely, very conscientious individuals had higher levels of understanding investment, economic, budgeting, risk management, and retirement planning concepts. Killins (2017) suggested that firms can use personality traits to not only better understand their clients but also to seek desired attributes among potential financial planner recruits.

Research has also found an association between personality traits and financial self-efficacy. In a study of 2,068 U.S. pre-retirees drawn from the Health and Retirement Study, Asebedo et al. (2019) found that openness was positively associated with financial self-efficacy while neuroticism was negatively associated with financial self-efficacy. The researchers concluded that individuals open to new experiences were more broad-minded, which may have allowed them to seek out various alternatives and to take control of their financial well-being. On



the other hand, neurotic individuals harbor negative emotions, and therefore, were likely less confident in their ability to achieve financial well-being. In a study of 506 individual investors, Husnain et al. (2019) found that financial self-efficacy mediated the positive relationship between conscientiousness and long-term investing (time horizon greater than one year) and the negative relationship between neuroticism and long-term investing.

The literature has also connected personality traits to financial behaviors, such as the ability to accumulate wealth. Conscientiousness has been found to be positively related to higher lifetime earnings (Duckworth & Weir, 2010), greater sense of financial responsibility, and more frequent monitoring of accounts (Donnelly et al., 2012). On the other hand, conscientiousness has been found to be negatively associated with holding credit card debt (Brown & Taylor, 2013). In the same study, Brown and Taylor (2013) found that individuals with high levels of extraversion were more likely to hold credit card debt. Agreeableness has been found to be negatively associated with net worth (Matz & Gladstone, 2018). The reason for the negative relationship was because highly agreeable people value money less, rather than a more cooperative negotiating style.

Regarding the ability to manage wealth, Duckworth and Weir (2011) found that conscientiousness was negatively related to spending while openness was positively related to spending. Using a structural equation model, Asebedo and Browning (2019) found that conscientiousness had a direct negative relationship on retiree portfolio withdrawal rates. When measuring the impact of personality traits through financial self-efficacy and emotional affect, higher levels of extraversion and conscientiousness were indirectly associated with lower withdrawal rates while openness, agreeableness, and neuroticism were indirectly associated with higher withdrawal rates. In a study of stock market participation intentions, Lai (2019) extended

the Theory of Planned Behavior to incorporate the ‘Big Five’ personality traits. Openness and agreeableness were found to influence social norms, neuroticism was associated with attitudes, and agreeableness, extraversion, conscientiousness, and openness were related to perceived behavioral control.

Personality traits have also been linked to financial help seeking behavior. In a study of older adults, Gillen and Kim (2014) found conscientiousness was negatively associated with seeking financial help from any source while agreeable individuals sought financial help from family. On the other hand, neurotic individuals were more likely to use credit cards or home equity lines when faced with financial constraints.

Researchers have also explored the potential relationship with financial satisfaction (Tharp et al., 2020). Using data from the 2012 wave of the Health and Retirement Study, a hierarchical ordinal regression model found that personality traits added predictive power to a model consisting of variables associated with financial satisfaction including socio-demographics, financial characteristics, and measures of financial stress and financial behaviors. In addition, the study found extraversion was positively associated with financial satisfaction while agreeableness and neuroticism were negatively associated with financial satisfaction.

### ***Inheritance Expectations***

Choi and Wilmarth (2019) used the 2014 Health and Retirement Study to investigate the moderating effect depression had on the relationship between wealth and the likelihood of leaving an inheritance. Although this study did not investigate personality traits, feeling depressed is a characteristic of neuroticism (Heckman, 2011). In this study, depression was operationalized using the eight-item Center for Epidemiologic Studies Depression Scale. The respondents were asked if during the past week they felt depressed, lonely, sad, could not get

along, had difficulty sleeping, if everything took effort, if they enjoyed life, and if they were happy. Responses were yes or no, then summed from 0 to 8 with higher scores indicating more depressive symptoms. Inheritance expectations were operationalized using the question, “Using a scale of 0-100, where 0 means absolutely no chance and 100 means absolutely certain, including property and other valuables that you might own, what are the chances that you (and your husband/wife/partner) will leave an inheritance totaling \$10,000 or more?” The final sample had 10,340 respondents.

The study found that household wealth and income were positively related to the probability of leaving an inheritance to someone other than a spouse or partner of at least \$10,000, while having depression was negatively related to the probability of leaving the same minimum inheritance. Other variables that were positively related to leaving an inheritance of at least \$10,000 were years of education, males, married or partnered, white, working full-time, homeowners, good, very good, or excellent health, and subjective life expectancy. Further, the relationship between inheritance expectations and financial assets was stronger for individuals with depression than for individuals without depression. Specifically, among respondents with low to medium wealth levels, the predicted probabilities of inheritance expectations were lower for those with depression compared to those without depression. On the other hand, among respondents with higher wealth levels, the predicted probabilities of inheritance expectations were higher for those with depression compared to those without depression. The researchers suggested financial planners be aware of their client’s mental state and be willing to collaborate with the appropriate professionals, if needed.

Using the 2012 and 2014 waves of the Health and Retirement Study, Fan and Chatterjee (2019) investigated the relationship between inheritance expectations and personality traits. The

dependent variable was the probability of leaving an inheritance to someone other than a spouse or partner of at least \$10,000 on a scale of 0 to 100. Respondents who answered that the probability was greater than 0 were asked the same question, only the minimum inheritance was \$100,000. Respondents who again reported that the probability was greater than 0 were asked the same question, only the minimum inheritance was \$500,000. Across all three thresholds, a positive relationship was found with extraversion and conscientiousness, while a negative relationship was found with neuroticism. This model controlled for barriers to leaving an inheritance including mortgage and other debt and motivations for leaving an inheritance including education, health, income, and assets.

The researchers concluded that neurotic individuals had greater anxiety and uncertainty about their financial futures and, therefore, were not confident about their ability to leave an inheritance. Financial planners were encouraged to spend more time educating clients who display high levels of this personality trait. Drawing on the literature, it was concluded that individuals who displayed high levels of extraversion and conscientiousness were likely to have accumulated a higher net worth. Prior success in savings may have provided these individuals with higher levels of confidence that they would be able to leave an inheritance.

### **Theoretical Framework and Hypotheses**

The literature review discussed various explanations for unequal bequests including the financial resources of children, social support provided by children, and the presence of adopted or stepchildren. The literature review also introduced the Five-Factor model and the personality traits of openness, conscientiousness, extraversion, agreeableness, and neuroticism. The final section of the literature review discussed how personality traits have been linked to social interactions among family, friends, colleagues, and strangers, financial well-being such as

spending and saving habits, and the probability of leaving an inheritance. Given that the decisions regarding estate division are interwoven with familial and financial matters, it would seem reasonable that personality traits may play an important factor. The research question for this study, therefore, is “Was there a relationship between parents’ personality traits and the intention of making unequal bequests to their children?” The Five-Factor Model and literature review were used to inform this study’s hypotheses.

This study’s first hypothesis will test the predictive power of personality traits over a model that includes a known determinant of unequal bequests. Infrequency of contact or no contact with both genetic and stepchildren were positively related to excluding the child from the will (Francesconi et al., 2015). Based upon these findings, having a close relationship with all children is expected to have a strong negative relationship with unequal bequests. If the Five-Factor Model personality traits can help explain the intention to make unequal bequests, adding these variables should increase a model’s predictive power. Formally stated, therefore, the first hypothesis is:

H1: The Five-Factor Model personality traits will add predictive power over a model that includes a known determinant of unequal bequests.

The next five hypotheses will investigate the possible connection between each personality trait and unequal bequests. Open individuals are likely to explore nonconventional alternatives. Further, these individuals are less controlling of their children and have more positive, rather than negative communication styles. As a result, it is anticipated that parents with high levels of openness may be more willing to explore unequal bequests and are better equipped to explain to their children the basis for their decision than parents with low levels of openness. The second hypothesis, therefore, is:

H2: There is a positive relationship between openness and the intention to make unequal bequests to children.

Highly conscientious individuals are deliberate in their decision-making process. These individuals have also been found to accumulate more wealth and have higher expectations of leaving an inheritance. It is likely, therefore, that highly conscientious individuals have carefully weighed the question of how much wealth to leave to each child and may be better able to anticipate the potential for hurt feelings and sibling rivalries associated with unequal bequests. The third hypothesis, therefore, is:

H3: There is a negative relationship between conscientiousness and the intention to make unequal bequests to children.

Extraverts have been found to be optimistic about their financial future and expect to leave an inheritance to someone other than a spouse. Also, extraverts tend to have warm and close relationships with their children. As such, these individuals may be overconfident in their ability to manage sibling disputes. Extraverts may also be overly confident that their estate will be large enough to satisfy the competing demands of their children. The fourth hypothesis, therefore, is:

H4: There is a positive relationship between extraversion and the intention to make unequal bequests to children.

Agreeable individuals carefully assess their social situations and the potential impact their behavior may have on others. Highly agreeable parents are likely to have good relationships with their adult children and value cooperation among the siblings. These individuals would be averse to decisions that threaten family harmony and result in conflict. The fifth hypothesis, therefore, is:

H5: There is a negative relationship between agreeableness and the intention to make unequal bequests to children.

Individuals with high levels of neuroticism have lower levels of relationship quality with their children. Additionally, these individuals are not likely to expect to leave an inheritance. Given these factors, it is anticipated that some neurotic individuals may not have given careful thought to the division of their estate. Further, neurotic individuals who intend to treat their children differently are not likely to weigh very heavily the potential for hurt feelings. The sixth hypothesis, therefore, is:

H6: There is a positive relationship between neuroticism and the intention to make unequal bequests to children.

## **Methods**

### ***Data and Sample***

Data were utilized from the 2016 wave of the Health and Retirement Study (HRS), a biennial longitudinal panel study of more than 43,000 individuals over age 50 (Fisher & Ryan, 2018). The 2016 wave was used because it was the last wave including in the most recent RAND longitudinal file. The RAND longitudinal file was used to obtain net worth and income variables. An imputing methodology is employed by RAND to handle any missing data.

An important element of this study was the Five-Factor Model personality traits that were operationalized from items in the psychological and lifestyle leave-behind questionnaire. This questionnaire is administered during face-to-face interviews that occur every other wave. The implication of using data from the leave-behind questionnaire is that the potential sample size for the 2016 wave was reduced by approximately one-half.

Because this study’s research interest was about the relationship between personality traits and the intention to make unequal bequests to children, the sample was limited to respondents with at least two living children and who had a written will that provided for any of the children. The final sample was 1,202 respondents.

### ***Dependent Variable***

The dependent variable was constructed from responses to a series of questions. Respondents who indicated that they had a written will, the will included family members, and those family members were children or stepchildren, were asked, “Which child is that?” Respondents were able to provide individual names, select ‘all children,’ or select ‘all children equally.’ If the respondent provided individual names or selected ‘all children,’ a follow-up question asked, “Does that document provide for your children about equally?” Respondents selected yes or no.

A respondent was coded as intending to make unequal bequests under two scenarios: the number of children included in the will was less than the total number of children or all children were included in the will and the respondent answered ‘no’ to the follow-up question, “Does that document provide for your children about equally?” The dependent variable was coded as ‘1’ unequal bequests, ‘0’ otherwise. A summary of how the dependent variable was coded is located in Table 3.1.

**Table 3.1**  
*Measurement of Unequal Bequests*

Variable	Measurement
Unequal bequests	1 if all children were not included in the will or all children were included but the will did not provide for the children about equally; else 0



### *Variables of Interest*

The variables of interest were the Five-Factor Model personality traits. The Five-Factor Model was operationalized using 26 items from the Midlife Development Inventory Personality Scales supplemented with five additional items that expand coverage of sub-facets of conscientiousness (IPIP, 2020; Lachman & Weaver, 1997). The leave-behind questionnaire provided a list of items and asked, “Please indicate how well each of the following describe you.” A Likert-type scale was used to capture responses ranging from 1 (*a lot*) to 4 (*not at all*). To create a scale for each personality sub-domain, all items, unless otherwise noted, were reverse coded, meaning higher scores are associated with a stronger identification with each item. The final score was set to missing if more than half of the items had missing values.

The items used to describe openness were creative, imaginative, intelligent, curious, broad-minded, sophisticated, and adventurous. The alpha reliability was 0.721. The items used to describe conscientiousness were organized, responsible, hardworking, careless (not reverse coded), thorough, reckless (not reverse coded), self-disciplined, impulsive (not reverse coded), cautious, and thrifty. The alpha reliability was 0.714. The items used to describe extraversion were outgoing, friendly, lively, active, and talkative. The alpha reliability was 0.765. The items used to describe agreeableness were helpful, warm, caring, softhearted, and sympathetic. The alpha reliability was 0.802. The items used to describe neuroticism were moody, worrying, nervous, and calm (not reverse coded). The alpha reliability was 0.728. A summary of how the variables of interest were coded is located in Table 3.2

**Table 3.2**

*Measurements of Five-Factor Model Personality Traits*

Variable	Measurement
Openness	Average of 7 ordinal variables measured using a 4-point Likert-type scale; higher scores indicate higher openness

Conscientiousness	Average of 10 ordinal variables measured using a 4-point Likert-type scale; higher scores indicate higher conscientiousness
Extraversion	Average of 5 ordinal variables measured using a 4-point Likert-type scale; higher scores indicate higher extraversion
Agreeableness	Average of 5 ordinal variables measured using a 4-point Likert-type scale; higher scores indicate higher agreeableness
Neuroticism	Average of 4 ordinal variables measured using a 4-point Likert-type scale; higher scores indicate higher neuroticism

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### ***Control Variables***

In accordance with the literature, several demographic control variables were included in the analysis. Net worth was calculated as assets minus liabilities. Assets consisted of real estate, business interests, and investable assets such as stocks, bonds, and cash. Liabilities consisted of mortgages, home equity loans, other debt, and mortgages on second homes. To adjust for positive skewness and because of negative values, net worth was transformed using an inverse hyperbolic sine function (Pence, 2006) and coded as a continuous variable.

The log of income was used because of positive skewness. Income was the sum of household earnings, pensions, annuities, social security payments, unemployment benefits, workers compensation, other government transfers, capital income, and other income. The log of income was coded as a continuous variable.

Age was coded as a continuous variable and age squared was included because of the non-linear relationship between age and the dependent variable. Marital status was coded as a categorical variable that included single and couple. Self-reported health was coded as a categorical variable that included poor, fair, good, very good, and excellent. Employment status was coded as a categorical variable that included fully retired, partially retired, and not retired. Education attainment was coded as a categorical variable that included high school, some college

or college graduate, and postgraduate. Ethnicity was coded as a white or non-white, and gender was coded as female or male.

A final variable controlled for the quality of relationship between the respondent and children. The leave-behind questionnaire asked, “How many of your children would you say you have a close relationship with?” If the answer was equal to the number of respondent’s children, a binary variable was coded as ‘1’ close relationship with all children; ‘0’ otherwise. A summary of how the control variables were coded can be found in Table 3.3.

**Table 3.3**  
*Measurements of Control Variables*

Variable	Measurement
Net worth	Inverse hyperbolic sine transformation: $\log[(x^2 + 1)^{1/2} + x]$
Income	Natural logarithm of 1 if income=0; else natural logarithm of income
Age	Continuous variable
Age squared	Continuous variable
Marital status	
Single	1 if single; else 0
Couple	1 if couple; else 0
Health status	
Poor	1 if poor; else 0
Fair	1 if fair; else 0
Good	1 if good; else 0
Very good	1 if very good; else 0
Excellent	1 if excellent; else 0
Retirement status	
Fully retired	1 if fully retired; else 0
Partially retired	1 if partially retired; else 0
Not retired	1 if not retired; else 0
Education attainment	
High school	1 if high school; else 0
Some college/grad.	1 if some college or college graduate; else 0
Postgraduate	1 if postgraduate; else 0
Ethnicity	
White	1 if white; else 0

Gender	
Female	1 if female; else 0
Relationship with children	
Close with all	1 if close with all children; else 0

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### *Analysis*

To investigate the relationship between the Five-Factor Model personality traits and the intention to make unequal bequests to children, a logistic regression model was used. A logistic regression model is appropriate when the dependent variable is binary (Allison, 2012). This model can be expressed with the formula:

$$\log \left[ \frac{(p_1)}{(1 - p_1)} \right] = \alpha + \beta_1 o_i + \beta_2 c_i + \beta_3 e_i + \beta_4 a_i + \beta_5 n_i + \beta_6 z_i + \mu_i$$

where  $p_i$  is the probability that the respondent intends to make unequal bequests to the children. Further,  $o$  represents openness,  $c$  represents conscientiousness,  $e$  represents extraversion,  $a$  represents agreeableness,  $n$  represents neuroticism, and  $z$  is a vector of the control variables.

## **Results**

### *Descriptive Statistics*

The sample characteristics for this study are illustrated in Tables 3.4 and 3.5. These tables apply the appropriate weights to account for the Health and Retirement Study's (HRS) multi-stage area probability design and the oversampling of African American and Hispanic respondents. The full sample consisted of 1,202 respondents.

Approximately 17% of respondents intended to make unequal bequests to their children while 83% intended to make equal bequests. Among the latter, 84% did not include all the children in their will and 16% included all the children but the will provided for an unequal division. About 63% of respondents were married or had a partner while only 16% rated their

health status as fair or poor. Interestingly, among those who intended unequal bequests, respondents in poor health comprised almost 10% of the subsample. Among those who intended equal bequests, respondents in poor health comprised 3% of the subsample. More than half of the sample (54%) were fully retired and almost half (46%) had an educational attainment level of at least some college. The overwhelming majority of the sample was white (91%) and gender was evenly split. Lastly, about 61% of the sample indicated that they were close with all their children. Among those who intended unequal bequests, respondents who were close with all their children represented 21% of the subsample compared to 79% of respondents not close with all their children. Among those who intended equal bequests, respondents who were close with their children represented 69% of the subsample compared to 31% of respondents not close with all their children.

Among respondents who intended to make unequal bequests, the average score for openness and agreeableness was higher than respondents who intended to make equal bequests. The average score for extraversion and neuroticism was lower for respondents who intended unequal bequests and the average score for conscientiousness was similar between the subsamples. The average net worth for the entire sample was \$948,635. The average net worth among the respondents who intended unequal bequests was \$747,274, much lower than the \$990,004 average net worth among respondents who intended to make equal bequests. Average income among respondents who intended to make unequal bequests was also lower, \$100,694 compared to \$112,815.

**Table 3.4**  
*Sample Characteristics of Categorical Variables (N=1,202)*

Variables	Full Sample (%)	Unequal Bequests (%) Yes - 17%	Unequal Bequests (%) No - 83%
Marital status			

Single	36.87	44.57	35.28
Couple	63.13	55.43	64.72
Health status			
Poor	3.93	9.75	2.74
Fair	12.98	13.94	12.78
Good	35.15	36.98	34.77
Very good	36.43	26.65	38.55
Excellent	11.40	12.68	11.14
Retirement status			
Fully retired	54.46	57.52	53.84
Partially retired	13.43	16.18	12.87
Not retired	32.10	26.30	33.29
Education attainment			
High school	53.10	57.60	52.18
Some college/grad.	31.97	28.84	32.82
Postgraduate	14.92	14.56	15.00
Ethnicity			
White	91.21	85.85	92.21
Non-white	8.79	14.15	7.69
Gender			
Male	50.91	41.39	52.85
Female	49.09	58.61	47.15
Relationship with children			
Close with all	60.84	21.32	68.96
Not close with all	39.16	78.65	31.04

*Source:* 2016 HRS. Variables are weighted to account for complex survey design and oversampling techniques used by HRS.

**Table 3.5**

*Sample Characteristics of Scales and Continuous Variables (N=1,202)*

Variables	Full Sample Mean	Unequal Bequests-Yes Mean	Unequal Bequests-No Mean
Five-Factor Model			
Openness	3.02 (0.02)	3.09 (0.04)	3.01 (0.02)
Conscientiousness	3.28 (0.01)	3.28 (0.03)	3.28 (0.01)
Extraversion	3.16 (0.02)	3.31 (0.05)	3.50 (0.03)
Agreeableness	3.52 (0.02)	3.65 (0.04)	3.49 (0.02)
Neuroticism	1.88 (0.03)	1.82 (0.06)	1.90 (0.03)
Net worth	948,635 (92,046)	747,274 (104,501)	990,004 (108,431)
Income	110,750 (6,287)	100,694 (8,377)	112,815 (7,304)
Age	69.69 (0.47)	70.48 (0.78)	69.53 (0.55)

*Source:* 2016 HRS. Standard errors are in parentheses. The Taylor series method (Wolter, 1985) was employed to incorporate HRS's weighting and complex sample design information.

### ***Logistic Regression Model***

The results for the two-block hierarchical logistic regression model are illustrated in Table 3.6. For Model 1, the Wald chi-squared was 9.97, the adjusted r-squared was 25.16, and the c-statistic was 0.786. For Model 2, the Wald chi-squared was 7.17, the adjusted r-squared was 28.83, and the c-statistic was 0.798. The likelihood ratio statistic was the difference between the -2 Log L for each model. Using a chi-squared distribution and 5 degrees of freedom, adding the Five-Factor Model personality traits improved the predictive power of Model 2 ( $p < 0.001$ ) (UCLA Institute for Digital Research and Education, 2020).

Among the variables of interest, conscientiousness was negatively related to the intention of making unequal bequests while extraversion and agreeableness were positively related to the intention of making unequal bequests. Specifically, for each one unit increase in conscientiousness, the odds of making unequal bequests declined by 43%. Additionally, for each one unit increase in extraversion and agreeableness, the odds of making unequal bequests increased by 58% and 91%, respectively. Among the control variables, poor health was positively related to making unequal bequests. Compared to respondents in good health, the odds of making unequal bequests were four times greater for respondents in poor health. Lastly, having a close relationship with all children was negatively related to unequal bequests. Specifically, the odds of making unequal bequests were 88% lower for respondents who were close to all children.

**Table 3.6**

*Logistic Regression Results Predicting the Association Between the Five-Factor Model Personality Traits and the Intention to Make Unequal Bequests (N=1,202)*

Variable	Model 1			Odds Ratio	$\beta$	Model 2		
	B	Standard Error	p-value			Standard Error	p-value	Odds Ratio
Intercept	-6.310	4.700	0.184		-9.001	4.589	0.054	

Marital status (ref=couple)								
Single	0.314	0.262	0.235	1.369	0.308	0.277	0.271	1.360
Health status (ref=good)								
Poor	1.174	0.480	0.017	3.236	1.397	0.512	0.008	4.042
Fair	-0.103	0.297	0.731	0.903	-0.027	0.319	0.933	0.973
Very good	-0.369	0.208	0.081	0.691	-0.468	0.210	0.029	0.626
Excellent	0.042	0.302	0.889	1.043	-0.115	0.273	0.674	0.891
Retirement status (ref=not retired)								
Fully retired	-0.090	0.325	0.783	0.914	-0.103	0.311	0.735	0.900
Partially retired	0.108	0.357	0.762	1.115	0.081	0.323	0.803	1.084
Ed. Attainment (ref=some college/grad.)								
High school	0.034	0.261	0.897	1.035	-0.096	0.260	0.712	0.908
Postgraduate	0.269	0.345	0.440	1.307	0.254	0.351	0.471	1.289
Ethnicity (ref=white)								
Non-white	0.427	0.265	0.112	1.532	0.406	0.285	0.158	1.501
Gender (ref=male)								
Female	0.278	0.246	0.263	1.321	0.191	0.235	0.419	1.211
Close with all children (ref=no)								
Yes	-2.087	0.206	<0.001	0.124	-2.144	0.214	<0.001	0.117
IHS Net worth	-0.025	0.021	0.243	0.975	-0.021	0.023	0.374	0.979
Log income	0.039	0.021	0.243	1.040	0.034	0.089	0.708	1.034
Age	0.155	0.126	0.226	1.167	0.193	0.119	0.111	1.213
Age squared	-0.001	0.001	0.194	0.999	-0.001	0.001	0.092	0.999
Five-Factor Model								
Openness					0.013	0.274	0.963	1.013
Conscientiousness					-0.556	0.265	0.040	0.574
Extraversion					0.458	0.212	0.035	1.581
Agreeableness					0.648	0.281	0.025	1.911
Neuroticism					-0.255	0.206	0.221	0.979
Wald chi-squared	9.97				7.17			
Adjusted r-squared	25.16				28.83			
c-statistic	0.786				0.798			
Likelihood ratio statistic	n/a				31.49		<0.001	

*Source:* 2016 HRS. Results are weighted to account for complex survey design and oversampling techniques used by HRS.

## Discussion

The purpose of this study was to investigate the relationship between parents' Five-Factor personality traits and intentions to make unequal bequests to children. A potential link could help financial planners more fully understand their client's decision-making process. Further, understanding the connection with specific personality traits may help financial planners frame



the discussion for advising clients regarding the potential ramifications of unequal bequests and potential strategies to minimize hurt feelings and sibling rivalries.

Using data from the 2016 Health and Retirement Study, two models were specified. The first model included socio-demographic, financial characteristics, and a variable that indicated whether the respondent had a close relationship with all their children. The second model added the Five-Factor personality traits. In support of Hypothesis 1, strong evidence was found that personality traits added predicative power over a model that included a known determinant of unequal bequests.

The next five hypotheses assessed the potential connection between specific personality traits and unequal bequests. Hypothesis 2 predicted a positive relationship between openness to new experiences and unequal bequests. The hypothesis correctly predicted the direction of the relationship, but the results were not significant. This finding is surprising, as highly open individuals are non-conformists and original thinkers. If the majority of adults make equal bequests, it would be reasonable to anticipate that respondents with high levels of openness would not select the most popular choice, but instead explore less utilized ideas and concepts such as unequal bequests. In this case, however, no evidence was found to support Hypothesis 2.

As predicted by Hypothesis 3, a negative relationship was found between conscientiousness and the intention to make unequal bequest. Individuals with low levels of conscientiousness may not fully grasp the potential ramifications of their present decisions. In the case of unequal bequests, the strife that may result between parents and the child who will receive a lower share, or between the children themselves, may not be anticipated. These individuals, therefore, are more likely than highly conscientious individuals to intend unequal bequests. Support, therefore, was found for Hypothesis 3.

This study also found support for Hypothesis 4. A positive relationship was found between extraversion and the intention to make unequal bequests. Unlike individuals with low levels of conscientiousness, extraverts are more likely to understand the potential implications of their decisions. In the case of unequal bequests, however, extraverts may be very confident in their ability to leave an adequate inheritance to all their children, regardless of how the inheritance is divided. Further, these individuals may feel secure in the quality of their relationships with their children, and in particular, the child earmarked to receive a lower share. Combined, these factors may cause extraverts to underestimate the potential negative ramifications of unequal bequests.

The most puzzling result of this study was a positive relationship between agreeableness and unequal bequests. Hypothesis 5 was based upon the premise that highly agreeable individuals wish to avoid conflict and resentments. If unequal bequests are associated with family disharmony, then a negative relationship was anticipated. One possible explanation for this finding may be that a highly agreeable parent is more easily influenced by children who lobby for a large share of the estate. Not wanting to disappoint these children, a highly agreeable parent may simply intend to make a larger bequest to those children who ask. No support, therefore, was found for Hypothesis 5.

Lastly, no support was found for Hypothesis 6. A positive relationship between neuroticism and unequal bequests was anticipated because individuals with high levels of this trait can be rash, impulsive, and vindictive. These emotions and behaviors may prompt the use of a lower inheritance as a form of punishment against children who disobey their parents' instructions or who fail to fulfill their obligations. Surprisingly, this study found a negative relationship between neuroticism and unequal bequests, although the results were not significant.

Among the control variables in Model 2, respondents in poor health were more likely to intend to make unequal bequests to their children while respondents in very good health were less likely to intend to make unequal bequests. These findings may suggest that respondents in poor health reward those children who provide the most assistance and support. Groneck (2017) found a positive relationship with caregiving and relative bequest amounts. As expected, respondents who were close with all their children were unlikely to make unequal bequests. These results confirm Francesconi's et al. (2015) findings that infrequency of contact by genetic and stepchildren was associated with being excluded from the parents' will.

### **Limitations**

In this study, unequal bequests were operationalized by whether the respondent did not include all their children in their will or did include all their children but the will provided for the children unequally. This information provides valuable insights into the respondent's intentions; however, wills are used to facilitate the transfer of some, but necessarily all, of an individual's wealth. For example, retirement accounts and life insurance policies allow the owner to name a beneficiary. Upon death, the proceeds are paid directly to the beneficiary without regard to provisions contained within a will. In situations where the will and beneficiary designations conflict, the beneficiary designations always take precedence. Another example includes property titled "joint with rights of survivorship." Upon the death of an owner, the property is immediately transferred to the surviving owner. Brokerage and bank accounts often allow customers to make a "transfer on death" election whereby the customer retains sole ownership while alive and upon death, the accounts are transferred to a named individual.

One of the limitations of this study is that some respondents may have planned to leave different assets to different children. Consider the case where a respondent named a particular

child as a retirement account or life insurance policy beneficiary. In order to provide equal bequests, however, a different child was provided for within the will or all of the children were provided for in the will but the amounts varied. This example illustrates how a respondent may have had no intention to make unequal bequests, but an investigation solely of the will may have led to an incorrect conclusion.

Important financial decisions frequently take place at a household, rather than individual level (Kim et al., 2017). This study, however, only considered the personality traits of the financial respondent. It is possible that the financial respondent's spouse or partner's personality traits may have played a role in couple's decision to plan unequal bequests. An area of additional research may be to include responses by both the financial and family respondent and investigate the association between a dyad's personality traits and the intention to make unequal bequests.

Another limitation is that the respondents may have had preferences that were not specified in this study's models. For example, an altruistic respondent may wish to provide a larger inheritance to the child with the greatest financial need. Other parents may wish to use an inheritance to repay a specific child for the social support provided, particularly as the respondent aged. Including child-level variables to control for these situations may provide additional validity regarding the association between personality traits and unequal bequests. One of the challenges of including child-level variables, such as income and time spent with aging parents is that observations among siblings are likely to be correlated, thus violating the regression model's assumption that observations must be independent (Mumper, 2017). To account for correlation among family units and to improve upon this study, future research might specify a multi-level model. Multi-level models are used when data is "nested," such as a study

involving schools, classrooms, and pupils. In this proposed research, a multi-level analysis will account for the variation between siblings, in addition to the variation among all observed data.

### **Implications and Conclusion**

In a study of portfolio withdrawal rates, Asebedo and Browning (2019) suggested financial planners perform a personality assessment on their clients. The reason was that this information would help financial planners tailor recommendations to account for their client's personality traits and psychological profile. Personal withdrawal rates are important because overly aggressive spending may leave a client without the necessary financial resources later in life while overly conservative spending may adversely impact the client's retirement and overall life satisfaction. Asebedo and Browning (2019) encouraged financial planners to use their understanding of client personality traits in order to encourage desirable behaviors, such as spending more or less. This study of unequal bequests is different because the objective is not to identify a suboptimal action that requires change, but rather, to use personality traits to help clients better understand the potential implications of their decisions and explore strategies to mitigate negative outcomes.

Two theories have been proposed that highlight the potential negative consequences of unequal bequests. The first theory is based upon the assumption that children cannot directly observe their parent's preferences, and therefore, make inferences based upon their parent's actions (Bernheim & Severinov, 2003). In the case of unequal bequests, a signal may be inadvertently sent to children who receive less that they are not loved as much as their siblings. The second theory is that the intention of unequal bequests will result in rent-seeking behavior as each child competes for a larger share of the family estate (Faith et al., 2008). Rent-seeking behavior is costly because parents are forced to expend time and effort managing sibling

rivalries, thus reducing the net utility of making a bequest. In either case, relationships between parents and their children or among siblings may be irreversibly strained.

The literature provided an abundance of evidence that treating children differently is associated with negative relationship quality. Using data from the National Longitudinal Study of Adolescent Health, Siennick (2013) investigated whether differences in parental affection and financial support were associated with the quality of sibling relationships. The study found no association between differences in parental affection and the quality of sibling relationships, but a strong negative association was found between differences in financial support and the quality of sibling relationships. Siennick (2013) concluded that compared to parental affection, money was an especially valuable commodity to young adults.

Boll et al. (2003) conducted a study of 1,020 adults who had at least one living parent and a sibling. The motivation for the study was the premise that differential treatment by parents is not only important during adolescent years but also later in life. As expected, there was a negative association between disfavored treatment and relationship quality with parents and siblings. The interesting finding, however, was that a negative association was found between favored treatment and relationship quality with siblings. The researchers suggested that the favored sibling may have harbored feelings of guilt or were fearful of retaliation. Also surprising was that while favored treatment was positively associated with relationship quality with parents, relationship quality worsened in cases of extreme favoritism. The researchers suggested that the favored child may have felt resentful towards their parents because treating the siblings substantially different was a form of injustice.

Understanding the relationship between conscientiousness, extraversion and agreeableness with unequal bequests may help financial planners provide advice to their clients.

In the case of clients who display low levels of conscientiousness, financial planners can help these clients better anticipate the implications of unequal bequests. For example, a planner might suggest the client imagine a setting immediately following their funeral. During this time, one of the children first learns of the client's decision to provide that child a lower inheritance compared to their siblings. Perhaps the child becomes upset, resentful, or angry. The planner might ask the client to think about what they might say to that child. The planner might ask the client whether it is important for that message to be properly communicated, to avoid any misinterpretation of the true reasons behind the smaller inheritance. Assuming the client is in agreement, the planner might suggest taking steps to proactively share that message with the child. One option is to hold a family meeting, where the client can share the provisions of the will, explain the reasoning behind their decisions, and solicit feedback and questions from the children. Another option is to provide the children a letter to be opened following their death in order to share these sentiments. Regardless of the method chosen, these approaches offer an additional opportunity to reinforce the message that the size of each child's inheritance is not a reflection of varying levels of love or affection.

Clients who display high levels of extraversion present a different challenge. These clients may be extremely confident in their ability to manage potential conflict between themselves and their children. The blind spot may be, however, that the client is underestimating the potential for jealousy and conflict among the children that could result from unequal bequests. Planners can probe further to determine the present relational dynamics among the children, how the children approach and settle disagreements, and which children, if any, may react with hostility towards their siblings upon receiving a smaller inheritance. To facilitate varying inheritance amounts while potentially avoiding conflict, the planner might suggest

lifetime gifts. Unlike a will, gifts are private and may be made discretely to a recipient. Clients who are motivated by lifetime gifts to keep their wealth transfer plan secret, however, should be reminded that an open and transparent approach may be more beneficial in the long run.

For highly agreeable clients, the intention to make unequal bequests may be an indication that the children are competing for a larger share of the estate. Children may recognize their parents' reluctance to say "no" and preference to avoid causing disappointment. As a result, children may be actively lobbying their parents for a larger inheritance compared to their siblings. In these cases, the planner might inquire further about the client's motivation for unequal bequests. If it appears that the children are influencing their parent's bequest intentions, then the planner might wish to discuss a common pitfall in wealth transfer planning: moral hazard. When children know they can influence their parent's decisions regarding gifts and bequests, they may fail to exert sufficient effort to increase their human capital. This lack of investment results in an increasing need for financial assistance. Children who are able to successfully solicit the assistance needed from their parents, are therefore, incentivized to commit even less investment in their human capital. Clients in this situation should be educated about incentive clauses commonly found within trusts documents. These clauses facilitate the transfer of wealth to children, but only upon reaching certain milestones such career advancement or life events such as marriage. These structures may prove an effective tool to mitigate or eliminate the danger of moral hazard.

In summary, this study is the first of its kind to explore that potential relationship between personality traits and the intention to make unequal bequests to children. As expected, the results find that conscientiousness is negatively associated with unequal bequests, while extraversion is positively associated with unequal bequests. The surprising finding, however, is a



positive relationship between agreeableness and unequal bequests. This study contributes to the growing field of literature that suggests financial planners may increase their proficiency by having a better understanding of their client's personality traits and how to incorporate personality traits to frame discussions and offer recommendations.

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## **Chapter 4 - Changes in Wealth and Changes in Bequest Expectations During and After the Great Recession**

### **Introduction**

Although the exact number is elusive, making a bequest is an expectation shared by many Americans. Bank of America Merrill Lynch (2020) estimated that nearly six out of 10 adults ages 55 and older plan to make a bequest to their heirs. Among single retirees ages 70 and older, Kopczuk and Lupton (2007) found that nearly 75% had a bequest motive and compared to those with no intention of making a bequest spent, on average, 25% less annually. Ellis (2013) reported that parents expected to leave an average inheritance of \$177,000. While individuals may leave their wealth to whomever they wish, children appear to be the primary beneficiaries. Almazora (2018) reported that over the next 25 years, 88% of wealth transfers will be made to heirs, while 12% will be made to charities.

Expectations regarding bequests may change over time for various reasons including a shift in intra-family relationships, a growing desire to leave more assets to charity, or an increase or decrease in wealth. Financial planners can be instrumental in helping clients understand how changes in financial and non-financial assets may impact their future plans. In the case of bequests, if a client fails to reasonably adjust their expectations following a dramatic change in wealth, the financial planner may need to intervene. Potential strategies may include providing additional education or reviewing the client's previously stated wealth transfer goals and objectives.

Even for clients who recognize the need to reassess their original intentions, assistance may be needed to decide whether and how to communicate a potentially difficult message to their children. According to a survey conducted by Ameriprise (2017), only 21% of parents

shared their bequest expectations with their children. This communication can be critical because children's expectations regarding bequests do not always match reality. Ameriprise (2017) found that among respondents who received a bequest, the majority expected more than \$100,000 when in fact, the majority received less than \$100,000. The misalignment between parent and child bequest expectations can lead to hurt feelings, resentments, and strained relationships (Williams & Preisser, 2003).

This study investigated two research questions. The first research question is, "What was the relationship between changes in wealth and a change in bequest expectations during the Great Recession?" According to Hurd and Smith's (2001) model of consumption and saving, decreases in wealth were expected to be related to a drop in bequest expectations. The purpose for this study, however, was a deeper exploration of whether a modest or significant decline in wealth that occurred during the Great Recession was linked with respondents lowering their bequest expectations. The second research question is, "What was the relationship between wealth changes following the Great Recession and a return to pre-recession bequest expectations?" Following the Great Recession, wealth levels recovered albeit unevenly (Dettling, Hsu, & Llanes, 2018). Hurd and Smith's (2001) model predicted that increases in wealth during this period would be associated a rise in bequest expectations. The research interest of this study, however, was to determine the magnitude of increases in wealth that were associated with a return to bequest expectations held prior to the Great Recession.

The sample for this study was drawn from the 2008, 2010, and 2016 waves of the Health and Retirement Study (HRS). The population of interest was respondents with at least one living child. Only respondents who were interviewed in all three waves were included in the analysis, resulting in a final sample of 3,839.

While the impact and aftermath of the Great Recession and the relationship with financial well-being has been extensively studied, surprisingly little is known about the potential impact on bequest expectations. This study's findings may help close the gap within the existing literature, while providing financial planners with additional insights to help guide their clients through various economic cycles.

## **Literature Review**

The following literature review covers three major areas. First, is a description of how the Great Recession impacted individual wealth levels and how the subsequent economic recovery was not experienced similarly among U.S. households. The second part of the literature review explores how individuals have been found to prioritize bequests as a luxury good and relatedly, how only households at the upper end of the wealth distribution have been associated with expectations of leaving an inheritance. The final part will discuss the relationship between changes in wealth and changes in bequest expectations, with particular emphasis on the Great Recession.

### ***The Impact of the Great Recession and Uneven Recovery***

Between 2007 and 2009, American aggregate household wealth declined by 20% (Dettling et al., 2018). By late 2012, however, aggregate household wealth surpassed its 2007 peak and continued to increase through 2016. A closer examination reveals that the Great Recession and its subsequent recovery was not similarly experienced by all Americans. Using data from the Survey of Consumer Finances (SCF), Dettling et al. (2018) divided respondents into four cohorts by permanent income. The categories were bottom 30%, middle 30%, next 30%, and top 10%. From the period 2007 through 2010, all four cohorts suffered a decline in inflation-adjusted wealth, however, the top cohort lost, on average 14%. Among the other three



income cohorts, the bottom 30% lost 10%, the middle 30% lost 40% and the next 30% lost 22%. The two reasons that accounted for this disparity were that higher income individuals held considerable assets other than housing and stocks, and very few had mortgages that exceed 80% of their homes' value. The recovery from the Great Recession also impacted Americans unevenly. From the period 2007 through 2016, the bottom 90% cohort had still not recovered from the Great Recession while the top 10% cohort's average inflation-adjusted wealth increased by 11%. In sum, the researchers concluded that the outsized gains of the top 10% cohort accounted for the increase in the aggregate household wealth measure.

A similar study by the St. Louis Federal Reserve (2020) divided households into wealth quartiles: the top 1%, the next 9%, the next 40%, and the bottom 50% using data from the SCF. This study found that the bottom 50% suffered the greatest decline in wealth, approximately 42%, primarily due to the collapse of housing prices. This group took a decade to recover but the top 50% recovered their wealth in approximately four to five years.

### ***The Relationship Between Wealth and Bequest Expectations***

Research has found that individuals save for multiple goals in a sequential, rather than concurrent, structure (O'Neill et al., 2019). For example, Xiao and Noring (1994) found that individuals prioritize their savings according to a hierarchy. This hierarchy ensures that the most basic needs are satisfied before moving on to the next priority. Xiao and Noring (1994) suggested a normative savings hierarchy that begins with daily expenses before transitioning to large purchases, emergency funds, saving for retirement, gifting to children or grandchildren, and finally achieving a better life. Devaney et al. (2007) used a similar construct consisting of no savings, basic needs, safety needs, security in the future, love and societal needs, esteem and luxury needs, and self-actualization. Only after all the lower needs are satisfied might individuals

self-actualize to reach their fullest potential. Providing for family and charities were included in the self-actualization category. Crook and Baredes (2015) suggested a wealth allocation consisting of three savings buckets: liquidity, longevity, and legacy. In this approach, only “excess assets,” if any, are deployed to the legacy bucket.

Given that most individuals considered bequests a higher order savings priority, perhaps unsurprisingly research has found that only the wealthiest of individuals were likely to have bequest expectations. Using a sample of 6,051 respondents from the Study of Assets and Health Dynamics Among the Oldest Old (AHEAD), McGarry (1997) found that both wealth and income were positively related to the self-reported probability of making any bequest, making a bequest of at least \$10,000, and making a bequest of at least \$100,000. These OLS regression models controlled for child-level demographics including income, age, and schooling. Across all three minimum bequest amounts, subjective life expectancy was positively related to probability of making a bequest while the number of children was negatively related to the probability of making a bequest. A similar study pooled the 2012 and 2014 waves of the Health and Retirement Study (Fan & Chatterjee, 2018). In this analysis, the wealth variables included business equity, retirement assets, checking and savings accounts, CDs, bonds and T-bills, investments, and primary residence. All the wealth variables and income were positively related to the self-reported probability of making any bequest. A sub-analysis that examined six different generational cohorts separately consistently found a positive relationship between checking and savings assets and income with the self-reported probability of making any bequest. The sub-analysis also found that mortgage and other debt were negatively related to the self-reported probability of making any bequest for all generations except those born before 1924.

Using five waves of data from the 1998 through 2010 Survey of Consumer Finances (SCF), DeBoer and Hoang (2017) found income and net worth were positively associated with the expectation of making a bequest. The results were consistent among restricted samples of married respondents, unmarried respondents, life insurance owners, and non-life insurance owners. A restricted sample of only those households with a net worth greater than the 1998 federal exemption (\$625,000), however, found that net worth was the only variable positively associated with the expectations of making a bequest. Similar findings regarding the relationship between financial resources and bequest expectations were found in Sweden (Erixson & Ohlsson, 2018), Ireland (Nivakowski, 2018), and Japan (Hamaaki et al., 2016).

### ***Changes in Wealth and Changes in Bequest Expectations***

Other research has explored how a change in wealth may be related to a change in bequest expectations. Hurd and Smith (2001) analyzed data from the 1993 and 1995 waves of the Study of Assets and Health Dynamics Among the Oldest Old (AHEAD) and the 1994 and 1996 waves of the Health and Retirement Study (HRS). AHEAD respondents were born in 1923 or earlier and HRS respondents were born between 1931 and 1941. The purpose of analyzing two consecutive waves was to identify how changes in certain household characteristics may have been associated with changes in bequest expectations. Bequest expectations were operationalized using the question, “Using a number between 0 and 100, what are the chances that you (or your husband/wife/partner) will leave an inheritance of at least \$10,000?” If the answer was greater than zero, the question was repeated but with a target of \$100,000.

The first analysis was a probit regression which investigated having a positive probability of making a bequest in the second wave, conditioned upon having 0% probability of making a bequest in the first wave. Similarly, a second probit regression investigated having a 0%

probability of making a bequest in the second wave, conditioned upon having a positive probability of making a bequest in the first wave. Finally, OLS and Tobit models analyzed the change in probabilities given changes in household characteristics. Each analysis was generated for the AHEAD and HRS cohorts separately.

Overall, changes in wealth had a positive relationship with changes in bequest expectations for both cohorts, but the magnitude was small. To assess the impact of unexpected changes in wealth, the net increase in stock investments between waves was used as a proxy for unexpected capital gains. The relationship between changes in unexpected capital gains was much more substantial than changes in total wealth. Among other findings, an increase in survival probabilities and becoming widowed had a positive relationship with changes in bequest expectations. Lastly, an increase in out-of-pocket medical expenses had a negative relationship with changes in bequest expectations. These findings were consistent with Hurd and Smith's (2001) prediction that unexpected changes in financial resources and health-related matters were associated with changes in bequest expectations.

Another study that investigated the relationship between changes in wealth and changes in bequest expectations was conducted by Hoang (2016). In this study, changes in wealth were operationalized as changes in housing values. Housing value data were obtained from the Federal Housing Finance Agency (FHFA). The FHFA constructs a house price index at the state level based on mortgage transactions conducted for single-family homes. Changes in bequest expectations were operationalized as changes in life insurance death benefits. State-level data was obtained from the American Council of Life Insurers (ACLI). The data set included individual, group, and credit insurance policies. The final sample consisted of 1,750 state-year observations based on 50 U.S. states from 1977 through 2011.

A fixed effects regression model found an increase in home values was positively related to an increase in life insurance death benefits. Specifically, a 50% increase in home values was related to a 13% increase in life insurance death benefits. A second analysis accounted for the varying time intervals between changes in home values and changes in life insurance death benefits. The results found that households do not immediately adjust their life insurance policies, but rather, respond over time. A final analysis made a comparison of states above or below the national average regarding the fraction of the population over age 64, housing price growth, gross state product per capita, estate tax revenue per capita, and the fraction of the population married. The results were consistent with the study's main findings.

### ***The Great Recession and Changes in Bequest Expectations***

To investigate the impact the Great Recession may have had on bequest expectations, Hurd and Rohwedder (2010) analyzed the 2008 HRS wave and the 2009 HRS Internet Survey. The internet survey was administered between March 2009 and August 2009 to individuals who completed the 2008 interview and who regularly use the internet. The Internet Survey included a module to assess the impact the economy had on respondents since the 2008 interview. Similar to the 2008 core interview, internet respondents were asked about the probability of leaving a bequest of at least \$10,000. Those respondents who answered greater than zero were then asked about the probability of leaving a bequest of at least \$100,000, and then again with a bequest target of at least \$500,000. Among 3,061 respondents who completed both surveys, the percentage of those who expected to leave a bequest less than \$100,000 increased from 36.0% in 2008 to 44.1% in 2009. On the other hand, those who expected to leave a bequest of at least \$100,000 decreased from 64.0% in 2008 to 55.9% in 2009. Hurd and Rohwedder (2010) also estimated the change in expected bequest amounts. For each wealth band, expected bequest

amounts were calculated by multiplying the average wealth observed for that wealth band by the probability of making a bequest. Overall, expected bequests declined from \$535,517 in 2008 to \$435,996 in 2009.

A similar study was conducted among retirees in England (Banks et al., 2013). This analysis used the English Longitudinal Study of Ageing which surveys individuals ages 50 and older. The 2008-2009 wave was divided between two cohorts, those surveyed between June 2008 and December 2008 and those surveyed between January 2009 and June 2009. The sample sizes were 4,046 and 3,254, respectively. Combined, the median respondent wealth dropped by 8% compared to the 2006-2007 wave, but a larger drop was experienced by respondents who were interviewed in the first half of 2007 and again in the first half of 2009. Among this cohort, the self-reported probability on a scale of 0 (*absolutely no chance*) to 100 (*absolutely certain*) of leaving a bequest of at least £150,000 declined as a whole. Specifically, 38% of respondents reported that the probability had decreased since 2007 while 28% reported that the probability increased. The remaining 34% reported no change. The average probability declined by 3.5%.

Using the 2000 through 2010 waves of the HRS, Begley (2017) assessed how the housing boom and bust impacted bequest expectations. To operationalize the changes in housing values, data was obtained from Zillow and the Federal Housing Financing Agency (FHFA). Zillow provided monthly median market values for homes based on ZIP codes. This information was supplemented by FHFA MSA-level repeat sales indices. The study's primary dataset was a geocoded Health and Retirement Study (HRS). The geocoded HRS, which is not publicly available, provided the opportunity to investigate how changes in local housing markets affected older adult bequest expectations.

The dependent variables were the changes in the probability of leaving any inheritance, changes in the probability of leaving an inheritance of at least \$10,000, and changes in the probability of leaving an inheritance of at least \$100,000. A significant positive relationship was found between the changes in home prices and changes in bequest expectations for all three models. The effect was larger for negative shocks than positive shocks and was more pronounced for older respondents. Lastly, changes in bequest expectations for households without stock ownership and households with a large percentage of total wealth comprised of their homes were more responsive to changes in home values than households who possessed other financial resources. An additional model was specified that used respondent self-reported home values as the variable of interest. Similar to the study's main findings, changes in self-reported home values were positively related to changes in bequest expectations.

A review of the literature regarding gifts to children during the Great Recession proved informative. Lifetime gifts are a substitute for bequests, and understanding shifts in gifting behaviors provided additional insights into how individuals prioritize wealth transfers during periods of economic downturns. Using data from the Panel Study of Income Dynamics from 2005 through 2011, Zissimopoulos et al. (2019) studied the gifting behavior of parents to their adult children. The study found that the likelihood of receiving a gift declined from 74% in 2005 to 57% in 2009. Among the entire sample, the association between a decline in income and lower gift amounts was modest. Adult children received \$109 less for every \$10,000 decline in parent income. The amounts of gifts were reduced significantly, however, among those parents who suffered the largest decline in income. For example, parents in the 75th percentile of income loss (a loss of \$16,600) decreased gift amounts by \$1,150 and parents in the 95th percentile of income loss reduced the dollar amount of gifts by \$1,700, on average.

Investigating the 2006 and 2010 waves of the Health and Retirement Study (HRS), Mejia et al. (2016) found a positive relationship between changes in financial resources and likelihood of parents making a gift to their children. Changes in financial resources were categorized as stable income and stable wealth (reference group), significant income loss and stable wealth, stable income and significant wealth loss, and significant income and wealth losses. Compared to the reference group, parents who experienced stable income but a significant wealth loss were less likely to make a gift to their children.

## **Theoretical Framework and Hypothesis**

### *Theoretical Framework*

Hurd and Smith's (2001) model of consumption and saving was used as this study's theoretical framework. The model is an extension of the lifecycle savings work first proposed by Yaari (1965). This extended model is based on three assumptions: (a) the date of death is uncertain; (b) lifetime resources are comprised of wealth and Social Security, pension and annuity income; and (c) guaranteed sources of income may not be borrowed against. In the event an individual depletes their wealth, no amounts will be left to bequest. According to Hurd and Smith (2001), an individual's objective was to select a consumption path that maximizes expected lifetime utility. The formula for expected lifetime utility may be expressed as:

$$\int_0^n u(c_t)e^{-\rho t} a_t dt + \int_0^n V(w_t)e^{-\rho t} m_t dt \quad (1)$$

The first term is the expected discounted utility from consumption:

$u(\cdot)$  = the utility derived from consumption;

$c_t$  = consumption at  $t$ ;

$\rho$  = the subjective discount rate;

$a_t$  = the probability of being alive at  $t$ ; and



$n$  = the maximum life expectancy.

The second term is the expected discounted utility from bequests:

$V(\cdot)$  = the utility derived from bequests;

$w_t$  = wealth that can be inherited at  $t$ ; and

$m_t$  = probability of dying at  $t$ .

There are two constraints on the maximization problem: (a) the initial amount of wealth that can be inherited is given and (b) wealth at any particular time must be greater than zero.

Over the course of the lifetime, wealth may change:

$$\frac{dw_t}{dt} = rw_t - c_t + A_t \quad (2)$$

$r$  = real interest rate,

$w_t$  = wealth that can be inherited at  $t$ ,

$c_t$  = consumption at  $t$ ; and

$A_t$  = income received from annuities at  $t$ .

Also over the course of the lifetime, the marginal utility from consumption may change:

$$\frac{du_t}{dt} = U_t(h_t + \rho - r) - h_t V_t \text{ for } w > 0 \text{ where } w_t = 0, \text{ then } c_t - A_t \quad (3)$$

$u_t$  = marginal utility of consumption at  $t$ ;

$h_t$  = mortality risk at  $t$ ;

$\rho$  = the subjective discount rate; and

$V_t$  = marginal utility of bequests at  $t$ .

The first case that is considered is an individual with no bequest motive. The second term of Equations 1 and 3 will be zero. According to the Life Cycle Hypothesis, the growth rate of an optimal consumption path is the real interest rate less the subjective discount rate (Yuh & Hanna, 2010). The subjective discount rate is a measure of an individual's impatience, and a higher rate

would increase present consumption at the expense of future consumption (Hurd, 1989). Mortality risk is added to the subjective discount rate in Equation 3. A young person has relatively little mortality risk and a long time horizon. The real interest rate, therefore, is likely to exceed the sum of the subjective discount rate and mortality risk. The result is less present consumption in favor of future consumption and thus, current marginal utility will decrease (Hurd & Smith, 2001). At some point during the latter part of the life cycle, the sum of the subjective discount rate and mortality rate will exceed the real interest rate resulting in more present consumption in favor of future consumption, thus increasing current utility. The nature of the relationship between changes in the marginal utility of consumption and mortality risk, subjective discount rate, and real interest rate is explained by Equation 3.

Hurd and Smith (2001) calculated that expected bequests were a function of wealth, subjective discount rate, and mortality risk. The greater the wealth and mortality risk, the greater the expected bequest. Conversely, the higher the discount rate, the lower the expected bequest. This relationship can be explained by the following formula:

$$\int_0^n w_t^* e^{-\rho t} m_t dt \quad (4)$$

where  $w^*$  is the optimal wealth path,  $\rho$  is the subjective discount rate, and  $m$  is the mortality risk. Because the present case assumes no bequest motive, any received inheritance is purely accidental. A person who is extremely risk averse and thus has a low discount rate may leave a sizable bequest given their propensity to dissave at a conservative rate in order to protect against unforeseen medical expenses and longevity risk.

The second case considered involves an individual with a bequest motive. The second term in Equations 1 and 3 will reflect the utility derived from leaving a bequest. The motivation behind the bequest is irrelevant in Hurd and Smith's (2001) model. Perhaps the individual is

altruistic and gains utility through the consumption of the recipient. Alternatively, the individual may intend to leave a bequest in exchange for services or attention provided by the recipient. The model does not try to determine why an individual derives utility from a bequest, only that a bequest motive exists. These individuals will reduce their initial consumption and consumption growth rate. The consumption path would “flatten” compared to the same individual’s consumption path absent a bequest motive. The overall reduction in consumption would transfer more resources to wealth; the extent to which would depend upon the strength of the bequest motive. The negative relationship between changes in wealth and consumption is explained by Equation 2. In Equation 3, as more utility is received from leaving a bequest, the marginal utility of consumption will decrease. The primary conclusion of Hurd and Smith’s model is explained by Equation 4, that a positive relationship exists between wealth and expected bequests, regardless of whether or why the individual holds a bequest motive.

According to Hurd and Smith (2001), over a multi-year period anticipated changes of wealth are not related to changes in expected bequests. For example, as individuals with no bequest motive age, their wealth decreases. The decrease in wealth is anticipated and, therefore, there should be no relationship between a change in wealth and change in bequest expectations. On the other hand, unexpected changes are likely to be associated with changes in bequest expectations. For example, assume an individual’s health status unexpectedly improves. A cautious individual may decide to reduce consumption, conserving more wealth in anticipation of a longer life expectancy. In this case, expected bequests could increase. Conversely, individuals who do not change their consumption patterns and who live longer will consume more of their wealth, reducing expected bequests. In cases of a wealth “shock,” changes in expected bequests will move in the same direction. An unexpected increase in wealth will revise

bequest expectations upwards, while an unexpected decrease in wealth will revise bequest expectations downward. The analysis regarding unexpected changes in wealth is the same for individuals with and without a bequest motive. The primary difference is that the wealth of individuals with a bequest motive does not necessarily decline with age and may even increase.

### ***Hypotheses***

This study's first research question is, "What was the relationship between changes in wealth and a change in bequest expectations during the Great Recession?" Based upon Hurd and Smith's (2001) model of consumption and saving, the recession's adverse and unexpected impact on wealth was anticipated to be related to lower bequest expectations. The hypothesis under investigation, therefore, is:

H1: There is a positive relationship between changes in wealth and changes in bequest expectations during the Great Recession.

This study's second research question is, "What was the relationship between wealth changes following the Great Recession and a return to pre-recession bequest expectations?" Based on Hurd and Smith's (2001) model of consumption and saving, a rebound in personal wealth following the Great Recession was anticipated to be associated with a rise in bequest expectations. The hypothesis under investigation, therefore, is:

H2: There is a positive relationship between increases in wealth following the Great Recession and a return to pre-recession bequest expectations.

## **Methods**

### ***Data and Sample***

To capture the impact of the Great Recession and the subsequent recovery, data were utilized from the 2008, 2010, and 2016 waves of the Health and Retirement Study (HRS).

Specifically, 2008 was used to mark the beginning of the Great Recession and 2010 to mark the end of the Great Recession. To assess wealth changes after the recession, the period from 2010 to 2016 was used. The 2016 wave was chosen as the end point it was the last wave including in the most recent RAND longitudinal file. The RAND longitudinal file was used to obtain net worth and income variables. An imputing methodology is employed by RAND to handle any missing data.

Because this study's research interest was about the relationship between changes in wealth and a change in bequest expectations, only those respondents who participated in all three waves were included in the analysis. Additionally, only respondents designated as a financial respondent, rather than a family respondent, with at least one child were included. The final sample was 3,839 respondents.

### ***Dependent Variables***

The dependent variable for the first research question was coded as yes or no to indicate whether the respondents' expected minimum bequest decreased from 2008 to 2010. The dependent variable for the second research question was coded as yes or no to indicate whether the respondents' 2016 expected minimum bequest was equal to or greater than their 2008 expected minimum bequest. A summary of how the dependent variables were coded is illustrated in Table 4.1.

To calculate the expected minimum bequest, an approach similar to Hurd and Rohwedder (2011) was used. The HRS asked a series of questions regarding bequest expectations. First, respondents were asked, "Think about an inheritance you and your (husband/wife/partner) might leave but not including any inheritance you might leave to each other. Including property and other valuables that you might own, what are the chances that you and your

(husband/wife/partner) will leave an inheritance totaling \$10,000 or more?” Respondents’ answers ranged from 0 for absolutely no chance to 100 for absolutely certain. For respondents who answered greater than 0, the question was repeated, only the bequest target was \$100,000 or more. For respondents who answered greater than 0, the question was repeated again with a bequest target of \$500,000 or more. For each item, the probability of leaving an inheritance was multiplied by the bequest target, and the sum for the three items represented the respondents’ expected minimum bequest. For example, if a respondent replied that there was a 50% chance of leaving an inheritance of at least \$10,000, a 25% of leaving an inheritance of at least \$100,000, and a 0% chance of leaving an inheritance of at least \$500,000, the expected minimum bequest was calculated as \$30,000.

**Table 4.1**

*Measurements of Dependent Variables*

Variable	Measurement
RQ1: Change in expected minimum bequest during the Great Recession	1 if the 2010 expected minimum bequest was less than the 2008 expected minimum bequest; else 0
RQ2: A return to pre-recession bequest expectations	1 if the 2016 expected minimum bequest was equal to or greater than the 2008 expected minimum bequest; else 0

***Variables of Interest***

The variables of interest were the changes in household net worth from 2008 to 2010 for the first research question and from 2010 to 2016 for the second research question. Household net worth was calculated as assets minus liabilities. Assets consisted of real estate, business interests, and investable assets such as stocks, bonds, and cash. Liabilities consisted of mortgages, home equity loans, other debt, and mortgages on second homes. To assess how the varying degrees of net worth changes may have been associated with a change in bequest

expectations, the change in net worth was categorized in deciles. A description of how net worth was coded is illustrated in Table 4.2.

**Table 4.2**

*Measurements of Changes in Net Worth*

Variable	Measurement
RQ1: Change in net worth	Net worth change 2010-2008; categorized in deciles
RQ2: Change in net worth	Net worth change 2016-2010; categorized in deciles

***Control Variables***

For both research questions, the respondents' most recent net worth was used as a control variable. To adjust for positive skewness and because of negative values, net worth was transformed using an inverse hyperbolic sine function (Pence, 2006). Also, for research question two only, the change in net worth from 2008 to 2010, categorized in deciles, was included to control for the impact of the recession. The respondents' most recent income was also used as a control variable for both research questions. Income was the sum of household earnings, pensions, annuities, social security payments, unemployment benefits, workers compensation, other government transfers, capital income, and other income. The log of income was used because of positive skewness and was coded as a continuous variable.

Age was coded as a continuous variable and age squared was included because of the non-linear relationship between age and the dependent variable. Marital status was coded as a categorical variable that included single and couple. Self-reported health was coded as a categorical variable that included poor or fair, good, and very good or excellent. Employment status was coded as a categorical variable that included fully retired, partially retired, and not retired. Education attainment was coded as a categorical variable that included less than high school, high school, some college or college graduate, and postgraduate. Ethnicity was coded as

a white or non-white and gender was coded as female or male. A summary of how the control variables were coded can be found in Table 4.3.

**Table 4.3**

*Measurements of Control Variables*

Variable	Measurement
Change in net worth*	Net worth 2010 – net worth 2008, categorized by decile
Net worth	Inverse hyperbolic sine transformation: $\log[(x^2 + 1)^{1/2} + x]$
Income	Natural logarithm of 1 if income=0; else natural logarithm of income
Age	Continuous variable
Age squared	Continuous variable
Marital status	
Single	1 if single; else 0
Couple	1 if couple; else 0
Health status	
Poor or fair	1 if poor or fair; else 0
Good	1 if good; else 0
Very good or excellent	1 if very good or excellent; else 0
Retirement status	
Fully retired	1 if fully retired; else 0
Partially retired	1 if partially retired; else 0
Not retired	1 if not retired; else 0
Education attainment	
Less than high school	1 if less than high school; else 0
High school	1 if high school; else 0
Some college/grad.	1 if some college or college graduate; else 0
Postgraduate	1 if postgraduate; else 0
Ethnicity	
White	1 if white; else 0
Gender	
Female	1 if female; else 0

\*Research question two only

*Analysis*

To investigate the relationship between changes in net worth and a change in bequest expectations, two logistic regression models were specified. A logistic regression model is



appropriate when the dependent variable is binary (Allison, 2012). For the first research question, the model can be expressed with the formula:

$$\log \left[ \frac{(p_1)}{(1 - p_1)} \right] = \alpha + \beta_1 \Delta w_i + \beta_2 z_i + \mu_i$$

where  $p_i$  is the probability that the respondents' expected minimum bequest was lower in 2010 compared to 2008. Further,  $\Delta w$  represents the change in net worth from 2008 to 2010, categorized by deciles, and  $z$  is a vector of the control variables. For the second research question, the model can be expressed with the formula:

$$\log \left[ \frac{(p_1)}{(1 - p_1)} \right] = \alpha + \beta_1 \Delta w_i + \beta_2 \Delta nw_i + \beta_3 z_i + \mu_i$$

where  $p_i$  is the probability that the respondents' expected minimum bequest in 2016 was equal to or greater than the expected minimum bequest in 2008. Further,  $\Delta w$  represents the change in net worth from 2008 to 2010, categorized by deciles,  $\Delta nw$  represents the change in net worth from 2010 to 2016, categorized by deciles, and  $z$  is a vector of the control variables.

## **Results**

### ***Descriptive Statistics***

The descriptive statistics for this study are illustrated in Tables 4.4, 4.5, and 4.6. The distribution of changes in net worth from 2008 to 2010 and from 2010 to 2016, categorized in deciles, can be found in Table 4.4. This table illustrates that the distribution of net worth changes during the Great Recession was negatively skewed while the distribution of net worth changes for the six-year period following the Great Recession was positively skewed.

Tables 4.5 and 4.6 illustrate the descriptive statistics for the categorical and continuous variables, respectively. Regarding the first research question that investigated the change in

bequest expectations from 2008 to 2010, 46% of respondents lowered their expected minimum bequest, while 54% raised or maintained their expected minimum bequest. Regarding the latter, 31% of respondents raised their expected minimum bequest while 69% maintained their expected minimum bequest. The average expected minimum bequest decreased by \$12,282. Among those who lowered their bequest expectations from 2008 to 2010, the average expected minimum bequest declined by \$105,881. Among those who maintained or raised their bequest expectations from 2008 to 2010, the average expected minimum bequest increased by \$68,593.

The distribution of net worth changes from 2008 to 2010 showed that 57% of respondents experienced a decrease in wealth, while 43% experienced an increase in wealth. The average decrease in net worth was \$33,620. Among those whose wealth decreased, 29% lowered their expected minimum bequest while 28% maintained or raised their expected minimum bequest. Among those whose wealth increased, 26% maintained or raised their expected minimum bequest while 17% lowered their expected minimum bequest.

Almost two-thirds of respondents were married or partnered (64%) and half (50%) reported very good and excellent health. Approximately one-third of respondents were not retired (34%) and attained some level of post-secondary education (36%). The sample was overwhelmingly white (83%) and evenly split between gender.

Regarding the second research question that investigated the change in bequest expectations from 2008 to 2016, 52% of respondents maintained or raised their expected minimum bequest, while 48% lowered their expected minimum bequest. Regarding the former, 70% of respondents raised their expected minimum bequest while 30% maintained their expected minimum bequest. The average expected minimum bequest decreased by \$12,445. Among those who maintained or raised their bequest expectations, the average expected

minimum bequest increased by \$83,341. Among those who lowered their bequest expectations, the average expected minimum bequest decreased by \$117,919.

The distribution of net worth changes from 2010 to 2016 showed that 56% experienced an increase in wealth while 44% experienced a decrease in wealth. The average increase in net worth was \$130,652. Among those whose net worth increased, 32% had a 2016 expected minimum bequest equal to or greater than their 2008 expected minimum bequest, while 24% had a 2016 expected minimum bequest lower than their 2008 expected minimum bequest. Among those whose net worth decreased, 21% had a 2016 expected minimum bequest equal to or greater than their 2008 expected minimum bequest, while 23% had a 2016 expected minimum bequest lower than their 2008 expected minimum bequest.

**Table 4.4**

*Distribution of Net Worth Changes for 2008 to 2010 and 2010 to 2016 (N=3,839)*

Decile	Net worth change 2008-2010	Net worth change 2010-2016
1 <sup>st</sup>	Less than -\$260,000	Less than -\$211,735
2 <sup>nd</sup>	-\$259,999 to -\$120,300	-\$211,734 to -\$78,600
3 <sup>rd</sup>	-\$120,299 to -\$63,000	-\$78,599 to -\$29,000
4 <sup>th</sup>	-\$62,999 to -\$28,000	-\$28,999 to -\$5,000
5 <sup>th</sup>	-\$27,999 to -\$8,500	-\$4,999 to \$3,336
6 <sup>th</sup>	-\$8,499 to \$0	\$3,337 to \$25,050
7 <sup>th</sup>	\$1 to \$13,000	\$25,051 to \$68,100
8 <sup>th</sup>	\$13,001 to \$50,800	\$68,101 to \$153,000
9 <sup>th</sup>	\$50,801 to \$149,000	\$153,001 to \$389,000
10 <sup>th</sup>	Greater than \$149,000	Greater than \$389,000

Source: 2008, 2010, and 2016 HRS.

**Table 4.5**

*Sample Characteristics of Categorical Variables (N=3,839)*

Variables	Research Question 1			Research Question 2		
	Full Sample (%)	Lowered Bequests- Yes - 46%	Lowered Bequests- No - 54%	Full Sample (%)	Bequest same or greater than 2008 Yes - 52%	Bequest same or greater than 2008 No - 48%

Net worth change from						
2008 to 2010						
1 <sup>st</sup> decile	10.94	13.17	9.03	10.94	9.99	12.01
2 <sup>nd</sup> decile	10.06	12.15	8.26	10.06	8.30	12.00
3 <sup>rd</sup> decile	9.67	10.72	8.77	9.67	8.73	10.71
4 <sup>th</sup> decile	9.81	12.34	7.62	9.81	8.26	11.52
5 <sup>th</sup> decile	9.25	9.44	9.09	9.25	9.22	9.28
6 <sup>th</sup> decile	8.60	6.11	10.75	8.60	10.52	6.49
7 <sup>th</sup> decile	8.89	7.27	10.61	8.89	10.56	7.06
8 <sup>th</sup> decile	10.08	10.43	9.78	10.08	10.16	9.999
9 <sup>th</sup> decile	11.11	10.29	11.81	11.11	11.30	10.89
10 <sup>th</sup> decile	11.56	8.06	14.58	11.56	12.94	10.04
Net worth change from						
2010 to 2016						
1 <sup>st</sup> decile	n/a	n/a	n/a	10.53	8.33	12.96
2 <sup>nd</sup> decile	n/a	n/a	n/a	9.64	8.19	11.25
3 <sup>rd</sup> decile	n/a	n/a	n/a	9.51	7.18	12.09
4 <sup>th</sup> decile	n/a	n/a	n/a	9.21	8.87	9.59
5 <sup>th</sup> decile	n/a	n/a	n/a	7.62	9.44	5.62
6 <sup>th</sup> decile	n/a	n/a	n/a	9.12	8.82	9.46
7 <sup>th</sup> decile	n/a	n/a	n/a	9.57	9.45	9.70
8 <sup>th</sup> decile	n/a	n/a	n/a	10.64	10.36	10.95
9 <sup>th</sup> decile	n/a	n/a	n/a	11.45	13.41	9.30
10 <sup>th</sup> decile	n/a	n/a	n/a	12.67	15.99	9.09
Marital status		<u>At 2010</u>			<u>At 2016</u>	
Single	36.62	32.05	40.57	42.97	44.48	41.30
Couple	63.78	67.95	59.43	57.03	55.52	58.70
Health status		<u>At 2010</u>			<u>At 2016</u>	
Poor or fair	17.82	15.31	19.99	23.57	22.88	24.35
Good	32.50	34.39	30.86	36.59	36.36	36.83
Very good or exc.	49.68	50.30	49.15	39.84	40.76	38.82
Retirement status		<u>At 2010</u>			<u>At 2016</u>	
Fully retired	50.38	48.82	52.08	70.60	71.28	69.85
Partially retired	15.93	16.02	15.86	13.67	12.35	15.12
Not retired	33.68	35.56	32.06	15.73	16.37	15.03
Education attainment						
Less than high school	10.78	9.28	12.08	10.78	9.28	12.08
High school	53.16	52.27	53.92	53.16	52.27	53.92
Some college/grad.	23.24	24.63	22.04	23.24	24.63	22.04
Postgraduate	12.82	13.82	11.96	12.82	13.03	12.59
Ethnicity						
White	83.29	85.39	81.48	83.29	85.39	81.48
Non-white	16.71	14.61	18.52	16.71	14.61	18.52
Gender						
Male	51.23	53.90	48.92	51.23	53.90	48.92
Female	48.77	46.10	51.08	48.77	46.10	51.08

*Source:* 2008, 2010, and 2016 HRS. Variables are weighted to account for oversampling techniques and complex survey design used by HRS.

**Table 4.6***Sample Characteristics of Continuous Variables (N=3,839)*

Variables	Research Question 1			Research Question 2		
	Full Sample Mean	Lowered Bequest-Yes Mean	Lowered Bequest-No Mean	Full Sample Mean	Bequest same or greater than 2008-Yes Mean	Bequest same or greater than 2008-No Mean
		<u>2008-2010</u>			<u>2010-2016</u>	
Change in EMB	-12,282 (2,856)	-105,881 (3,682)	68,593 (3,331)	-12,445 (3,640)	83,341 (3,575)	-117,919 (4,518)
Change in net worth	-33,620 (13,244)	-85,883 (14,630)	11,495 (22,995)	130,652 (27,192)	209,334 (42,330)	44,012 (32,748)
		<u>At 2010</u>			<u>At 2016</u>	
Net worth	567,777 (29,468)	476,597 (25,775)	646,562 (51,155)	698,429 (38,202)	849,627 (67,343)	531,939 (47,322)
Income	74,692 (2,160)	73,262 (2,804)	75,929 (3,410)	81,592 (4,588)	93,493 (7,497)	68,488 (4,288)
Age	67.51 (0.21)	67.43 (0.30)	67.58 (0.24)	73.42 (0.21)	73.35 (0.27)	73.50 (0.28)

*Source:* 2008, 2010, and 2016 HRS. Standard errors appear below means and are in parentheses. The Taylor series method (Wolter, 1985) was employed to incorporate HRS's weighting and complex sample design information.

### ***Logistic Regression Models***

The results of the first research question's logistic regression model are illustrated in Table 4.7. The model's Wald chi-squared was 4.80, the adjusted R-squared was 0.058, and the c-statistic was 0.608. Among the variables of interest, any decrease in net worth was positively related to a lowering of bequest expectations, compared to the reference group who experienced a relatively unchanged net worth. Specifically, the odds of lowering bequest expectations for respondents in the bottom four deciles (experienced a decrease in net worth of \$28,000 or more) were approximately two times greater compared to the reference group. The odds of a lowering of bequest expectations for respondents in the fifth decile (experienced a modest net worth decrease between \$8,500 and \$28,000) were 60% higher compared to the reference group.

On the other hand, increases in net worth were not associated with maintaining or raising bequest expectations. In fact, marginal evidence found that respondents in the eight decile (experienced a net worth increase between \$13,001 and \$50,800) were positively associated with a lowering of bequest expectations. Among the control variables, single respondents and respondents in poor or fair health were more likely to maintain or raise bequest expectations during the Great Recession.

The results of the second research question’s logistic regression model are illustrated in Table 4.8. The model’s Wald chi-squared was 6.48, the adjusted R-squared was 0.079, and the c-statistic was 0.622. Among respondents who experienced an increase in net worth from 2010 to 2016, only those in the tenth decile (experienced a net worth increase greater than \$389,000) were associated with bequest expectations equal to or greater than pre-recession bequest expectations. Specifically, the odds of 2016 bequest expectations being at least as high as those held in 2008 were 66% higher for respondents in the tenth decile, compared to the reference group who had a relatively unchanged net worth. Respondents in the first six deciles (experienced a decrease in net worth or an increase in net worth no greater than \$25,000) were likely to have bequest expectations that were lower than those held prior to the recession. Among the control variables, income was positively related to having a 2016 bequest expectations equal to or greater than the 2008 bequest expectation.

**Table 4.7**

*Logistic Regression Results Predicting the Association Between Changes in Net Worth and Changes in Expected Minimum Bequests During the Great Recession (N=3,839)*

Variable	$\beta$	Standard Error	p-value	Odds Ratio
Intercept	-0.569	2.919	0.846	
Net worth change, 2008 to 2010 (ref=6 <sup>th</sup> decile)				

1 <sup>st</sup> decile	0.726	0.182	<0.001	2.067
2 <sup>nd</sup> decile	0.754	0.182	<0.001	2.124
3 <sup>rd</sup> decile	0.595	0.198	0.004	1.812
4 <sup>th</sup> decile	0.873	0.184	<0.001	2.394
5 <sup>th</sup> decile	0.474	0.231	0.045	1.607
7 <sup>th</sup> decile	0.128	0.183	0.489	1.136
8 <sup>th</sup> decile	0.472	0.234	0.049	1.603
9 <sup>th</sup> decile	0.227	0.205	0.274	1.255
10 <sup>th</sup> decile	-0.266	0.218	0.226	0.766
Marital status, 2010 (ref=couple)				
Single	-0.292	0.086	0.001	0.747
Health status, 2010 (ref=good)				
Poor or fair	-0.268	0.106	0.014	0.765
Very good or excellent	-0.141	0.119	0.240	0.869
Retirement status, 2010 (ref=not retired)				
Fully retired	-0.227	0.134	0.096	0.797
Partially retired	-0.110	0.126	0.387	0.896
Education attainment (ref=some college/grad.)				
Less than high school	-0.139	0.177	0.434	0.870
High school	-0.084	0.103	0.419	0.920
Postgraduate	0.017	0.137	0.901	1.017
Ethnicity (ref=white)				
Non-white	-0.148	0.092	0.115	0.863
Gender (ref=male)				
Female	-0.044	0.086	0.613	0.957
IHS Net worth, 2010	0.001	0.009	0.876	0.983
Log income, 2010	-0.033	0.032	0.308	0.908
Age, 2010	0.018	0.086	0.833	0.858
Age squared, 2010	0.000	0.001	0.883	0.999
Wald chi-squared	4.80			
Adjusted r-squared	0.058			
c-statistic	0.608			

*Source: 2008 and 2010 HRS. Results weighted to account for oversampling techniques and complex survey design used by HRS.*

**Table 4.8**

*Logistic Regression Results Predicting the Association Between Changes in Net Worth After the Recession and a Return to Pre-Recession Expected Minimum Bequests (N=3,839)*

Variable	$\beta$	Standard Error	p-value	Odds Ratio
Intercept	-0.852	3.462	0.807	
Net worth change, 2010 to 2016 (ref=5 <sup>th</sup> decile)				
1 <sup>st</sup> decile	-0.633	0.188	0.001	0.531
2 <sup>nd</sup> decile	-0.526	0.190	0.008	0.591
3 <sup>rd</sup> decile	-0.725	0.196	0.001	0.484
4 <sup>th</sup> decile	-0.348	0.171	0.047	0.706
6 <sup>th</sup> decile	-0.350	0.152	0.025	0.705
7 <sup>th</sup> decile	-0.162	0.158	0.310	0.851
8 <sup>th</sup> decile	-0.143	0.188	0.449	0.867
9 <sup>th</sup> decile	0.301	0.197	0.133	1.351
10 <sup>th</sup> decile	0.507	0.208	0.018	1.660
Net worth change, 2008 to 2010 (ref=6 <sup>th</sup> decile)				
1 <sup>st</sup> decile	-0.773	0.225	0.001	0.462
2 <sup>nd</sup> decile	-0.826	0.211	<0.001	0.438
3 <sup>rd</sup> decile	-0.653	0.227	0.006	0.521
4 <sup>th</sup> decile	-0.739	0.198	0.001	0.428
5 <sup>th</sup> decile	-0.389	0.209	0.068	0.678
7 <sup>th</sup> decile	0.020	0.203	0.923	1.020
8 <sup>th</sup> decile	-0.275	0.251	0.278	0.759
9 <sup>th</sup> decile	-0.303	0.207	0.149	0.739
10 <sup>th</sup> decile	-0.094	0.246	0.703	0.910
Marital status, 2016 (ref=couple)				
Single	0.135	0.093	0.153	1.144
Health status, 2016 (ref=good)				
Poor or fair	-0.129	0.115	0.267	0.879
Very good or excellent	0.049	0.112	0.664	1.050
Retirement status, 2016 (ref=not retired)				
Fully retired	0.108	0.158	0.499	1.114
Partially retired	-0.206	0.166	0.219	0.814
Education attainment (ref=some college/grad.)				
Less than high school	0.348	0.170	0.045	1.417
High school	0.070	0.117	0.554	1.072



Postgraduate	0.011	0.169	0.949	1.011
Ethnicity (ref=white)				
Non-white	0.116	0.112	0.304	1.123
Gender (ref=male)				
Female	0.139	0.092	0.138	1.149
IHS Net worth, 2016	-0.003	0.007	0.687	0.982
Log income, 2016	0.122	0.051	0.021	1.019
Age, 2016	-0.001	0.094	0.988	0.826
Age squared, 2016	0.000	0.001	0.968	0.999
Wald chi-squared	6.48			
Adjusted r-squared	0.079			
c-statistic	0.622			

*Source:* 2010 and 2016 HRS. Results weighted to account for oversampling techniques and complex survey design used by HRS.

### ***Robustness Check***

To provide additional insights into the relationship between changes in net worth and a change in bequest expectations, the three bequest targets that were used to construct the logistic regression’s dependent variable were examined separately using OLS regression models. The dependent variables were the respondents’ change in the probability of leaving an inheritance of at least \$10,000, \$100,000, and \$500,000 for the periods 2008 to 2010 and 2008 to 2016, respectively. All other variables were the same as those included in the logistic regression models.

The robustness check for research question one is illustrated in Table 4.9. The results for the change in the probability of leaving an inheritance of at least \$10,000 and \$100,000 were similar to the logistic regression results. Changes in net worth for the bottom four deciles (experienced a decrease of \$28,000 or more) were related to a reduction in the probabilities of leaving an inheritance from 2008 to 2010. A change in net worth for the fifth decile (experienced a decrease between \$8,500 and \$28,000), however, was not associated with a reduction in the

probability of leaving an inheritance. Also, similar to the logistic regression results, increases in net worth were not related to increases in the probabilities of leaving an inheritance.

The results for the change in the probability of leaving an inheritance of at least \$500,000, however, were slightly different from the logistic regression results. Compared to the reference group who had experienced a relatively unchanged net worth, respondents in the tenth decile (an increase of \$149,000 or more) increased the probability of leaving an inheritance by 6 units. The results of the robustness check confirm the earlier findings of an asymmetrical relationship between changes in wealth and a change in bequest expectations during the Great Recession.

The robustness check for research question two is illustrated in Table 4.10. The results for the change in the probability of leaving an inheritance of at least \$10,000 were similar to the logistic regression results. The results for the changes in the probability of leaving an inheritance of at least \$100,000 and \$500,000, however, were somewhat different. A net worth change in the eighth, ninth, and tenth deciles (experienced an increase of \$68,100 or more) was related to an increase in the probability of leaving an inheritance of at least \$100,000 in 2016 compared to 2008. Also, a net worth change for the ninth and tenth deciles (experienced an increase of \$153,000 or more) was related to an increase in the probability of leaving an inheritance of at least \$500,000. In summary, the increase in net worth post-recession that was associated with a return to pre-recession expectations was found only among the top three deciles in the case of a \$100,000 bequest target, and top two deciles in the case of a \$500,000 bequest target. More modest increases in net worth were not associated with a return to pre-recession expectations, confirming the findings of the logistic regression results.

**Table 4.9**

*OLS Regression Results Predicting the Association Between the Change in Net Worth and the Change in the Probability of Leaving an Inheritance of at Least \$10,000, \$100,000, and \$500,000 During the Great Recession (N=3,839)*

Variable	At least \$10,000			At least \$100,000			At least \$500,000		
	$\beta$	S.E.	p-value	$\beta$	S.E.	p-value	$\beta$	S.E.	p-value
Intercept	-30.572	47.550	0.523	8.264	39.624	0.836	20.059	37.582	0.596
Net worth change 2008-2010 (ref=6 <sup>th</sup> decile)									
1 <sup>st</sup> decile	-6.218	2.867	0.034	-9.213	4.173	0.030	-9.451	2.353	<0.001
2 <sup>nd</sup> decile	-7.841	2.999	0.012	-12.086	4.137	0.005	-3.859	2.348	0.106
3 <sup>rd</sup> decile	-5.154	2.955	0.087	-9.285	3.479	0.001	0.043	1.855	0.982
4 <sup>th</sup> decile	-9.974	2.793	<0.001	-11.579	4.367	0.010	-1.958	2.098	0.355
5 <sup>th</sup> decile	-5.370	3.240	0.103	-3.764	3.647	0.307	2.950	1.682	0.085
7 <sup>th</sup> decile	-2.520	2.862	0.382	1.758	3.762	0.642	1.811	1.279	0.162
8 <sup>th</sup> decile	-3.460	3.011	0.255	-2.500	4.054	0.540	0.243	1.524	0.874
9 <sup>th</sup> decile	-2.082	3.151	0.512	-3.594	4.178	0.393	3.580	1.993	0.078
10 <sup>th</sup> decile	-2.389	3.178	0.455	-0.407	4.350	0.926	5.983	2.134	0.007
Marital status, 2010 (ref=couple)									
Single	5.073	1.484	0.001	3.965	1.452	0.009	2.383	1.342	0.081
Health status, 2010 (ref=good)									
Poor or fair	2.052	2.200	0.355	1.062	1.661	0.525	1.050	1.422	0.464
Very good or exc.	1.950	1.287	0.135	1.865	1.613	0.252	0.296	1.033	0.776
Retirement status, 2010 (ref=not retired)									
Fully retired	2.399	1.684	0.160	4.210	1.614	0.525	2.935	1.548	0.063
Partially retired	1.583	2.038	0.441	2.490	2.066	0.233	3.490	1.033	0.776
Education attainment (ref=some college/grad)									
Less than HS	-4.332	2.384	0.075	-1.840	2.090	0.383	2.841	2.349	0.232
High school	0.051	1.490	0.973	0.130	1.632	0.937	2.039	1.378	0.145
Postgraduate	0.141	1.569	0.929	3.079	2.368	0.233	0.943	1.975	0.635
Ethnicity (ref=white)									
Non-white	0.302	1.725	0.862	-0.005	1.780	0.998	-1.113	1.114	0.322
Gender (ref=male)									
Female	-3.293	1.385	0.021	-1.842	1.322	0.169	1.001	1.043	0.341
IHS Net worth, 2010	0.291	0.136	0.037	0.179	0.143	0.233	-0.052	0.069	0.453
Log income, 2010	0.121	0.909	0.895	-0.142	0.579	0.807	1.173	0.462	0.014
Age, 2010	0.896	0.009	0.484	-0.174	1.114	0.876	-0.977	1.099	0.378
Age squared, 2010	-0.008	0.009	0.382	0.000	0.008	0.985	0.006	0.008	0.446
R-squared	0.021			0.029			0.033		

Source: 2008 and 2010 HRS. Results are weighted to account for oversampling techniques and complex survey used by HRS

Table 4.10

*OLS Regression Results Predicting the Association Between the Change in Net Worth After the Great Recession and the Change in the Probability of Leaving an Inheritance of at Least \$10,000, \$100,000, and \$500,000 Measured Before and After the Great Recession (N=3,839)*

Variable	At least \$10,000			At least \$100,000			At least \$500,000		
	$\beta$	S.E.	p-value	$\beta$	S.E.	p-value	$\beta$	S.E.	p-value
Intercept	-19.717	49.042	0.689	-87.494	59.388	0.146	-9.418	42.813	0.827
Net worth change 2010-2016 (ref=5 <sup>th</sup> decile)									
1 <sup>st</sup> decile	-3.932	3.869	0.314	-7.027	3.476	0.048	-13.325	3.171	<0.001
2 <sup>nd</sup> decile	-5.792	3.877	0.141	-5.366	3.552	0.137	-3.344	2.461	0.180
3 <sup>rd</sup> decile	-7.281	3.404	0.037	-6.368	3.067	0.043	-0.165	1.965	0.934
4 <sup>th</sup> decile	-3.370	3.449	0.333	-3.307	3.201	0.306	0.618	1.614	0.703
6 <sup>th</sup> decile	-0.135	3.361	0.968	-1.560	2.372	0.514	-1.796	1.479	0.230
7 <sup>th</sup> decile	2.251	4.174	0.592	1.552	3.305	0.640	-1.179	2.139	0.584
8 <sup>th</sup> decile	3.300	4.063	0.420	7.321	3.110	0.022	1.513	2.119	0.478
9 <sup>th</sup> decile	6.055	3.349	0.076	6.281	2.889	0.034	6.756	2.514	0.010
10 <sup>th</sup> decile	4.874	3.432	0.161	11.478	3.254	<0.001	9.965	2.909	0.001
Net worth change 2008-2010 (ref=6 <sup>th</sup> decile)									
1 <sup>st</sup> decile	-2.323	3.003	0.442	-13.649	4.350	0.003	-14.522	2.690	<.001
2 <sup>nd</sup> decile	-5.743	2.875	0.051	-13.477	3.824	<0.001	-6.113	2.413	0.014
3 <sup>rd</sup> decile	-2.158	3.022	0.478	-9.389	3.691	0.014	-2.555	2.494	0.310
4 <sup>th</sup> decile	-5.482	3.275	0.100	-9.434	4.195	0.029	-3.243	2.280	0.160
5 <sup>th</sup> decile	-2.940	3.276	0.373	-1.145	3.112	0.714	1.795	1.792	0.321
7 <sup>th</sup> decile	1.937	3.515	0.584	2.382	3.655	0.517	0.874	1.660	0.601
8 <sup>th</sup> decile	-0.345	3.411	0.920	-2.458	4.480	0.585	0.984	2.161	0.651
9 <sup>th</sup> decile	0.057	3.179	0.986	-2.840	4.404	0.522	3.224	2.028	0.188
10 <sup>th</sup> decile	-3.735	3.357	0.271	-3.283	4.333	0.452	2.727	3.117	0.385
Marital status, 2016 (ref=couple)									
Single	4.297	1.352	0.002	-1.452	1.498	0.337	0.741	1.441	0.609
Health status, 2016 (ref=good)									
Poor or fair	-3.986	1.848	0.035	-1.941	2.018	0.340	0.160	1.318	0.904
Very good or exc.	-0.861	1.406	0.543	1.091	1.838	0.555	0.130	1.593	0.935
Retirement status, 2016 (ref=not retired)									
Fully retired	-0.319	2.081	0.879	5.990	2.746	0.033	4.260	2.256	0.064
Partially retired	-1.740	2.384	0.469	3.337	2.936	0.261	2.591	2.113	0.225

Education attainment (ref=some college/grad)									
Less than HS	2.580	2.957	0.387	4.487	2.817	0.117	1.106	2.278	0.629
High school	0.614	1.431	0.670	2.616	2.000	0.196	1.669	1.851	0.371
Postgraduate	-0.048	1.522	0.975	2.334	2.305	0.316	1.307	2.555	0.611
Ethnicity (ref=white)									
Non-white	3.448	1.830	0.065	2.809	1.690	0.102	1.240	1.388	0.375
Gender (ref=male)									
Female	-2.326	1.482	0.122	1.635	1.443	0.262	0.151	1.403	0.915
IHS Net worth, 2016	0.361	0.179	0.049	0.129	0.176	0.468	0.079	0.105	0.454
Log income, 2016	2.168	0.905	0.020	2.064	0.989	0.041	1.255	0.639	0.055
Age, 2016	-0.283	1.253	0.822	1.316	1.564	0.404	-0.243	1.137	0.831
Age squared, 2016	0.002	0.008	0.835	-0.008	0.010	0.459	0.001	0.007	0.840
R-squared	0.038			0.052			0.069		

*Source:* 2008, 2010, and 2016 HRS. Results are weighted to account for oversampling techniques and complex survey used by HRS

## Discussion

The purpose of this study was twofold: (a) identify how changes in wealth were associated with changes in bequest expectations during the Great Recession and (b) explore how changes in wealth following the recession were related to a return to bequest expectations held prior to the recession. To address these research questions, changes in wealth were categorized by decile, and an expected minimum bequest variable was created from items that assessed the probability of leaving an inheritance of at least \$10,000, \$100,000, and \$500,000. As a robustness check, three additional OLS models were specified for each bequest target.

To address the first research question, valuable insights can be gained from a review of the study's descriptive statistics. Notably, the average net worth decreased by \$33,620 and the average expected minimum bequest declined by \$12,282. At first glance, these results appear to validate this study's hypothesis of a positive relationship between changes in wealth and a change in bequest expectations. The logistic regression model, however, tells an interesting story. As expected, a decrease in net worth was associated with a lowering of bequest expectations. The model indicated that even a modest decrease in net worth of between \$8,500

and \$28,000 was associated with a drop in expectations. The most interesting finding, however, was that no relationship existed between net worth increases of any amount and a rise in bequest expectations. In fact, individuals who experienced an increase in net worth of between \$13,000 and \$51,000 were likely to lower, rather than raise, their bequest expectations. The robustness check of the change in the probability of leaving an inheritance of at least \$100,000 confirmed these findings. Specifically, decreases in net worth were associated with a decline in the probability of leaving an inheritance, but increases in net worth were not associated with a rise in the probability of leaving an inheritance. The asymmetrical nature of this relationship is a key finding and may have significant implications for financial planners. In summary, some evidence is found to support this study's first hypothesis, conditioned only upon a decrease in net worth.

The descriptive statistics for this study's second research question indicated that the change in net worth from 2010 to 2016 of \$130,000 not only eliminated the \$33,620 average loss incurred from 2008 to 2010 but translated into a 2016 net worth approximately \$100,000 greater than 2008. On the other hand, the change in the expected minimum bequest from 2008 to 2016 was a decrease of \$12,445, almost the same as the decrease of \$12,282 from 2008 to 2010. In other words, on average bequest expectations did not rise from 2010 to 2016.

The logistic regression model for the second research question found that only individuals whose net worth increased by more than \$389,000 in the six-year period following the recession were likely to have a 2016 bequest expectation equal to or greater than their 2008 bequest expectation. More modest increases in net worth had no relationship with a return to pre-recession expectations. The robustness check of the change in the probability of leaving an inheritance of at least \$100,000 and \$500,000 showed similar results. In aggregate, these

findings provide evidence of a return of pre-recession expectations, conditioned upon a post-recession wealth increase in the upper end of the distribution.

This study's conclusion regarding the relationship between a decrease in net worth and a lowering of bequest expectations during the Great Recession confirm the exploratory findings of Hurd and Rohwedder (2010) and Banks et al. (2013). These studies found that, on average, individuals in the U.S. and U.K., respectively, lowered their bequest expectations during this period. Further, consistent with Devaney et al. (2007), because bequest expectations are a higher order saving priority, they appear sensitive to declines in wealth.

This study does, however, offer two surprising results. First, increases in net worth during the Great Recession were not associated with a rise in bequest expectations. Second, only increases in net worth among the tenth decile following the recession were associated with a return to pre-recession expectations. One explanation for these results may be how Hurd and Smith (2001) operationalized increases in wealth. Hurd and Smith (2001) did not find a relationship between general increases in wealth and a rise in bequest expectations. Rather, a relationship existed only when individuals experienced unrealized capital gains. In this setting, unrealized capital gains were deemed "unexpected." Hurd and Smith concluded that only unexpected increases in wealth were associated with a rise in bequest expectations. Similarly, unlike Begley's (2017) study of the housing boom and bust during the 2000s, this research found no association between increases in wealth and a rise in bequest expectations. Begley (2017) did conclude, however, that the magnitude of the relationship between changes in wealth and changes in bequest expectations was stronger for negative shocks than positive shocks.

## Limitations

According to Rich (2013), the Great Recession began in December 2007 and ended in June 2009. The data used for this study's first research question were from the 2008 and 2010 waves of the Health and Retirement Study (HRS). Because of the timing of when the interviews were conducted, the data were not aligned with the official start and end of the recession. This implication is evident as the average net worth decrease from 2008 to 2010 was \$33,620, or approximately 9%. The literature review indicated that the average drop in net worth at an aggregate level during the Great Recession was 20%. While the 2010 wave was used to capture an "end" to the recession, the economy was months into its recovery, depending upon when the HRS interview was actually conducted. As a result, the average decrease in net worth may not have reflected the true impact of the Great Recession for some respondents.

Another limitation of this study was that the HRS did not specifically ask respondents for the intended amount earmarked for bequests. Instead, three items were asked regarding the probability of leaving an inheritance of at least \$10,000, \$100,000, and \$500,000. To address this study's research question, an expected minimum bequest variable was constructed based upon a review of past literature (Hurd & Smith, 2001). While helpful, using this approach did have disadvantages. Namely, respondents who answered there was a 100% probability for all three items had a maximum bequest expectation of \$610,000 ( $\$10,000 + \$100,000 + \$500,000$ ). Similarly, the range of changes in bequests from one period to another was restricted to ( $\$610,000$ ) to  $\$610,000$ . These caps may have muted significantly higher bequest expectations and volatile period-over-period changes for higher net worth respondents.

A final limitation of this study was unobserved heterogeneity. Observed heterogeneity describes the effects that cannot be measured, and yet may explain variation in a model's dependent variable (Woolridge, 2016). In the context of bequest expectations, consider a highly



altruistic respondent. In this study, altruism cannot be measured, however, it is likely to play a role in explaining how changes in wealth are associated with a change in bequest expectations. Perhaps a highly altruistic respondent would be reluctant to lower their bequest expectations following a decrease in wealth but inclined to raise their expectations following an increase in wealth. Another respondent with a lower level of altruism may adjust their expectations very differently, given the same percentage change in wealth. One method to account for unobserved heterogeneity and area for future study is to specify a fixed effects model. This method removes effects that cannot be measured, resulting in a more robust analysis. Using the example of altruism, a fixed effects model effectively “cancels out” altruism across all observations, resulting in a more accurate analysis of how changes in wealth are related to a change in bequest expectations.

### **Implications and Conclusion**

As expected, individuals are likely to lower bequest expectations following a decrease in wealth. According to the literature, this finding is not surprising as individuals often will prioritize their basic and most immediate needs over higher order goals such as wealth transfer. Quite unexpectedly, however, is that individuals are not likely to raise bequest expectations following an increase in wealth. These results have several implications for financial planners.

First, planners should use changes in wealth as an opportunity to review their client’s previously stated goals and objectives. For example, this study found that a modest decrease in net worth was related to a drop in bequest expectations. In this case, clients may be overreacting to their environment rather than carefully considering whether they are still on track to meet their goals. It is possible that short-term wealth fluctuations will not materially impact a client’s original wealth transfer intentions. Additional education and what-if scenario planning may be

helpful to reassure the client that they are still on course and reinforce the importance of taking a long-term perspective. Similarly, increases in wealth may have a meaningful impact on a client's financial plan. This study suggests that individuals do not associate wealth gains with larger bequests. Instead, perhaps individuals use their good fortune to increase consumption (Coskun et al., 2018) or allocate a larger share of their wealth to charitable gifting (Li et al., 2019). Regardless of personal preferences, financial planners can play an important role to ensure clients have all the information necessary to make a thoughtful decision.

Planners should also take note that while respondents' average net worth increased substantially from 2010 to 2016, changes in expected minimum bequests were flat. Further, only respondents who experienced the largest increases in wealth after the recession were likely to reinstate pre-recession bequest expectations. These findings may serve as a helpful reminder that the financial trauma of the Great Recession is still felt by some clients, even if they have fully recovered their wealth. Prati and Prati (2010) suggested that financial planners play an important role helping clients who harbor strong emotional reactions to the price swings of financial assets. Only financial planners who built trust and commitment, however, were likely to be able to help clients manage their emotions. Sharpe et al. (2007) offered best practices for planners regarding effective communication and trust building. Recommendations included making eye contact, observing body language, and taking notes. Additionally, financial planners were encouraged to communicate at the client's level of understanding and ask questions that welcomed the client to share information about themselves. Lawson and Klontz (2017) suggested various tools financial planners can use with clients who displayed strong emotional reactions to money issues. Tools that were highlighted included the Klontz Money Script Inventory, the Klontz-Britt Financial Health Scale, and the Financial Anxiety Scale. Of course, there may be situations where clients

lower their bequest expectations for reasons unrelated to changes in wealth. For example, perhaps there is a change in family circumstances or a newly discovered charitable cause. Only a full review of a client's goals and present situation would uncover this valuable information.

Another area of consideration for financial planners is what, if any, expectations are held by their client's children. Ameriprise (2017) estimates that about 20% of families have had discussions about bequests. In situations when a client's expectations change, whether due to fluctuations in wealth or some other reason, a decision may need to be made whether to share this new information with the children. If a decision is made to provide the children with this update, the client may need assistance communicating the prospect of a lower inheritance. Perhaps more pressing is the approximate 80% of families that have not had bequest discussions. In these cases, it is possible that children form expectations based upon their own financial circumstances or those of their parents (Kim et al., 2012). Changes in parent wealth may not be fully observable by the children and, therefore, children are unable to reasonably adjust their expectations. Unmet bequest expectations can cause hurt feelings and resentments, eventually leading to family discord and conflict (Williams & Preisser, 2003). The financial planner can provide ideas and suggestions to clients regarding how to have these very personal conversations with their children.

This study found that during the recession, wealth losses were associated with a drop in bequest expectations, but wealth gains were not associated with rise in bequest expectations. Further, only the greatest wealth gains after the recession were related to a return to pre-recession bequest expectations. Clients' reluctance to revise their expectations upwards following wealth gains is a new element of wealth transfer planning not previously considered. These findings

make a contribution to the literature and provide additional insights for financial planners helping to guide their clients through various economic conditions.

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## Chapter 5 - Conclusion

Entering 2021, wealth transfer planning is top of mind for many Americans. The COVID-19 pandemic has forced many individuals to face their own mortality and ensure that their affairs are in order (Plohetski, 2020). Also, the election of Joe Biden has fueled concerns regarding future higher income and estate taxes (Frank, 2020). These events provide financial planners with an opportunity to reengage previously reluctant clients about their wealth transfer plans and review the initial goals and objectives of clients who have already completed the estate planning process.

The purpose of this study was to explore the bequest intentions and expectations of older adults. Specifically, the decision to make a bequest to children and the relative amounts provided for each child reflected respondent intentions while the probability of leaving an inheritance to someone other than spouse reflected respondent expectations. Intentions and expectations are important because they inform goal setting, a crucial step in the financial planning process (CFP Board of Standards, 2020). Financial planners are ideally suited to help clients properly execute their intentions and reconsider unrealistic expectations. Further, as a client's intentions and expectations change, a financial planner can recommend the appropriate adjustments to the existing wealth transfer plan. Another area of interest for financial planners is the expectations of the potential bequest recipients. While individuals are free to make a bequest to whomever they wish, approximately 88% of wealth transfers are made to the children upon the death of a surviving spouse (Almazora, 2018). For this reason, the focus of this dissertation was bequests to children.

According to Williams and Preisser (2003), the “short sleeves to short sleeves in three generations” axiom rings true for approximately 70% of families. Wealth transfer failures occur



for many reasons including mismanagement of assets, poor financial decision making, and family conflict. The underlying cause of family conflicts is a lack of trust and communication. These breakdowns occur when children misinterpret parent intentions or there was a misalignment of parent and child expectations.

This dissertation researched three distinct, yet related bequest topics. Essay one investigated the association between social support provided by children and parents' intentions to make a bequest. Essay two explored the relationship between parents' personality traits and the intention to make unequal bequests. Lastly, essay three studied how wealth changes were associated with a change in bequest expectations during and after the Great Recession.

### **Key Findings**

The research question for essay one is, "Was there a relationship between the support received from children and parents' intentions of making a bequest?" This essay was differentiated from prior studies by operationalizing both a positive and negative social support scale as the variables of interest. To explore this question, two samples were drawn. The first sample included all respondents with at least one child and the second sample was restricted to respondents with at least one child and who had a will or trust. No relationship was found between positive or negative social support and the intention to make a bequest for the full sample. For the restricted sample, however, a positive relationship was found between positive social support and the intention to make a bequest. Interestingly, no relationship was found between negative social support and bequest intentions. Lastly, in the restricted sample, positive and negative social support were found to add predictive power over a model that contained known determinants of parents' intentions to make bequests to their children.

The research question for essay two is, “Was there a relationship between parents’ personality traits and the intention of making unequal bequests to their children?” While personality traits have been linked to the probability of making a bequest (Fan & Chatterjee, 2018), this was the first study to investigate a possible relationship with intentions to make unequal bequests. Using the Five-Factor Model to operationalize personality traits, a positive relationship was identified between extraversion and agreeableness and unequal bequests. Also, a negative relationship was found between conscientiousness and unequal bequests. No relationship was found between openness and neuroticism and unequal bequests. Personality traits were also found to add predictive power over a model that contained a known determinant of unequal bequests (not having a close relationship with all children).

Essay three consisted of two research questions. The first question was, “What was the relationship between changes in wealth and a change in bequest expectations during the Great Recession?” While the Great Recession has been extensively researched, little is known regarding the impact on bequest expectations. As expected, respondents who experienced a decrease in net worth were associated with a lowering of bequest expectations. Somewhat surprisingly, however, was that no relationship was found between an increase in net worth and a rise in bequest expectations. The second research question was, “What was the relationship between wealth changes following the Great Recession and a return to pre-recession bequest expectations?” The descriptive statistics found that while the 2016 average net worth was greater than both the pre-recession 2008 and the post-recession 2010 average net worth, the expected minimum bequest remained flat from 2010 to 2016. The primary finding from a multivariate analysis was that increases in wealth after the recession were related to a return to pre-recession expectations, but only for respondents in the top decile of wealth gains.

## **Implications**

The implications from the dissertation can help financial planners guide clients through several important considerations. To begin, financial planners need to understand their client's motivation behind the intent to transfer wealth to their children. Of course, many clients have feelings of love and affection for their children, but an important question is whether there is an expectation to receive something in return (Bernheim et al., 1985). As clients age, they will require increasing levels of emotional and physical assistance (Rappaport & Tacchino, 2018). Often, these responsibilities fall to the adult children. In some cases, the children are not able or willing to provide the levels of social support needed. In these cases, clients may use the promise of an inheritance to secure services from their children.

Clients who are motivated to transfer wealth to their children, at least in part by a strategic bequest, should be strongly advised to execute a will. Approximately 53% of this study's full sample did not have a will or trust. Not only does a will facilitate the orderly distribution of one's estate, but in the case of social support, a will may serve as a "contract" between the parents and children (Groneck, 2016). Parents show good faith that a promised bequest has been codified while the children receive assurance that their services will be rewarded.

Another implication is that parents appear reluctant to remove children from the will even when reporting high levels of negative social support. The unwillingness to carry through on a threat of disinheritance may limit the effectiveness of a strategic bequest. In these cases, financial planners should help clients explore alternative means to obtain the social support needed, particularly in the latter stages of retirement.

After a planner understands the client's motivations for making a bequest to their children, the next step is to learn about the client's intentions regarding the allocation to each

child. Clients who are considering unequal bequests may choose to leave some children out of the will or include all the children in their will but provide for varying amounts. The decision to make unequal bequests is a personal decision that should not be frowned upon. Instead, planners need to work with clients in two important areas. First, clients need to understand the potential ramifications of unequal bequests such as hurt feelings (Bernheim & Severinov, 2003) or jealousy among the siblings (Faith et al., 2008). Second, planners and clients can work together and explore how to mitigate the potential for family discord.

Understanding how personality traits may be linked to the decision to make unequal bequest may help financial planners frame these discussions and ultimately make suitable recommendations. In cases of clients with low levels of conscientiousness, financial planners must realize that these clients may have difficulty understanding the future implications of their actions (Heckman, 2011). A helpful exercise may entail the client imagining a child's reaction upon learning that they will receive a smaller inheritance than their siblings. The planner might ask what the client would like to say to that child and if the client believes it is important for the child to hear that message. If the client is in agreement, the planner might suggest a family meeting or that the client write a letter to be opened at a future date. Clients with high levels of extraversion may overestimate their ability to manage family conflict that could result from unequal bequests (Prinzle et al., 2009). In these cases, alternative transfer strategies, such as discrete lifetime gifts, might be proposed. Finally, clients with high levels of agreeableness may intend to leave unequal bequests because children may be lobbying for a larger share of the family estate. In these cases, the client should be educated about the dangers of moral hazard and the various mitigation strategies available through trust structures.

After these issues are addressed, financial planners and clients may need to revisit the size of a planned bequest, particularly as wealth fluctuates. Decreases in wealth are likely to translate into lower bequests as clients need to ensure their basic needs are satisfied (Devaney et al., 2007). In this case, planners should prepare what-if scenarios as the drop in wealth may be modest or temporary and not materially impact the client's initial wealth transfer plan. On the other hand, this research provides evidence that clients are reluctant to raise their bequest expectations given increases in wealth. Planners might want to inquire about the client's intentions given their good fortune, and further explore alternatives to larger inheritances such as additional consumption (Coskun et al., 2018), or charitable gifts (Li et al., 2019).

Lastly, financial planners can be instrumental in helping clients communicate their intentions and expectations to their children. According to a recent survey by Ameriprise (2017), only 21% of families have had these discussions. Specific areas covered within this dissertation alone are plentiful. Topics may include social support expectations, the division of wealth among children, and possible changes in planned bequests resulting from an increase or decrease in wealth. Interested clients, however, may not feel equipped to engage in this dialogue. A financial planner's willingness and ability to facilitate these discussions can be a valuable service. Additionally, these engagements may help a financial planner transition from their client's advisor to the family's advisor.

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