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A Longitudinal and Cross-Sectional Examination of the Relationships Between Materialism and Well-Being and Materialism and Depressive Symptoms

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A DISSERTATION Submitted in partial fulfillment of the Requirement for the Degree Doctor of Philosophy

Dissertation Committee

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TABLE OF CONTENTS

	Page
ABSTRACT	iv
ACKNOWLEDGMENTS	v
LIST OF TABLES	vi
CHAPTER	
1 INTRODUCTION	1
Statement of the Problem	1
Significance of the Problem	
Materialism	6
Well-being	
Depressive symptoms.	8
Background of the Problem	8
Theoretical orientation	9
Empirical review	10
Purpose of the Research	10
Operational Definitions	11
Materialism	11
Well-Being	11
Depressive Symptoms	11
Research Questions and Hypotheses	11
Research question 1	11
Hypothesis 1	12
Research question 2	12
Hypothesis 2	13
Research question 3	12
Hypothesis 3	12
Research question 4	13
Hypothesis 4	13
Research question 5	13
Hypothesis 5	14
Rationale for the Study	14
Chapter Summary	15
2. LITERATURE REVIEW	16
Theoretical Review	16
Ecological model	17
Cushman's hermeneutical analysis	18
Richins' model	21
Review of Empirical Research	23
Belk's materialism scales	24
Richins' materialism scale	30
Kasser and Ryan's Aspiration Index	
Alternative materialism measures	

Critique of the Research	41
Chapter Summary	
3. METHODS	
Description of the LSOG	
Data collection procedure	
Sample	
Overview of the Present Study	
Sample	
Demographic information	
Measures	
Materialism measure	
Well-being measure	
Depressive symptoms measure	54
Study Design	
Statistical analyses	
Multiple regression analyses	
Hierarchical linear modeling	
Chapter Summary	
4. RESULTS	
Descriptive Statistics	60
Research Question One	64
Research Question Two	
Research Question Three	
Research Question Four	
Research Question Five	
5. DISCUSSION	
Hypothesis 1	
Explanation of findings	
Hypothesis 2	
Explanation of findings	
Hypothesis 3	
Explanation of findings	
Hypothesis 4	
Explanation of findings	
Hypothesis 5	
Explanation of findings	
Additional findings	
General Implications of Results	
General Limitations of Study	
Future Research	
Conclusion	
REFERENCES CITED	
APPENDIX	
Correlation Matrices	

Abstract

There is a long-held belief that high levels of materialism negatively impact emotional wellbeing. This belief is supported by 25 years of empirical research which consistently shows a moderate negative association between materialism and emotional well-being. Contemporary American society, in particular, is widely viewed as highly materialistic, and theorists across a number of disciplines have argued that Americans are becoming increasingly orientated towards materialism as a result of the current economic system. This study sought to explore this theory by examining the relationships between materialism and depressive symptoms and materialism and well-being, both longitudinally and cross-sectionally, over a period of 12 years. Data are from 1136 participants of the Longitudinal Study of Generations (Bengston, 2005), a large-scale study of multi-generational, California families who completed questionnaires at 5 times points from 1985 to 1997. Materialism was measured using Bengston's (1975) adaptation of Rokeach's (1973) Values Survey, depression was measured using the Center for Epidemiological Studies Depression Inventory (Radloff, 1977), and well-being was measured using Bradburn's Affect Balance Scale (1969). Multiple regression and hierarchical linear modeling were used to address the following research questions: 1) Is there a significant relationship between materialism and depressive symptoms at each data point, and are these relationships modified by generation status? 2) Is there a significant relationship between materialism and well-being at each data point, and are these relationships modified by generation status? 3) Is materialism associated with initial level of depressive symptoms and its rate of change, and does the effect of materialism on depressive symptoms differ depending on respondents' generation status? 4) Is materialism associated with initial level of well-being and its rate of change, and does the effect

of materialism on well-being differ depending on respondents' generation status? 5) Are wellbeing, depressive symptoms, and generation status associated with initial materialism level and its rate of change? Results showed a significant association between higher levels of materialism and higher levels of depressive symptoms in 1985, but not at subsequent time points. In contrast, higher levels of materialism were significantly associated with lower levels of well-being at four of five time points. Results failed to show a change in average level of depressive symptoms or well-being over time. In contrast, average level of materialism significantly decreased over time. Limitations of the study as well as implications for future research design and measurement are explored in the discussion section.

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I would like to thank my advisor and chair, Dr. Mary Ballou, for her patience, enthusiasm and consistent support throughout the process of completing this project and during my academic experience at Northeastern as a whole. I continue to be inspired by her ideological convictions and hope to eventually follow her lead by doing work that is true to my values and critical perspective. I would like to thank the other members of my committee, Dr. William Sanchez and Dr. Mark Byers, who were always kind, patient and supportive and who took the time to provide thorough and informative feedback. I would also like to thank JuliAnna Smith from the Center for Research on Families who was a patient and amazingly knowledgeable tutor and statistical consultant.

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LIST OF TABLES

TABLE 1
Studies that use Belk's or Ger and Belk's materialism Scales
TABLE 2
Studies that use Richins' or Richins and Dawson's Materialism Scales
TABLE 3
Studies that use Kasser and Ryan's Aspiration Index
TABLE 4
Studies that use Alternative Measures
TABLE 5
Sample Sociodemographic Characteristics by Generation 1985 – 1997
TABLE 6
Descriptive Statistics for Materialism Variable
TABLE 7
Descriptive Statistics for Materialism Variable: Materialism vs. Humanism
TABLE 8
Descriptive Statistics for Depressive Symptoms Variable
TABLE 9
Descriptive Statistics for Depressive Symptoms Variable by Clinical Cut-off for
Depression
TABLE 10
Descriptive Statistics for Well-Being Variable
TABLE 11
Multiple Regression Results Indicating Impact of Materialism on Depressive Symptoms at Time
1 (1985)
TABLE 12
Multiple Regression Results Indicating Impact of Materialism on Depressive Symptoms at Time
2 (1988)
TABLE 13
Multiple Regression Results Indicating Impact of Materialism on Depressive Symptoms at Time
3 (1991)
TABLE 14
Multiple Regression Results Indicating Impact of Materialism on Depressive Symptoms at Time
4 (1994)
TABLE 15
Multiple Regression Results Indicating Impact of Materialism on Depressive Symptoms at Time
5 (1997)
TABLE 16
Multiple Regression Results Indicating Impact of Materialism on Well-being at Time 1
(1985)
TABLE 17
Multiple Regression Results Indicating Impact of Materialism on Well-being at Time 2
(1988)
TABLE 18

Multiple Regression Results Indicating Impact of Materialism on Well-being at Time 3 (1991)	72
TABLE 19	
Multiple Regression Results Indicating Impact of Materialism on Well-being at Time 4	
(1994)	73
TABLE 20	
Multiple Regression Results Indicating Impact of Materialism on Well-being at Time 5 (1997)	74
TABLE 21	
Multilevel Results Indicating Impact of Materialism on Depressive Symptoms (1985-	
1997)	77
TABLE 22	
Multilevel Results Indicating Impact of Materialism on Well-Being (1985-1997)	80
TABLE 23	
Multilevel Results Indicating Impact of Depressive Symptoms, Well-Being and Generation	
Status on Materialism (1985-1997)	83
TABLE 24	
Intercorrelations of all Study Variables at Time 1 (1985)	118
TABLE 25	
Intercorrelations of all Study Variables at Time 2 (1988)	118
TABLE 26	
Intercorrelations of all Study Variables at Time 3 (1991)	118
TABLE 27	
Intercorrelations of all Study Variables at Time 4 (1994)	119
Intercorrelations of all Study Variables at Time 5 (1997)	119
interestications of an olday variables at Thire 5 (1997)	

CHAPTER ONE

Introduction

This study examines the relationships between materialism and depressive symptoms and materialism and well-being from 1985 to 1997 in a subsample taken from a large sample of three-generation California families. These relationships will be examined both cross-sectionally and longitudinally. Chapter One introduces the problem of materialism and its negative impact on aspects of personal well-being and place it in historical context. It then provides evidence of the problem's significance by describing levels of materialism, consumption, depression and well-being in the contemporary United States. Chapter One presents the background of the problem by introducing the theoretical and empirical literature to be reviewed in Chapter 2. Next, it provides an overview of the present study, operationalize the concepts of materialism, depressive symptoms and well-being, and present the research questions and hypotheses. The chapter ends with a rationale for the present study.

Statement of the Problem

For thousands of years, philosophers, theorists, scholars and religious leaders have acknowledged the negative impact of materialism on aspects of human functioning, particularly emotional well-being. For example, the disavowal of materialism through the act of surrendering of property and material possessions has been considered an act of spiritual transformation within numerous religious denominations, including Christianity and Buddhism. A standard practice of Christian monastics, this act is commonly understood as a sacrificial gesture intended to prove one's devotion to God. In contrast, humanist psychologists have argued that the rejection of materialism is necessary to reach the highest level of human development (Fromm, 1976).

Inherent to all of these understandings of materialism is the notion that within individuals, it is associated with affective states that represent the converse of well-being. Theorists such as Spinoza (Spinoza & Curley, 1994), Marx (Marx, 1964), Sartre (1966) and Fromm (1976) argued that materialism, along with its associated values ambition and greed, are the bases of the *having* mode of existence which ultimately leads to alienation and other forms of mental illness. According to Fromm, the *having* and *being* modes are two fundamental modes of experience that influence the character types of both individuals and societies. He suggests that the relationship between materialism and unhappiness occurs because *having* individuals, or individuals orientated towards materialism, attempt to find security by accumulating possessions. This drive towards consumption, however, ultimately leaves them anxious and afraid that their possessions will be lost or taken away. In contrast, individuals oriented towards *being* do not suffer from similar anxiety or fear, because their "centers" are located within themselves and cannot be lost or stolen.

Materialism is also understood as an individual and a social phenomenon that is embedded within a particular historical, social, political and economic context. Fromm (1976) argued that the high levels of materialism that plague American culture are due to the rise of Western industrialism, which introduced a new manifestation of *having*. Before industrialism, private property was maintained by the wealthiest in society. With industrialization, however, came the possibility that any man might rise above his rank and establish himself as property owner. Industrialization also brought capitalism, an economic system characterized by private ownership and dependent upon ever increasing individual consumption of goods and services. The psychologists Kasser, Cohn, Kanner, and Ryan (2007) expand on Fromm's indictment of capitalism to argue that American capitalism is antithetical to personal well-being. Specifically, they contend that the brand of capitalism that characterizes the contemporary American economic system—American corporate capitalism—promotes values associated with materialism, which serve to undermine aspects of personal well-being, including self-esteem and social connectedness. They write:

The values and goals most closely expressive of [American corporate capitalism's] ideology and institutions are also those that oppose and potentially undermine people's concern for: a) promoting the welfare of others in the broader community; b) developing a sense of connection and closeness to other humans; and c) choosing paths in life that help them to feel worthy and autonomous (p. 8).

To support their argument, Kasser et al. point to the growing body of empirical evidence (see Chapter 2), which demonstrates a relationship between orientation towards power and achievement values and decreased well-being.

Consistent with Kasser's et al. critique of American corporate capitalism, the sociologist and economist Schor (1999a) identifies a disturbing trend in American consumer behavior—"the new consumerism"—which is associated with higher levels of materialism. According to Schor, the new consumerism began in the 1970's, increased sharply during the big spending day's of the 1980's, and reached a pinnacle during the 1990's. The new consumerism is characterized by "an upscaling of lifestyle norms; the pervasiveness of conspicuous, status goods and of competition for acquiring them; and the growing disconnect between consumer desires and incomes" (1999a). Schor (1999a) describes this disconnect as an "aspirational gap" and argues that it is due in part to the disappearance of Americans' traditional reference groups: neighborhoods and communities. As traditional points of reference disappear, the search for new ones has led Americans to identify with celebrities, corporate executives and other wealthy individuals depicted in all forms of mass media. Schor contends that these depictions serve to increase levels of materialism amongst individuals exposed to this media by exaggerating their notions of what other Americans' have. According to Schor, unrealistic media images promote the coveting of luxury goods and other signifiers of a lifestyle that is beyond the means of all but the wealthiest. The implications of the new consumerism are a steep increase in work hours, a steep decline in savings, and growing frustration amongst Americans who feel an increasing pressure to keep up with lifestyles that remain beyond their reach.

Much as been written about the growing problem of materialism and its negative impact on emotional well-being; from a psychological treatment perspective, however, relatively little has been written about how to combat the problem of materialism. As noted earlier, the problem of materialism exists at multiple levels of human functioning, including societal, community, school, family and individual. Therefore, it follows that in order to combat materialism effectively, interventions must be targeted at multiple levels. This is the perspective of Kramer (2006), a psychologist who argues that the American Psychological Association Ethics Code obligates psychologists to combat materialism at all levels of human functioning. At the individual level, she advocates that psychologists have an ethical duty to stay abreast of the latest research linking materialism to "emotional disturbance." Further, she argues that psychologists should be able to recognize the ill affects of materialism in their clients' presenting issues and be ready to address them in therapy. She writes:

Psychologists need to feel comfortable in considering the possible role that consumerism is playing on their client's feelings, including low self-esteem, eating disorders, depression, anxiety, family conflicts, and more. Incorporating these elements into case conceptualization could provide new tools and effective strategies to help individual clients and their families (p. 299).

Kramer's call to action fails to identify specific therapeutic techniques to address clients' materialism. In contrast, Koplewicz, Gurian, and Williams (2009) argue that commonly used therapeutic techniques, such as family therapy or individual cognitive behavioral therapy, can be used when materialism, or as they term it, "affluenza," necessitates therapeutic intervention. A review of the literature suggests that few if any interventions have been developed specifically to address materialism. One exception is an educational intervention developed by a former finance executive, which attempts to counter materialism and "hyper-consumption" with a curriculum that teaches children and adults healthy money management techniques (Share Save Spend, 2010).

In contrast to the individual level, relatively more is being done at the societal and community levels to combat materialism. Advocacy groups such as the Campaign for a Commercial Free Childhood, Commercial Alert, Adbusters Media Foundation, Reverend Billy and the Church of Life After Shopping, Media Literacy.com, and the Center for a New American Dream challenge materialism and its ill effects via activist campaigns intended to disseminate information to the public (Brueggeman, 2007), lobby government institutions for regulation and reform (Illescas, 2009), and disrupt corporate practices that promote materialism and consumption (Conniff, 2008). Several of these organizations have attempted to intervene at the school level by advocating media literacy as a means of reducing materialism and consumption in society (National Association for Media Literacy Education, 2010) and by launching campaigns to limit marketing in schools (Ruskin, 2006). Finally, for those Americans already convinced of materialism's ill affects on their mental health, organizations such as the Simple Living Network and the Center for a New American Dream provide information, resources and strategies for living a less materialistic lifestyle.

Significance of the Problem

As suggested above, there is a common perception that Americans have never had more in terms of material possessions and comforts and yet have never been more dissatisfied with their lives than at present. Prevalence rates for depression and data suggesting a decline in wellbeing and increases in materialism, including increased spending and debt amongst Americans, supports this premise.

Materialism. A 1991 study by Easterlin and Crimmins found that materialism amongst American high school seniors and college freshman rose between the early 1970's and 1986/87. These results are supported by Bengston, Biblarz, and Roberts' (2002) study, which used the LSOG dataset. The results of this study indicated that in 1997, adolescents ranked materialism significantly higher than either their parents or grandparents. Overall, Bengston et al. argue that their generational comparisons of materialism "point to an escalation of materialistic values in American society over recent decades" (p. 42).

The change in personal consumption expenditures between 1990 and 2007 provides

further evidence for Schor's new consumerism argument. In 1990, Americans spent a total of \$188.2 billion (chained 2000 dollars) on clothing and shoes while in 2007, they spent \$409.1 billion (chained 2000 dollars), an increase of 217% (Bureau of Economic Analysis [BEA], 2008). In February 2007, total personal outlays (expenditures) were \$ 9.97 trillion (Rankin& Armah, 2007). Of that, \$9.58 trillion was spent on personal consumption, including expenditures on durable goods, nondurable goods, and services. In that same month, total disposable personal income was \$9.85 trillion, which left total personal savings in February 2007 at negative \$119.6 billion. Total personal saving as a percentage of disposable personal income was negative 1.2 percent. The U.S. Federal Reserve System reported that in February 2007, total outstanding consumer credit was \$2.4 trillion. Average amount owed per capita on revolving credit accounts (e.g. credit cards) and fixed payment accounts (e.g. car loans), excluding real estate mortgages was \$11,950 (Experian, n.d.). In February 2007, disposable personal income per capita was \$32,660 (Rankin& Armah, 2007). Average amount owed on revolving credit accounts as a percentage of disposable personal income per capita was \$32,660 (Rankin& Armah, 2007). Average amount owed on revolving credit accounts as a percentage of disposable personal income per capita was \$32,660 (Rankin& Armah, 2007). Average amount owed on revolving credit accounts as a percentage of disposable personal income per capita was \$32,660 (Rankin& Armah, 2007). Average amount owed on revolving credit accounts as a percentage of disposable personal income per capita was \$32,660 (Rankin& Armah, 2007). Average amount owed on revolving credit accounts as a percentage of disposable personal income was approximately 37 percent.

Well-being. Following his review of hundreds of empirical studies, the political scientist Lane (2001) argues that since World War II, as Americans have grown wealthier, the numbers who describe themselves as "very happy" has declined. Researchers agree that a certain level of material comfort supports well-being, but that after a basic standard of living is achieved, income level does not correlate with happiness (Lane, 2000).

Similarly, a recent UNICEF (2007) report on child well-being in rich countries ranked the U.S. in the bottom third for five of six different dimensions of child well-being, which included material well-being, health and safety, family and peer relationships, behaviors and risks, and

subjective well-being (p.3). Further, on dimensions of child well-being, the U.S. ranked second to last on the list of the 21 most economically advanced countries.

Depressive symptoms. Nearly fifteen-million American adults, approximately 6.7 percent of the U.S. population age 18 and older, suffer from major depressive disorder in any given year (Kessler, Chiu, Demler, & Walters, 2005, p. 619). Women are more likely to suffer from major depressive disorder than men (Kessler, Berglund, Demler, Jin, Koretz, Merikangas, Walters, & Wang, 2003), and although it can develop at any age, the median age of onset is 32 (Kessler, Berglund, Demler, Jin, & Walters, 2005). Finally, according to the World Health Organization, major depressive disorder is the leading cause of disability in the U.S. for individuals ages 15 to 44 (2004).

Background of the Problem

There is an extensive and growing body of literature, both theoretical and empirical, on the problem of materialism and its negative relationship to aspects of emotional well-being. This line of investigation began in during the mid-20th century with humanist and existential scholars such as Fromm (1976), Sartre, (1966) and Maslow (1954). During the mid-1980's, Belk (1984), a consumer researcher conducted the first empirical studies demonstrating a negative correlation between materialism and aspects of emotional well-being. Since then, nearly 40 empirical studies have examined the relationship between materialism and aspects of emotional well-being while a handful of studies looked specifically at the relationship between materialism and depression.

Along with the mounting empirical data, numerous theories have emerged to explain the connection between high levels of materialism and decreased levels of emotional well-being.

Each theory reflects its author's particular theoretical orientation and scholarly discipline as well as his or her motive for wishing to understand materialism's impact on mental health. The growing evidence linking higher levels of materialism to poor mental health among adults and children have inspired a movement of activists from the fields of psychology and sociology that seeks to limit the negative influence of corporate commercialism on Americans. Interest in this topic has soared during the past 20 years, and numerous popular books from a variety of disciplines, including sociology, economics, psychology, and political science, have been published as the public continues to be puzzled and fascinated by the negative relationship between materialism and aspects of emotional well-being.

Theoretical orientation. The proposed study is grounded in the belief that an understanding of the complex relationship between materialism and aspects of emotional wellbeing in contemporary America requires a theoretical framework that permits the examination of these phenomena at multiple levels of human experience. Bronfenbrenner's (1979, 1995) ecological model meets the demands of this requirement and will serve as an organizing template for integrating the work of two theorists, Cushman (1996) and Richins (1995), each of which explain the relationship between materialism and aspects of emotional well-being at different ecological levels.

Cushman's (1996) hermeneutical analysis of the rise of the *empty self* during 20th century America focuses on the historical trends and societal-level forces that helped produce the contemporary relationship between materialism and aspects of emotional well-being. In contrast, Richins' (1995) explanatory model focuses on the individual- and relational-level processes involved in the relationship. In addition, Richin's model illuminates the role of corporate institutions, such as marketers and advertisers, in increasing materialism, decreasing well-being, and increasing depressive symptoms at the individual-level. Chapter 2 will include overviews of the ecological model, Cushman's hermeneutical analysis, and Richin's explanatory model.

Empirical review. As indicated above, empirical research into the relationship between materialism and aspects of emotional well-being has produced 39 studies since Belk began his investigations in 1984. These studies measure well-being using more than 30 different instruments. In contrast, nearly three-quarters of the studies rely on some variation of one of three different instruments for measuring materialism: Belk's (1984) materialism scale, Richins (1987) materialism scale, or Kasser and Ryan's (1993) Aspiration Index. Chapter 2 will include a comprehensive review of this literature presented in four sections according to the materialism measure used. This empirical review will conclude with a comprehensive overview of this literature's limitations.

Purpose of the Research

This study will use a subsample from the Longitudinal Study of Generations [LSOG] (Bengston, 2005) data set, a data file available from the Inter-University Consortium for Political and Social Research Web site, to examine the relationships between materialism and depressive symptoms and materialism and well-being from 1985 to 1997. This study will examine these relationship both cross-sectionally, at each of five data collection points (1985, 1988, 1991, 1994 and 1997), as well as longitudinally. It is not within the scope of this study to draw a causal relationship between materialism and depressive symptoms and materialism and well-being. Instead, the study's focus is limited to describing the strength of these relationships. Specific

research questions and associated hypotheses are presented below. Chapter 3 will include an in depth description of the proposed study.

Operational Definitions

Materialism. This study will operationalize materialism at the individual level using Bengtson's, Biblarz's and Roberts's (2002) definition. Like many theorists, including Richins (1987), they conceptualize materialism as a value, which they define as a cognitive and emotional orientation that directs thought and action (p. 109). Materialism is defined as a prioritization of material things and their acquisition over intangible human experiences such as spirituality and intellectual growth (Bengtson, Biblarz & Roberts, 2002). This study also recognizes materialism as a social phenomenon embedded in a particular cultural context. Inherent to this understanding is the recognition that materialism is not limited to the individuallevel, but instead is reproduced at multiple levels of human ecology.

In this study, materialism will be assessed using Bengston's (1975) adaptation of Rokeach's (1973) Values Survey.

Well-Being. This study will operationalize well-being using Bradburn's (1969) model of psychological well-being. According to Bradburn, a person's psychological well-being is assessed by determining the balance between their positive affect and negative affect. People who are high in psychological well-being have more positive than negative affect while people with low psychological well-being have more negative than positive affect.

In this study, well-being will be measured using the Affect Balance Scale (Bradburn, 1969).

Depressive Symptoms. This study will define depressive symptoms according to the

DSM-IV-TR (2000) definition of a depressive episode. According to the DSM-IV-TR, at least five of the following symptoms must have been present during the same two-week period Further, these symptoms must represent a change from previous functioning and must cause functional impairment. The symptoms are identified as depressed mood, anhedonia, significant change in weight or appetite, sleep difficulties, fatigue, feelings of worthlessness or guilt, attentional difficulties or indecisiveness, or suicidal ideation.

In this study, level of depressive symptoms will be measured using the Center for Epidemiological Studies Depression Inventory [CES-D] (Radloff, 1977).

Research Questions and Hypotheses

This study will examine the relationships between materialism and depressive symptoms and materialism and well-being from 1985 to 1997. The following research questions are posed.

Research question 1. Is there a significant relationship between materialism and depressive symptoms at each data point (1985, 1988, 1991, 1994 and 1997), and are these relationships modified by generation status?

Hypothesis 1. Consistent with the theoretical and empirical evidence reviewed in Chapter Two, this study predicts that higher levels of materialism will be associated with higher levels of depressive symptoms at each data point. It is further hypothesized that subsequent generations will have higher levels of materialism and thus higher levels of depressive symptoms at each data point.

Research question 2. Is there a significant relationship between materialism and wellbeing at each data point (1985, 1988, 1991, 1994 and 1997), and are these relationships modified by generation status? **Hypothesis 2.** Consistent with the theoretical and empirical evidence reviewed in Chapter Two, this study predicts that higher levels of materialism will be associated with lower levels of well-being at each data point. It is further hypothesized that subsequent generations will have higher levels of materialism and thus lower levels of well-being at each data point.

Research question 3. Is materialism associated with level of depressive symptoms in 1985 and its rate of change from 1985 to 1997, and does the effect of materialism on depressive symptoms differ depending on respondents' generation status?

Hypothesis 3. Consistent with theoretical and empirical evidence reviewed in Chapter Two, this study predicts that higher levels of materialism will be associated with higher initial levels of depressive symptoms and will lead to increased depressive symptoms over time. Further, it is hypothesized that subsequent generations will have higher levels of materialism and thus higher initial levels of depressive symptoms and greater increase in depressive symptoms over time.

Research question 4. Is materialism associated with level of well-being in 1985 and its rate of change from 1985 to 1997, and does the effect of materialism on well-being differ depending on respondents' generation status?

Hypothesis 4. Consistent with the theoretical evidence reviewed in Chapter Two, this study predicts that higher levels of materialism will be associated with lower initial levels of well-being and will lead to decreased well-being over time. Further, it was hypothesized that subsequent generations will have higher levels of materialism and thus lower initial levels of well-being and greater decrease in well-being over time.

Research question 5. Are well-being, depressive symptoms, and generation status

associated with materialism level in 1985 and its rate of change from 1985 to 1997?

Hypothesis 5. Consistent with the theoretical evidence reviewed in Chapter Two, this study predicts that materialism will increase from 1985 to 1997 and that higher levels of depressive symptoms and lower levels of well-being will be associated with higher levels of materialism at 1985 and greater increase in materialism over time. Further, it is hypothesized that subsequent generations will have higher levels of materialism at baseline and greater increase in materialism at baseline and greater increase in materialism.

Rationale for the Study

As indicated earlier, there is a growing body of empirical evidence to support the premise that higher levels of materialism are related lower levels of emotional well-being. Most if not all of these studies, however, examine the relationship between these variables at one point in time. There has been little if any research to support the argument made by Schor (1999a) and others that there has been an increase in the extent to which Americans value materialism and corresponding decreases in well-being and increases depressive symptoms. In other words, there is lack of empirical evidence to indicate that Americans are growing increasingly materialistic and depressed and decreasingly happy and satisfied with life. This lack of empirical support is problematic for one significant reason: it weakens important arguments put forth by Schor (1999b), Cushman (1996), Kasser (2003), Kramer (2006) and others, which are intended to direct attention and concern to what they see as a growing problem that demands of immediate action at the societal level, community and school level, and at the levels of individual and family psychological intervention.

The proposed study is intended to begin to fill this gap in the literature by examining the

relationship between materialism, well-being and depressive symptoms longitudinally and across generations. In other words, this study will begin to answer the questions of whether Americans are becoming increasingly materialist and unhappy over time and whether younger Americans are more materialistic and unhappy than their parents and grandparents.

Chapter Summary

This chapter introduced and described the problem of materialism and its relationship to aspects of emotional well-being. It provided evidence of the scope of the problem using empirical data, including economic statistics and prevalence rates of materialism and depression. This chapter presented the historical and theoretical background of contemporary investigations into the relationship between materialism and well-being and introduced the study's theoretical orientation as well as the empirical data to be reviewed in Chapter 2. Finally, this chapter provided an overview of the proposed study, including the sample, variables, research questions and rationale.

CHAPTER TWO

Literature Review

This chapter begins with a review of the three theoretical models, which taken together, provide a comprehensive explanation for the problem of materialism and its negative impact on emotional well-being. Next, the focus will turn to a review of empirical studies that investigate the relationship between materialism and aspects of emotional well-being. The empirical review is divided into four sections: (1) studies that use Belk's (1984) materialism scale or Ger and Belk's (1990) revised version; (2) studies that use Richins' (1987) materialism scale or Richins and Dawson's (1992) revised version; (3) studies that use Kasser and Ryan's (1993) Aspiration Index; and (4) studies that use various alternative means of measuring materialism. Each of the four sections will include a brief overview of the relevant instrument followed by a summary of results. The chapter ends with a critique of the literature that focuses on potential threats to the validity of empirical investigation into this area of psychological research.

Theoretical Review

The relationship between materialism and aspects of emotional well-being in American is a complex one bound up in processes that occur at the level of the individual as well as at the larger societal level. An attempt to comprehend this relationship requires a basic understanding of how these processes interact to affect human development. In the theoretical review that follows, a brief summary of Bronfenbrenner's (1979) ecological model is presented as an organizing template for understanding how the subsequent theoretical models work together to provide a comprehensive explanation of the problem of materialism and its impact on aspects of well-being in America. Next, the theoretical review includes an overview of Cushman's (1996) examination of the social, political, and economic forces involved in the relationship between materialism and aspects of emotional well-being as it developed over the course of 20th-century America. The theoretical review concludes with an overview of Richins' (1995) explanatory model, which illuminates the individual-level processes involved in the relationship between materialism and aspects of emotional well-being in contemporary society.

Ecological model. The ecological model provides an organizational structure for understanding the interactive effects of macro-, meso-, and micro-level influences on the development of the relationship between materialism and aspects of emotional well-being. It was originally proposed by Bronfenbrenner (1979) as "a theory of environmental interconnections and their impact on the forces directly affecting psychological growth" (p. 8). In contrast to traditional psychological research, which focuses solely on the individual, the ecological model considers two factors integral to research in the area of human development: 1) the individual's subjective experience of his or her environment; 2) the historical and environmental context within which human development occurs (Bronfenbrenner, 1979, 1995).

The ecological model provides an organized way of studying the multitude of variables that affect an individual's development. The individual's environment is conceptualized as a system of nested structures, located one inside the next, which interrelate to affect individual development. The central ecological structure is the microsystem, which includes the individual within his or her immediate environment e.g., home, workplace, or school. The microsystem also encompasses the individual's regular activities and *proximal processes*, Bronfenbrenner's (1995) term for longstanding interactions between the individual and significant others, objects and symbols in his or her immediate environment.

The next level of nested ecological structures is the mesosystem. A mesosystem includes two or more microsystems and the interrelations between them. If the individual of interest is a child, then examples of a mesosystem within her ecology might be home and school as well the various communications between them. The third level of nested structures is the exosystem, which is comprised of settings that have an indirect affect on the individual's immediate context. An example of an exosystem might be a mother's place of employment. The child may never step foot inside her mother's place of employment, however, her mother's salary, benefits, and work schedule have an indirect impact on the child's development.

The fourth level of nested structures is the macrosystem, which includes societal-level organizational structures such as public policy, ideologies, and political and economic systems, which characterize a given culture (Bronfenbrenner, 1979). The feminist ecological model, Ballou, Matsumoto, and Wagner's (2002) expansion of the ecological model, adds an important critical perspective to Bronfenbrenner's conceptualization of the macrosystem. The feminist ecological model incorporates aspects of feminist therapy theory, multicultural psychology, liberation psychology and critical psychology into a comprehensive template for understanding the "multiple spheres of influence" in an individual's life (p. 119). According to the feminist ecological model, the macrosystem should also include "values, worldviews, human rights, global distribution of resources, politics, and the economy" (p. 127). In further contrast to the ecological model, the feminist ecological model takes into account the influence of "coordinates," such as gender, race, ethnicity, age, and social class, which cut across all levels and intersect at the level of the individual.

Cushman's hermeneutical analysis. Cushman's (1996) historical analysis focuses on

the macro-level forces involved in the rise of materialism and its subsequent impact on aspects of emotional well-being. For him, this relationship is embodied by equivalent concepts: consumerism and *the empty self*. Cushman identifies the empty self as the dominant configuration of the self in late 20th century America and defines it as a cultural affliction associated with loneliness, hopelessness, insecurity, and emotional hunger and characterized by chronic consumerism and an ideological adherence to the consumerist orientation i.e., the belief that happiness and personal fulfillment can be found through consumption of material goods.

Integral to Cushman's (1996) analysis is his understanding of the self as "the concept of the individual as described by the indigenous psychology of a particular cultural group and the shared moral understandings within a particular culture of what it means to be human" (p. 23). Furthermore, he identifies the empty self and consumerism as *cultural artifacts*, which are produced by, and in turn, help reproduce contemporary American culture in part by covertly reinforcing the dominant positions of the cultural elite.

Cushman (1996) presents a comprehensive and complex explanation for how the current relationship between chronic consumerism and the empty self developed over the course of the 20th century in America. He credits a conflux of social, economic and political forces as primarily responsible, including post-World War II economic strategies, the rise of commercial advertising, and the trends from the field of psychology.

Cushman's (1996) analysis of post-war economic strategies emphasizes the development of the consumer-based economy as a way avoiding a second economic recession by reproducing the war's favorable economic conditions during peacetime. The success of such an economy, however, depended upon its citizenry engaging in unbridled consumption. According to Cushman, Americans' excessive consumption patterns were driven in large part by intense feelings of emptiness—the empty self—and the pervasive belief that this emptiness can be filled through consumption of material goods and services.

According to Cushman, the growth of commercial advertising was integral to the development of the consumer-based economy, and he credits psychologists with its increasing sophistication and effectiveness. As psychologists joined the advertising field in the early part of the 20th century, they contributed their knowledge of human behavior and the Freudian concept of the unconscious. In doing so, Cushman argues, they assisted corporations in manipulating Americans into purchasing unnecessary material goods and services.

Cushman (1996) also identifies trends within the field of psychology as unwitting contributors the social and intellectual climate that helped spawn the empty self. Firstly, he blames psychotherapy for promoting the understanding of individuals' thoughts and feelings as *intrapsychic processes*. One consequence of this was to divorce psychological illnesses from their cultural and historical contexts, thereby transforming them from cultural artifacts to individual psychopathologies. Secondly, Cushman blames Heinz Kohut's self psychology for reifying the self and ultimately transforming it into an object to be perfected, "commodified" and "brought into the realm of capitalist relations" (p. 275). Finally, Cushman implicates humanist psychology for enabling the rise of the empty self by promoting an antitraditional and ahistorical self preoccupied with personal choice, self-realization, and personal potential. He contends that advertisers seized on humanist psychology's conceptualization of the self as a vehicle for marketing unnecessary goods and services. As evidence, he points to popular advertising trends in which products, services and experiences promise self-enhancement, status, self-confidence

and gratification. This type of advertising, he argues, preys on the empty self by promising to heal the consumer, fill up the emptiness, and increase confidence, happiness and fulfillment.

Richins' model. Richins (1995) explanatory model highlights the micro- and meso-level processes involved in the relationship between materialism and aspects of emotional well-being. Her model integrates social comparison theory (Festinger, 1954; Wood, 1989), social evaluation theory (Pettigrew, 1967), relative deprivation theory, (Crosby, 1976; Olson & Hazlewood, 1986), information integration theory (Anderson, 1981), and social judgment theory (Sherif, Sherif & Nebergall, 1965) to show how exposure to idealized advertising and media images decreases emotional well-being and ultimately leads to greater desire to consume goods and services.

According to Richins (1995), idealized media images depict "highly desirable circumstances that can be achieved by only a few members of society" (p. 594). In addition, idealized images omit everyday, boring aspects of life, and are created using techniques such as airbrushing or special affects to make them appear more attractive than they would otherwise. Richins argues that media and advertising succeed at increasing individual desire to consume by inundating individuals with idealized images with which they will inevitably compare themselves. Because these images are unrealistic, individuals invariably do not measure up. Self-comparison to idealized images causes individuals high in materialism to feel dissatisfied with their lifestyle and motivates them to engage in higher levels of consumption.

Richins (1995) contends that adults' draw from three primary sources of information to determine their standard of living expectations: peers, aspirational groups i.e., individuals whom they admire and wish to emulate, and media images i.e., images from television and print advertising, television shows, movies, and the internet. In contrast to information derived from

peer and aspirational groups, which tends to be realistic, information from media images is usually unrealistic and unattainable for most individuals.

Richins argues that comparing oneself to an idealized image often leads to an increase in standard of living expectations through a process that is mostly unconscious and unwanted by the affected individual. Advertisers and marketers, however, intentionally design media images to increase viewers' desire to consume by influencing their perceptions of how they should live. This is accomplished in part by making media images as vivid, real and relevant as possible so that they will be more likely to capture viewers' attention. According to Richins, the tendency of viewers' to ignore images that depict circumstances below their perceived standard of living while paying more attention to images depicting desirable circumstances increases the likelihood that they will pay attention to idealized media images. Individuals' nearly continuous exposure to idealized media images combined with the tendency for individuals to process these images in a biased manner frequently leave them feeling dissatisfied and hungry to consume.

The relationship between materialism and aspects of emotional well-being in contemporary America is complex and multi-layered. Materialism is a social and individual phenomenon, which is perpetuated at every level of American society. Due to its complexity, a comprehensive understanding of the relationship requires a multi-leveled analysis. The ecological model (Bronfenbrenner, 1979, 1995) provides an organizing template for integrating Cushman's (1996) historical analyses of the macro-level processes involved the rise of consumerism and the empty self in 20th century America while Richins' (1995) model provides a explanation for the relationship between materialism and aspects of emotional well-being at the micro- and meso-levels of human development.

Review of Empirical Research

The dialectical debate regarding the relationship between materialism and aspects of emotional well-being has spanned centuries and included scholars and philosophers from various traditions. Thus, it follows that contemporary investigation into the subject has been carried out across social science disciplines, including sociology, economics, marketing, consumer studies and various subfields within psychology. Numerous researchers representing their respective disciplines have investigated the relationship between materialism and aspects of emotional wellbeing using a variety of research methods.

Of the 39 empirical studies that comprise this literature, the majority measure materialism using some version of Belk's (1984) materialism scale, Richins (1987) materialism scale, or Kasser and Ryan's (1993) Aspiration Index; the 10 remaining studies rely on surveys or activities developed for the studies in question. In contrast, more than 30 different instruments are used to measure aspects of emotional well-being, including life satisfaction, depression, and anxiety. Due to the relative uniformity with which materialism is measured within the literature, the empirical review that follows breaks down the literature by materialism measure: (1) studies that use Belk's (1984) materialism scale or Ger and Belk's (1990) revised version; (2) studies that use Richins' (1987) materialism scale or Richins and Dawson's (1992) revised version; (3) studies that use Kasser and Ryan's (1993) Aspiration Index; and (4) studies that use various alternative means of measuring materialism. Each of the four sections will include a brief overview of the relevant instrument followed by a summary of results. This empirical review will conclude with a general critique of research in this area.

Belk's materialism scales. One of the first researchers to investigate empirically the relationship materialism and aspects of emotional well-being was Belk, a consumer researcher and professor of marketing studies. In the early 1980's, Belk (1984) developed a scale for measuring materialism based on his understanding of materialism as a trait that reflects "the importance a consumer attached to worldly possessions" (p. 291). The scale is comprised of 24-items measured on 5-point Likert scales. The items are broken down into three subscales, each of which measures a construct central to Belk's understanding of materialism: *possessiveness*, *nongenerosity*, and *envy*. These constructs reflect individuals' relationships to material objects, their willingness to share possessions, and their feelings about others' possessions.

Belk conducted three studies as a means of gauging the reliability and validity of his scale. In his initial study, results showed significant negative correlations between each of the three traits that comprise Belk's materialism scale and happiness and between each of the three traits and satisfaction (Belk, 1984, p. 295). He described the reliability and validity data from the three subscales scales as "encouraging," though he qualified the discriminant validity between the possessiveness, nongenerosity, and envy subscales as "marginal" (p. 294-295).

In a second study, Belk (1985) reanalyzed his earlier data to establish the reliability and validity of the overall materialism measure based on the sum of the possessiveness, nongenerosity, and envy subscales. Consistent with his earlier findings, results showed significant negative correlations between overall materialism scores and measures of emotional well-being.

In a third study, Belk (1985) compared levels of materialism between three generations in an attempt to gauge his scale's construct validity. Results showed that the oldest generation had the lowest scores on overall materialism measure as well as on the three subscales; however, Belk described the magnitude of the differences between the generations as "somewhat small" (p. 272). He also acknowledged that his scale's construct validity might be limited by its reliance on possessiveness, envy and nongenerosity as the core components of materialism.

In 1990, Belk and Ger modified Belk's (1984) original materialism scale in an attempt to increase its cultural sensitivity. The 24 original items were maintained, though some were modified, and 10 new items were added. Factor analyses produced four dimensions; three of which were consistent with the original scale (possessiveness, nongenerosity, and envy) and one that was new. The fourth dimension, tangibility, represents the transformation of experience into material objects. Despite their attempts to develop a culturally sensitive instrument, results indicated that Ger and Belk's scale is a more reliable measure of materialism in Americans than in individuals from developing countries.

Ten subsequent studies investigate the relationship between materialism and aspects of emotional well-being using either Belk's original materialism scale (1984) or Ger and Belk's modified version (1990). Table 1 presents basic summary information on these studies along with Belk's (1984, 1985) two correlational studies. In terms of samples, the studies vary from Midwestern housewives (Ahuvia & Wong, 1995) to Singaporean business students (Kasser & Ahuvia, 2002). In terms of results, however, all nine studies demonstrate significant negative correlations between materialism and aspects of emotional well-being.

Table 1. Studies that use Belk's or Ger and Belk's materialism Scales

Study	Subjects (<i>n</i>)	Results
Belk (1984)	U.S. sample:	3 subscales of materialism
	business students (213)	negatively related to
	secretaries (39)	happiness and life

	religious students (32)	satisfaction. Correlations
	Fraternity members (27)	range from $r =08$, $p < .072$ to $r =30$ $p < 0.01$
Belk (1985)	U.S. sample: business students (213) secretaries (39) religious students (32) Fraternity members (27) Machine workers (27)	Materialism negatively related to happiness (r =26, p < .001) and life satisfaction (r =24, p < .001)
Dawson (1988)	Adults in Pacific Northwest metro area (127)	Envy negatively related to having factor i.e., satisfaction with personal finances, level of savings, accomplishments and career (r =39, p < .01), relating factor i.e., satisfaction with community, neighborhood, and living conditions (r =15, p < .05), living factor i.e., satisfaction with relations with friends, activities outside of work, and family life $(r =15, p < .05)$, and health factor i.e., satisfaction with athletic pursuits and health (r =16, p < .05). Nongenerosity positively related to having factor (r = .16, p < .05). Overall materialism negatively related to having factor (r =18, p < .05) and health factor $(r =22, p < .01)$
Dawson & Bamossy (1990)	Households selected at random from within 2 Dutch cities (80) Individuals from metro- Portland, Oregon, U.S. matched to Dutch sample by age and gender (127)	Envy negatively related to life satisfaction in Dutch (r =42 and American (r =31) samples. No significant difference between the 2 samples
Wachtel & Blatt (1990)	Undergraduates at a U.S. urban college with a largely immigrant,	Overall materialism positively related to self- criticism ($r = .39$, $p < .0001$).

	minority, and low income student body (101)	Envy positively related to dependency ($r = .24$, $p < .01$) and self-criticism ($r = .38$, p < .0001). Possessiveness positively related to self- criticism ($r = .17$, $p < .05$)
Dawson & Bamossy (1991)	Dutch households (80) Expatriate Americans residing in the Netherlands (60) U.S. households from mid-sized city in Pacific Northwest (127)	Overall materialism measure negatively related to life satisfaction in the American sample ($r =19$, $p < .02$). Envy negatively associated with life satisfaction in the American ($\beta =16$, $p < .001$), expatriate ($\beta =31$, $p < .001$) and Dutch samples ($\beta =20$, $p < .001$).
Cole, Wright, Sirgy, Kosenko, Rahtz, & Meadow (1992)	Households in Midwestern U.S. city (234)	Overall materialism measure negatively related to 2 measures of life satisfaction (r =37, p < .01; r =35, p < .01). Nongenerosity negatively related to 2 measures of life satisfaction (r =18, p < .01; r =15, p < .05). Envy negatively related to 2 measures of life satisfaction $(r =42, p < .01; r =38, p < .01)$. Richins' materialism measure negatively related to 2 measures of life satisfaction (r =32, p < .01; r =27, p < .01).
Ahuvia & Wong (1995)	Data collected in 2 waves from Midwestern U.S. universities (287)	Envy negatively related to satisfaction with income and standard of living ($r =30$, p < .01), satisfaction with family life, friendships and amount of fun and enjoyment ($r =27$, $p < .01$). Nongenerosity negatively related to satisfaction with income and standard of living ($r =17$, $p < .01$) and
		satisfaction with family life, friendships and amount of fun and enjoyment ($r =21$, p < .01). Possessiveness negatively related to satisfaction with family life, friendships, and amount of fun and enjoyment ($r =18$, p < .01). Happiness dependent upon material possessions negatively related to satisfaction with income and standard of living ($r =41$, $p < .01$) and satisfaction with family life, friendships, and amount of fun and enjoyment ($r =19$, $p < .01$)
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Schroeder & Dugal (1995)	U.S. college undergraduates (66)	Materialism positively related to public self- consciousness ($r = .42$, p < .01), social anxiety ($r = .34$, $p < .01$), and envy ($r = .69$, $p < .01$). Envy positively related to public self-consciousness ($r = .31$, p < .01) and social anxiety ($r = .31$, $p < .01$)
Sirgy, Cole, Kosenko, Meadow, Rahtz, Cicic, Jin, Yarsuvat, Blenkhorn, & Nagpal (1995)	U.S. consumers (233) U.S. college students (234) Canadian households (180) Australian households (249) Turkish households (139) Chinese households (191)	Amongst Chinese, life satisfaction negatively associated with Belk's (1985) overall materialism measure ($r =15$, $p < .05$). Amongst Turks, life satisfaction negatively associated with Richins' (1987) materialism measure ($r =25$, $p < .01$). Amongst Australians, life satisfaction negatively associated with Belk's (1985) overall materialism measure ($r =31$, $p < .01$), and Richins' (1987) materialism

		measure $(r =36, p < .01)$.
		Amongst Canadians, life
		satisfaction negatively
		associated with Belk's
		(1985) overall materialism
		measure $(r =26, p < .01),$
		and Richins' (1987)
		materialism measure $(r = -$
		.26, p < .01). Amongst U.S.
		consumers, file satisfaction
		Delle's (1085) everall
		meteriolism mossure
		(r = 21 n < 01) and
		(7 =51, p < .01), and Richins' (1987) materialism
		measure $(r = -43 \text{ n} < 01)$
		Amongst U.S. college
		students life satisfaction
		negatively associated with
		Belk's (1985) overall
		materialism measure
		(r =18, p < .01), and
		Richins' (1987) materialism
		measure $(r =34, p < .01)$.
La Barbera & Gurhan (1997)	NYC church members	Envy negatively related to
	(115)	general affect
	U.S. Shoppers (128)	(r =51, p < .01).
		Orientation towards money
		and possessions negatively
		related to general affect
		(r =40, p < .01).
		Nongenerosity negatively
		related to general affect
<u> </u>	<u> </u>	(r =22, p < .01)
Kasser & Ahuvia (2002)	Singaporean business	I otal materialism negatively
	students (92)	related to self-actualization $(x = 28, x < 01)$ with the self-actualization
		(r = -28, p < .01), vitality
		(r23, p < .01), and
		general happiness $(r =24, n < 0.5)$ and positively
		$p \sim 0.03$, and positively related to anxiety ($r = 27$
		r = 12 $r = 12$ $r = 12$
		p < 0.01 physical symptoms (7 = 25 $p < 0.5$) and time spent
		p < .01) physical symptoms ($r = .25, p < .05$), and time spent unhappy ($r = .22, p < .05$)

Richins' materialism scale. In 1987, Richins, a marketing professor, developed a scale for measuring materialism as part of an exploratory study of the relationship between materialism, happiness and media exposure. For Richins, materialism is a belief in the ability of material possessions to bring happiness. She conceptualizes materialism as a value that guides behavior and choices in many life domains, including the area of consumption (Richins & Dawson, 1992). Her scale is comprised of 6-items, measured on 7-point Likert scales. Factor analysis produced two factors, which combine to produce an overall materialism measure.

In 1992, Richins collaborated with Dawson in an expansion of her earlier materialism scale. The result was a values-oriented materialism scale that measures three beliefs considered central to the materialism construct: (1) importance of acquiring material possessions; (2) success as defined by material possessions; (3) belief that material possessions lead to happiness. The scale is comprised of 18-items, measured on 5-point Likert scales. Factor analysis produced three factors—centrality, success, and happiness—that combine to produce an overall materialism score. Richins and Dawson (1992) conducted a study as a means of gauging their scale's reliability and validity. Results indicated adequate internal consistency reliability and high test-retest reliability.

Ten subsequent, correlational studies investigate the relationship between materialism and aspects of emotional well-being using either Richins' original materialism scale (1987) or Richins and Dawson's expanded version (1992). Three of these studies were previously mentioned as they also used Belk's (1984) or Ger and Belk's (1990) materialism measure (Cole et al., 1992; Ahuvia & Wong, 1995; Kasser & Ahuvia, 2002). Table 2 presents basic summary information of the seven new studies, along with Richins' (1987) and Richins and Dawson's (1992) correlational studies. In terms of samples, the studies vary from shoppers in an American outlet mall (Fournier & Guiry, 1993) to Chinese households (Sirgy et al., 1998). In terms of results, however, all nine studies demonstrate significant negative correlations between materialism and aspects of emotional well-being.

Study	Subjects (<i>n</i>)	Results
Richins (1987)	U.S. Adults (252)	Materialism negatively related to standard of living $(p \le .01)$
Richins & Dawson (1992)	Households in large city in the U.S. West (250) Households in northeastern U.S. college town (86) Households in northeastern rural area of the U.S. (119)	Materialism negatively related to self-esteem (r =12, p < .5) and to satisfaction in all aspects of life measured. Correlations range from r =17, p < .01 to r =39, p < .01
Fournier & Guiry (1993)	Business and non- business undergrads at a major U.S. university (47) Shoppers at an U.S. outlet mall (33) Adults from a working- class Boston bar and secretarial offices in ID, NY and PA (40)	Life satisfaction negatively related to total number of wish list items ($\beta =32$, p = .005) and number of possessions listed on wish lists ($\beta =24$, $p = .04$).
Mick (1996)	U.S. consumers aged 18 to 85 (266) U.S. adults aged 21 to 90 (172)	Materialism negatively related to self-esteem (r =19, p < .01; r =14, p < .01) and self-actualization (r =27, p < .001) and positively related to neuroticism $(r = .19, p < .01)$.
Sirgy, Lee, Kosenko, Meadow, Rahtz, Cicic, Xi Jin, Yursuvat, Blenkhorn, & Wright (1998)	U.S. households (233) U.S. undergraduate students (234) Canadian households (180) Australian households (249)	Life satisfaction negatively predicted by materialism (estimate of the pooled sample = 099 , $p < .05$). Supported by data from the pooled Chinese, Turkish, Australian, U.S. households,

Table 2. Studies that use Richins' or Richins and Dawson's Materialism Scales

Keng, Jung, Jiuan, & Wirtz (2000)	Turkish households (139) Chinese households in China (191) Singaporean households (1534)	and U.S. student sample, but not by data from Canadian sample. Respondents with higher materialistic inclination significantly more dissatisfied with life (p <.05), marriage (p <.01), and friends (p <.001) than respondents with low
Ryan & Dziurawiec (2001)	Adults randomly recruited from waiting rooms, social clubs, and via acquaintance networks within metro Perth, Australia (162)	materialistic inclination. Materialism negatively related to overall life satisfaction ($r =28$, p < .001), satisfaction with standard of living ($r =24$, p < .01), satisfaction with family life ($r =27$, $p < .01$), satisfaction with amount of fun and enjoyment ($r =21$, p < .01), satisfaction with place of residence ($r =21$, p < .01), satisfaction with accomplishments ($r =20$, p < .02).
Burroughs & Rindfleisch (2002)	Representative sample of American adults (373)	Materialism negatively related to happiness (r =15, p < .01) and life satisfaction $(r =25, p < .01)$ and positively related to depression $(r = .18, p < .01)$ neuroticism $(r = .19, p < .01)$ stress $(r = .20, p < .01)$ anxiety $(r = .22, p < .01)$.
Chang & Arkin (2002)	U.S. college undergraduates (416)	Overall materialism negatively related to life satisfaction ($r =21$, $p < .01$) and global self esteem ($r =13$, $p < .01$) and positively related to social anxiety ($r = .22$, $p < .01$) public self consciousness ($r = .39$, $p < .01$).

Kasser and Ryan's Aspiration Index. In 1993, Kasser and Ryan developed a rating index to investigate the relationship between aspiring to financial success and aspects of emotional well-being. The resultant Aspiration Index is comprised of 21-items that individuals rate on two dimensions—personal importance and likelihood that they will be achieved—using a 5-point Likert scale. The items correspond to four domains: (1) *self acceptance* or aspirations for personal growth and autonomy; (2) *affiliation* or aspirations for connection to friends and family; (3) *community feeling* or aspirations for changing the world for the better through action; (4) *financial success* or aspirations for personal wealth. Overall scores for each dimension are attained by averaging the four domain scores across dimensions.

Six subsequent studies investigate the psychological consequences of aspiring to financial success using Kasser and Ryan's (1993) Aspiration Index. A study by Ahuvia and Wong (1995) was presented previously as it uses Ger's and Belk's (1996) and Richins' and Dawson's (1992) materialism measures. Table 3 presents basic summary information of the five new studies, along with Kasser's and Ryan's (1993) three correlational studies. In terms of samples, the studies vary from U.S. undergraduates (Carver & Baird,1998) to Russian university students (Ryan, Chirkov, Little, Sheldon, Titnoshina & Deci,1999). In terms of results, all eight studies demonstrate significant negative relationships between materialism and aspects of emotional well-being.

Table 3. Studies that use Kasser and Ryan's Aspiration Index

Study	Subjects (<i>n</i>)	Results
Kasser & Ryan (1993)	U.S. psychology students	Importance of financial
Study 1	(118)	success negatively
		associated with self-
		actualization ($r =24 p < .05$)
		Having money as important
		guiding principle in life

		negatively associated with self-actualization ($r =27$, p < .01) and vitality ($r =23$, p < .05).
Kasser & Ryan (1993) Study 2	U.S. psychology students (198)	Importance of financial success positively related to anxiety ($r = .18$, $p < .05$) Having money as important guiding principle in life negatively associated with vitality ($r = .21$, $p < .05$), and positively associated with anxiety ($r = .22$, $p < .05$) and depression ($r = .28$, $p < .01$).
Kasser & Ryan (1993) Study 3	U.S. 18-year-olds (140)	Importance of financial success negatively associated with global functioning ($r =30$, $p < .01$) and social productivity ($r =25$, $p < .01$), and positively associated with behavior problems ($r = .27$, $p < .01$).
Kasser & Ryan (1996) Study 1	Adults from urban neighborhood in Rochester, NY (100)	Relative importance of extrinsic aspirations negatively associated with self-actualization (β =52, p<.01) and vitality (β =60, p<.01), and positively associated with physical symptoms (β = .46, p<.05). High likelihood for extrinsic aspirations negatively associated with self- actualization (β =57, p<.01) and vitality (β =62, p<.01), and positively associated with depression (β = .46, p<.05). Extrinsic guiding-principle score negatively associated with self-actualization (r = - .34, p <.01) and positively associated with physical symptoms (r = .26, p <.01).

Kasser & Ryan (1996)	Undergraduates from	Relative importance of
Study 2	University of Rochester	extrinsic aspirations
2	(129)	negatively associated with
	· · ·	self-actualization ($\beta =67$,
		p<.01) and vitality ($\beta =34$,
		p<.01), and positively
		associated with depression
		$(\beta = .30, p < .05)$, narcissism
		$(\beta = .35, p < .01)$, and
		physical symptoms
		$(\beta = .43, p < .05)$. High
		likelihood for extrinsic
		aspirations negatively
		associated with self-
		actualization ($\beta =90$,
		p<.01), vitality (β =44,
		p<.01) and positive affect
		vitality (β =70, p<.01),
		and positively associated
		with depression ($\beta = .48$,
		p<.01), anxiety (β = .34,
		p<.05), and narcissism ($\beta =$
		.46, p<.05). Extrinsic
		guiding-principle score
		negatively associated with
		self-actualization ($r =27$,
		p < .01) and positive affect (r
		=25, p < .05), and
		positively associated with
	XX 1 1 1 11	narcissism (r = .19, p < .05).
Carver & Baird (1998)	Undergraduate college	Aspiration to financial
	students (246)	success negatively
		associated with self-
		actualization ($\beta =31$,
		p<.0005). Aspiration to
		community involvement
		positively associated with $cold = 10$
		sen-actualization ($\beta = .19$, $n < 0.4$)
Ryan Chirkov Little	Russian university	p > .04). Results of a MACS analysis
Sheldon Titnoshina & Deci	students (183)	(an extension of standard
(1999)	US university students	structural equation
	(116)	modeling) demonstrated
	(110)	support for the hypothesis

		that a relative emphasis on intrinsic versus extrinsic values predicts greater well- being in U.S. males and female and Russian males. This effect is inconsistent among Russian females.
Schmuck, Kasser, & Ryan (2000)	German university students (83)	Relative importance of intrinsic goals positively associated with total well- being ($r = .26$, $p < .05$) and self-actualization ($r = .35$, p < .01) and negatively associated with anxiety ($r =25$, $p < .05$). Relative likelihood of achieving intrinsic goals positively associated with total well- being ($r = .32$, $p < .01$) and self-actualization ($r = .29$, p < .01) and negatively associated with anxiety ($r =28$, $p < .05$) and physical symptoms ($r =27$, p < .05).

Alternative materialism measures. The remaining 10 studies investigate materialism and aspects of emotional well-being using distinctly different designs, samples, and measures. Table 4 presents basic summary information of these studies, including sample size, description, and relevant results.

A study by Fournier and Richins (1991) stands alone in its attempt to describe American attitudes about materialism. The researchers survey residents of a blue collar suburb, airline travelers, and undergraduate students about their attitudes towards highly materialistic people and materialism in general. Results indicated that that 82% of respondents described materialistic people as having negative and socially-undesirable traits, 59% indicated that materialistic people expect their possessions to make them happy, and 69% indicated that materialism is motivated by status display and self-affirmation through ownership of status possessions.

Five of the 10 studies use structured interviews, questionnaires or surveys to study the relationship between materialism and aspects of emotional well-being. Two are unique in that they investigate the psychological consequences of materialism in children. Cohen's and Cohen's (1996) longitudinal study examined data collected in two waves (1975 and 1985) from children and their mothers. They used structured interviews to assess the children's personality characteristics and attitudes. Results indicated that materialism predicted attention deficit disorder (ADD) prospectively and was related to its persistence over time. Higher levels of materialism also related prospectively to histrionic, narcissistic, borderline, dependent, paranoid and passive aggressive personality disorders.

Similarly, Schor (2004) surveyed children using a questionnaire designed to measure media use, consumer values and involvement in consumer culture, relationships with parents, demographic variables, and measures of physical and psychological well-being. Results found a positive correlation between children's involvement in consumer culture and depression, anxiety, low self-esteem and psychosomatic complaints. Results of structural equation modeling suggested a causal relationship between high levels of children's consumer involvement and depression, anxiety, low self-esteem, and psychosomatic complaints.

Four studies use experimental designs to demonstrate causal links between materialism and negative psychological states. Kasser and Sheldon (2000) were the first to conduct experimental studies in an attempt to demonstrate a causal link between a negative psychological correlate (insecurity associated with a fear of dying) and materialism. In one study, participants were administered pre-tests to determine their pre-existing value orientations and long-term financial expectations. Participants were then randomly assigned to an experimental or control group. Participants in the experimental group were asked to write about their feelings and thoughts concerning their own death (mortality salience condition) while participants in the control group were asked to write about their feelings and thoughts concerning listening to music (control). All participants were administered a posttest i.e., a survey intended to gauge their expected financial status. Results of the study showed that participants in the mortality salience (treatment) group expected to be worth more money and to spend more on pleasurable items than the controls. Results failed to find a significant relationship between participants' pre-existing value orientations and their financial expectations.

Two recently published studies by Chaplin and John (2007) attempted to demonstrate causal links between a positive psychological correlate (high self-esteem) and lower levels of materialism. In one study, children were assigned to either an experimental and control group. In the experimental group, self-esteem was primed by asking participants to read nice things written about them by peers. Materialism was then measured in all participants by asking them to construct happiness collages. Results in indicated that participants in the experimental group, regardless of age, demonstrated lower materialism than participants in the control condition (M = 2.84 vs. 6.00).

Study	Subjects (<i>n</i>)	Results
Fournier & Richins (1991)	Residents of a blue collar	82% of respondents
	U.S. suburb (11)	described materialistic
	U.S. airline travelers (11)	people as having negative
	U.S. undergraduate	and socially-undesirable

Table 4. Studies that use Alternative Measures

	students (7)	traits. 59% of respondents indicated that materialistic people expect their possessions to make them happy. 69% of respondents indicated that materialism is motivated by status display and self-affirmation through ownership of status possessions.
Cohen & Cohen (1996)	Wave 1 (1975): households with at least 1 child between the ages of 1 and 10 from 2 New York state counties (976) Waves 2 (1985): Follow- up interviews (724) Wave 3 (1986-1987): Follow-up interviews (766)	Materialism predicted ADD prospectively. Materialism related to persistence of ADD. High levels of materialism related prospectively to histrionic, narcissistic, borderline, dependent, paranoid and passive aggressive personality disorders.
Kasser & Sheldon (2000) Study 1	First-year introduction to psychology students at small U.S. college (76)	Participants in mortality salience condition more likely than controls to demonstrate high levels of greed. Extrinsic value orientation associated with increased Year 1 bid ($r =$.20, p <.09) and greed ($r =$.32, p <.01).
Kasser & Sheldon (2000) Study 2	First-year introduction to psychology students at large U.S. university (73)	Participants in mortality salience condition more likely than controls to demonstrate high levels of greed. Participants in mortality-salience condition wanted to harvest a significantly larger part of forest than subject in control condition. Pre-existing orientation towards extrinsic values associated with increased greed ($r = .32$, p < .01).
Sagiv & Schwartz (2000)	Israel undergraduate	Among business students,

	students: psychology majors (42) and business administration majors (40)	higher levels of subjective well-being positively related to power and achievement values. Correlations range from $r = .27$, $p < .05$ to r = .41, $p < .05$. Among business students, subjective well-being negatively related to universalism value (r =35, p < .05). Among psychology students, subjective well-being negatively related to power value $(r =26, p < .05;$ r =34, p < .05).
Nickerson, Schwartz, Diener, & Kahneman (2003)	Adults who completed both the American Freshman survey in 1976 and the College and Beyond Survey administered 1995-1997 (12,894)	Financial goals negatively associated with overall life satisfaction. This relationship was moderated by household income this effect.
Van Boven & Gilovitch (2003)	U.S. college undergraduates who completed initial survey (97) U.S. college undergraduates who completed follow-up survey (42)	Compared with material purchases, experiential purchases made participants happier ($t(95) = 2.91$, p=.005), contributed more to their happiness in life ($t(95) = 2.44$, $p = .017$), and represented money better spent, $t(95) = 2.26$, $p = .026$).
Schor (2004)	5 th and 6 th graders from elementary schools in Boston, MA and a wealthy Boston suburb (300)	High consumer involvement amongst children is a significant cause of depression, anxiety, psychosomatic complaints and low self-esteem
Chaplin & John (2007) Study 1	Children and adolescents from St. Paul, MN 3 rd and 4 th graders (50) 7 th and 8 th graders (50) 11 th and 12 th graders (50)	3^{rd} and 4^{th} graders demonstrate lower materialism and higher self- esteem than 7^{th} and 8^{th} graders (materialism: M = 3.34 vs. 3:00, t(1, 98) = 4.30, p<.01;

		self-esteem: $M = 3.62$ vs. 6.72, t(1, 98) = 5.50, p<.01). 11^{th} and 12^{th} graders demonstrate lower materialism and higher self- esteem than 7 th and 8 th graders (materialism: M = 5.26 vs. 6.72, t(1, 98) = 2.98, p<.02; self-esteem: $M = 3.24$ vs. 3.00, t(1, 98) = 2.87, p<.01) Self-esteem is a partial mediator of the increase in materialism from 3 rd and 4 th graders. Self-esteem is a perfect mediator of the decrease in materialism from 7 th and 8 th graders to 14^{th} graders to
Charlin & John (2007)	Children and adalageants	11 th and 12 th graders.
Chaplin & John (2007) Study 2	Children and adolescents from Urbana-Champaign, IL 3 rd and 4 th graders (35) 7 th and 8 th graders (35) 11 th and 12 th graders (35)	All participants primed to have high self-esteem, regardless of age, demonstrate lower materialism than participants in control condition ($M = 2.84$ vs. 6 00)

Critique of the Research

As the above review of the literature demonstrates, empirical studies of the relationship between materialism and aspects of emotional well-being have consistently found a moderate negative relationship between these constructs. Such an abundance of data would seem to strengthen the validity of these results. However, most of the studies cited above have inherent limitations, many of which are delineated by the researchers themselves.

Although they vary by study, several limitations consistently appear throughout this literature. For example, the majority of the studies use conveniences samples, including U.S.

college undergraduates (Kasser & Sheldon, 2000; Carver & Baird, 1998; Kasser & Ryan; 1993,1996; Ahuvia & Wong, 1995; Schroeder & Dugal, 1995; Chang & Arkin, 2002), Russian college undergraduates (Ryan et al., 1999), German college undergraduates (Schmuck, Kasser & Ryan, 2000), and Americans stopped unexpectedly while shopping (La Barbera & Gurhan, 1997; Fournier & Guiry, 1993). Because convenience samples are not representative of the general population, they threaten a study's external validity and limit the extent to which results can be generalized to the larger population. In addition, several studies have samples composed of psychology students (Schroeder & Dugal, 1995; Sagiv & Schwartz, 2000; Kasser & Ryan, 1993; Kasser & Sheldon, 2000).). This sample type poses a particular threat to external validity in that psychology students are more likely than the general population to have some preexisting knowledge of the subject under investigation, which may influence their responses.

A second limitation commonly cited within this literature is the use of instruments with questionable psychometric qualities. Psychometric data is crucial component of insuring a study's statistical conclusion validity i.e., the degree to which a conclusion reached about whether or not to reject the null hypothesis is reasonable, and several of the reviewed studies use scales with limited psychometric validity and reliability. For example, Belk's (1984) describes his initial materialism scale as "imperfect," particularly in regard to its construct validity. Sirgy et al. (1998) also include the questionable reliability of Richins' materialism measure amongst the limitations of their study. Other studies fail to report the psychometrics of their instruments at all (Wachtel & Blatt, 1990; Kasser & Ahuvia, 2002; Kasser & Sheldon, 2000; Schor, 2004), leaving the reader to verify each instrument's validity and reliability. Some researchers attempt to compensate for a measure's psychometric shortcomings by using multiple instruments

(Ahuvia & Wong, 1995; Kasser & Ahuvia, 1992). If both measures produce similarly results, the reader can be more confident in the validity of the results.

A third commonly cited limitation is sample size. Small samples can lead to insufficient statistical power thereby threatening a study's statistical conclusion validity. Several of the reviewed studies have relatively small samples, (Fournier & Richins, 1991; Schroeder & Dugal, 1995; Kasser & Sheldon, 2000; Sagiv & Schwartz, 2000; Schmuck, Kasser, & Ryan, 2000; Chaplin & John, 2007), and the completion of power analyses would have served to increase reader confidence in these studies' statistical conclusion validity.

A fourth limitation affects those studies in which non-English speaking participants are administered translated measures. Back-translation is the accepted process by which instruments and measures are prepared for administration to non-English speaking participants. Several of the reviewed studies investigate materialism and aspects of emotional well-being within international samples, and most of these studies describe the process of back-translation used to improve the validity of the measures used (Dawson & Bamossy, 1990, 1991; Ryan et al., 1999; Schmuck, Kasser, & Ryan, 2000). One exception, however, is the study by Sirgy, et al. (1998), which fails to use back-translated questionnaires, thus putting their study at risk for failing to meet the *comparability criterion*, which "requires the behavior in question to be *functionally equivalent* across the cultures under study" (p. 138). It is important to note that as a tool for improving cross-cultural validity, back-translation is significantly limited in that it does not ensure that an instrument is culturally relevant. By this standard, all of the studies cited above, which explore the relationship between materialism and aspects of emotional well-being within international samples have questionable external validity. Kasser and Sheldon (2000) were the first researchers to use an experimental design to investigate the relationship between materialism and well being. The primary advantage of using experimental design is the possibility of inferring causation, which is absent with correlational studies. Kasser and Sheldon's study, however, has its own inherent limitations. For example, the authors note that their use of imaginary scenarios to operationalize the materialism and consumption variables threatens their studies' ecological validity. The authors attempted to compensate for possible limitations in the measures used to operationalize the dependent variables by using different instruments; the fact that the studies had similar results reduces the likelihood of that they made a Type I Error. Finally, the fact that participants in both studies were administered pretests may have sensitized them to the studies' purpose thereby posing an additional threat to external validity.

An additional limitation of this literature is the reliance on cross-sectional design. With few exceptions (Cohen & Cohen, 1996; Nickerson et al., 2003), the studies that comprise the literature in this area are cross-sectional, as opposed to longitudinal, in design. In studies that examine attitudes, values, and feelings, cross-sectional design can be limiting, because data is collected at one point in time. This type of design provides limited insight into the relationship between materialism and aspects of emotional well-being whereas longitudinal design would give a more in-depth and valid understanding over time (La Barbera & Gurhan, 1997).

A final limitation of this literature is the general lack of attention directed to macro- or societal-level influences on the relationship between materialism and aspects of emotional wellbeing. Within the literature, materialism tends to be defined as either a trait (Belk, 1984) or a value (Richins, 1987). These conceptualizations are limited in that they relegate materialism to the individual realm. In contrast, a more comprehensive understanding of materialism would regard it as a phenomenon with both social and individual components. Because the most commonly used materialism measures were developed with specific conceptualizations of the construct in mind, it follows that these measures also neglect the macro-level. With the exception of Schor's (2004) survey that measures orientation to consumer culture, materialism measures exclude items, which address macro-level components of the materialism phenomenon.

Chapter Summary

The intent of this chapter was to build a context for the proposed study, which will examine the relationships between materialism and depressive symptoms and materialism and well-being from 1985 to 1997, by developing its theoretical foundation and positioning it within the existing empirical literature. The nature of the questions to be investigated demand a complex and multi-leveled theoretical framework capable of representing the relationship between materialism and aspects of emotional well-being in America as both an individual and social phenomenon embedded within a specific historical, political and economic context. Bronfenbrenner's (1979, 1995) ecological model serves as the ideal organizing template for integrating the subsequent theories, which focus on the different ecological levels involved in the contemporary relationship between materialism and aspects of emotional well-being in America: Cushman's (1996) historical analysis of macro-level forces, and Richins' (1995) explanation of micro- and meso-level processes.

This theoretical review was followed by a review of empirical investigations into the relationship between materialism and aspects of emotional well-being. The vastness of this literature necessitated that it be organized into four sections: (1) studies that use Belk's (1984)

materialism scale or Ger's and Belk's revised version (1990); (2) studies that use Richins' (1987) materialism scale or Richins' and Dawson's (1992) revised version; (3) studies that use Kasser's and Ryan's (1993) Aspiration Index; and (4) studies that use various alternative means of measuring materialism. The purpose of the empirical review and critique that followed was to support the rationale for the proposed study presented in Chapter 1 by placing it within the context of the existing literature.

CHAPTER THREE

Methods

This chapter outlines the methodology of the present study. It begins with a description of the original LSOG, including data collection procedures and sample. An overview of the present study follows, including a description of the sample, measures, study design, and analytic strategy. The chapter concludes with a brief summary.

Description of the LSOG

The process of data collection for the Longitudinal Study of Generations (LSOG) began in 1970 under the direction of Dr. Vern L. Bengtson, a professor of sociology at the University of Southern California, with funding from the National Institutes of Mental Health (NIMH) (Bengtson, Biblarz, & Roberts, 2002). The original sample consisted of 2,044 individuals from 349 three-generation families in Southern California.

The use of the LSOG database for the present study has several important advantages over collecting original data. First, the LSOG's large sample size provides more statistical power and increased confidence in the study's statistical conclusion validity. Second, the LSOG database includes adequate measures of materialism, depressive symptoms and well-being permitting investigation of the research questions. Most significantly, the LSOG's longitudinal design permits the examination of materialism, depressive symptoms and well-being over time.

Data collection procedure. LSOG data was collected from participants using personal interviews, telephone interviews, self-enumerated questionnaires, and mailback questionnaires.

Sample. The design for the original study specified that investigators recruit first generation participants who were married, had children and at least one grandchild between the

ages of 16 and 26 years (Bengtson, Biblarz, & Roberts, 2002). Investigators obtained permission from Kaiser Medical Group to search their 840,000 member base for individuals meeting inclusion criteria. The first large health maintenance organization (HMO) in Southern California, Kaiser Medical Group predominantly enrolled steel workers and their families. Investigators initially identified 60,000 individuals who possibly met inclusion criteria. They then randomly selected 1 out of every 6 individuals from the pool of 60,000 and sent them a screening survey to verify that they met inclusion criteria. In 1971, the final sample, which included 3,160 eligible participants, from three generations, were sent surveys in the first wave of data collection (Wave One). Of the 2044 original respondents, 44% (n = 908) participated in 1997 survey (Bengtson, Biblarz, & Roberts, 2002, p. 170).

Waves 2 through 6 included all family members who would have been eligible at baseline even if they did not participate in Wave 1 (Bengtson, Biblarz, & Roberts, 2002). These included members of the fourth generation (n = 739), and new husbands and wives of mostly third generation members (n = 485). Those who were excluded from Waves 2 through 6 included participants who had died or become mentally incapacitated (n = 557 by Wave 6), as well as those who divorced a generation 3 lineage member and had no generation 4 children (n = 3). Also excluded from Waves 2 through 6 were those original study participants whom investigators could not locate at Wave 2.

Bengtson, Biblarz and Roberts report that less than five percent of the sample was lost because of failure or refusal to respond. They credit the increased longitudinal participation rates over time to several strategies, including paying participants a small fee for completing surveys, regular contact between investigators and participants, a toll-free hotline for participant questions, a twice yearly newsletter, and a LSOG website. According to Bengtson, Biblarz and Roberts (2002), attrition has been primarily due to the death and mental incapacitation of generation one participants. They report that as of 2000, only 43 of the original 516 generation one participants were still able to participate in the study (p. 171). On average, 85 percent of eligible generation one and generation two participants continued to participate in the study as of 2002. Repeated diagnostic tests carried out by LSOG investigators to determine the threat to internal validity posed by attrition bias revealed scant evidence of selective attrition. In fact, investigators found that respondents who identified as being in poor health were no more likely to drop out than were healthy respondents.

Bengtson, Biblarz and Roberts (2002) assessed the generalizability of the LSOG sample by comparing its sociodemographic composition to national census data and to the sample composition of other national surveys including the National Survey of Families and Households (NSFH). The results of these comparisons indicated that the LSOG sample reflects the sociodemographic composition of the U.S. general population in terms of age, marital status, and social class distributions, but is underrepresentative of ethnic minorities those with less education (Bengtson, Biblarz, & Roberts, 2002, p. 172). Specifically, in comparison to the sociodemographic composition of the NSFH sample, the LSOG sample is approximately the same average age, has fewer males than females, more whites compared to African Americans and Hispanics, a higher percentage of respondents with a least some college education, a higher median household income, and approximately the same proportion of "white collar" workers.

Overview of the Present Study

Sample. The sample for the present study will be a subsample of the original LSOG

sample consisting of respondents from generations 1, 2, and 3 who completed all items of the materialism/humanism scale, Affect Balance Scale, and CES-D scale at five data collection points: 1985, 1988, 1991, 1994, and 1997. The CES-D was added to the LSOG questionnaire when the study recommenced in 1985, which prohibited the use of 1971 data. By the year 2000, only a handful of generation one respondents participated in the LSOG; therefore, 2000 data was excluded from the present study.

Demographic information. Table 5 contains the sociodemographic characteristics of the study sample by generation at each of the five data collection points. In the LSOG, respondents were asked to identify their racial/ethic background. Although several racial and ethnic response categories were included in the original survey, Table 5 contains only the data for three categories due to the small number of respondents who identified as belonging to racial or ethnic categories other than white or Hispanic. A significant majority of respondents in the study sample are white (over 90% for each generation at each time point). Though relatively few in number, Hispanics comprised the second largest racial category (less than 4% for each generation at each time point). The third racial category presented in table 5, Other, is comprised of respondents who identified as Asian, African American or "Other." Annual household income was assessed by asking respondents to select their total household income for last year from a list of more than ten categories e.g., "under \$10,000" and "at least \$90,000."

	Т	Time 1 (1985)		Total Time 2 (1988)		Total	Total Time 3 (1991)			Total	Total Time 4 (1994)			, Total		Гіте 5 (1997) т		Total		
	G1	G2	G3	T1	G1	G2	G3	T2	G1	G2	G3	T3	G1	G2	G3	T4	G1	G2	G3	T5
Mean age	77.27	56.82	32.66	48.65	80.53	59.98	35.85	51.84	83.79	63.37	39.17	55.18	86.79	66.37	42.17	58.18	89.79	69.37	45.7	61.18
Age Range	57-99	37-73	18-43	18-99	61-102	41-76	21-46	21-102	64-105	44-80	24-49	24-105	67-108	47-83	27-52	27-108	70-111	50-86	30-55	30-111
Gender (%)																				
Female	57.3	56.6	60.3	58.4	57.3	56.6	60.3	58.4	57.3	56.6	60.3	58.4	57.3	56.6	60.3	58.4	57.3	56.6	60.3	58.4
Male	42.7	43.4	39.7	41.6	42.7	43.4	39.7	41.6	42.7	43.4	39.7	41.6	42.7	43.4	39.7	41.6	42.7	43.4	39.7	41.6
Ethnicity (%)																				
White	91	94.5	92.7	93.3	91	94.5	92.7	93.3	91	94.5	92.7	93.3	91	94.5	92.7	93.3	91	94.5	92.7	93.3
Hispanic	3.4	1.3	2.8	2.3	3.4	1.3	2.8	2.3	3.4	1.3	2.8	2.3	3.4	1.3	2.8	2.3	3.4	1.3	2.8	2.3
Other/unknown	5.6	4.2	4.5	4.4	5.6	4.2	4.5	4.4	5.6	4.2	4.5	4.4	5.6	4.2	4.5	4.4	5.6	4.2	4.5	4.4
Median household income	\$15,000	\$35,000	\$35,000	\$35,000	\$15,000	\$45,000	\$45,000	\$35,000	\$15,000	\$45,000	\$55,000	\$45,000	\$15,000	\$45,000	\$55,000	\$45,000	\$15,000	\$45,000	\$55,000	\$45,000
Ν	150	475	511	1136	150	475	511	1136	150	475	511	1136	150	475	511	1136	150	475	511	1136

 Table 5. Sample Sociodemographic Characteristics by Generation 1985 - 1997

Note.

Measures. The present study will examine the relationship between three variables: materialism depressive symptoms, and well-being. Data for these variables were gathered using three instruments, which are described below along with relevant psychometric data and scoring instructions.

Materialism measure. Level of materialism was measured using a ranking scheme adapted from Rokeach's (1973) Values Survey. Like the original, the adapted survey asks respondents to rank 16 values in order of the importance each has in their lives. Eight of the 16 items reflect aspects of materialism/humanism; four items reflect the materialism construct and four reflect the humanism construct (Bengston, Biblarz & Roberts, 2002). The materialism/humanism score is determined by subtracting the sum of the four items reflecting humanism from the sum of the four items reflecting materialism. Higher positive scores indicate that the respondent ranked items reflecting the materialism dimension higher than those reflecting the humanism dimension. Negative scores indicate that respondents ranked items reflecting the humanism dimension higher than those reflecting the materialism dimension. A score of zero indicates that a respondent ranked materialism and humanism equally. The four items reflecting the Materialism dimension are: (1) "An exciting life (novelty, adventure)," (2) "Financial comfort (enough to have the things you really want in life)," (3) "An attractive appearance (knowing others admire the way you look)," and (4) "Possessions (enough things so you can do what you really enjoy doing." The four items reflecting the Humanism dimension are (1) "Equality (working for social justice for all)," (2) "Service (devotion to bettering mankind)" (3) "A world at peace (working for peace on earth)," and (4) "Patriotism (working for our country)" (Bengtson, 2005).

Bengtson (1975) assessed the adapted value scale's reliability by administering it to a

sample of 58 students. He found that it had a test-retest reliability of 0.78 (Spearman rank-order correlation) after an interval of four weeks. Bengtson's study also included a principal component factor analysis to assess the scale's construct validity. Results indicated that the items cluster in bipolar dimensions reflecting 2 distinct values, materialism and humanism, that were analogous to value types identified in several other studies. Further, he argued that they supported the theoretical categorizations proposed prior to the study.

In 2002, Bengston, Biblarz and Roberts' published a study exploring the transmission of values between familial generations. Their data sample is taken from the LSOG dataset, and they examine materialism using the materialism/humanism values survey. In regard to this measure, Bengston et al. write, "Extensive examination of the measures of this construct support its reliability and validity and the following citations report relevant assessments of measurement properties: Bengston, 1975 & 1989; Roberts & Bengston, 1993 & 1999" (p. 173).

Well-being measure. Level of well-being was measured using the Affect Balance Scale (Bradburn, 1969), a widely used measure of psychological well-being. Bengtson (2005) reports a reliability of 0.89. The Affect Balance Scale is composed of two subscales that reflect positive and negative psychological well-being. Each subscale consists of five items. Respondents are asked to indicate yes (1) or no (0) to whether they have felt the following during the past few weeks: "Particularly excited or interested in something?" "So restless that you couldn't sit long in a chair?" "Proud because someone complimented you on something you had done?" "Very lonely or remote from other people?" "Pleased about having accomplished something?" "Bored?" "On top of the world?" "Depressed or very unhappy?" "That things were really going your way?" "Upset because someone criticized you?" Scores on the positive and negative affect subscales are determined by summing the five items that comprise each subscale. The Affect

Balance Scale score is determined by subtracting the negative affect score from positive affect score; a constant of five is then added to avoid a negative score. Resulting scores range from zero (lowest affect balance) to 10 (highest affect balance).

Depressive symptoms measure. Level of depressive symptoms was measured using the Center for Epidemiologic Studies Depression (CES-D) scale which consists of 20 items intended to gauge the frequency that the respondent experienced the common symptoms of depression during the previous few weeks (Bengtson, 2005). The scale's 20 items correspond to six emotional components: depressed mood, guilt and worthlessness, helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disturbance. The response categories are "never," "rarely," "sometimes," and "always." Scores can range from 0 to 60 with higher scores indicating increased symptomology. Early studies found that scores of 16 or higher were indicative of clinical depression (Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977). The scale's 20 items are as follows: "I was bothered by things that don't usually bother me," "I did not feel like eating; my appetite was poor," "I felt that I could not shake the blues even with help from my family or friends," "I felt that I was just as good as other people," "I had trouble keeping my mind on what I was doing," "I felt depressed," "I felt that everything I did was an effort," "I felt hopeful about the future," "I thought my life had been a failure," "I felt fearful," "My sleep was restless," "I was happy," "I talked less than usual," "I felt lonely," "People were unfriendly," "I enjoyed life," "I had crying spells," "I felt sad," "I felt that people disliked me," and "I could not get going" (Bengtson, 2005).

Bengtson (2005) reports a reliability for the CES-D of 0.87, and a study by Roberts and Bengtson (1993) using the LSOG database found a Cronbach's alpha of 0.73. Psychometrics from the original study of the CES-D by Radloff (1977) demonstrated that the scale had an internal consistency (coefficient alpha, Spearman-Brown, split-halves) in the general population of 0.85 and in a patient sample of 0.90.

Study Design. The present study is descriptive study that uses cross-sectional and longitudinal designs to address the research questions. A cross-sectional approach will be used to analyze the strength of the relationships between materialism and depressive symptoms and materialism and well-being at five data collection points. In contrast, a longitudinal approach will be used to examine change in materialism, depressive symptoms and well-being between 1985 and 1997.

Statistical analyses.

Multiple regression analyses. Multiple regression analyses will be used to determine the strength of the relationships between materialism and depressive symptoms and materialism and well-being at four data points between 1985 and 1997. Multiple regression analysis is preferable to correlational analysis as a method of analyzing the association between variables, because it represents a more accurate model of relationships. For example, multiple regression analysis can take into account multiple factors, including control variables, thereby limiting the influence of potentially confounding variables. It can also account for variance and can increase the possibility of finding associations by accounting for random error. Although multiple regression will be the primary analytic strategy for examining the relationship between the variables, Pearson product-moment correlations will be used to assess for multicollinearity between variables.

For each multiple regression analysis, a three-step modeling strategy will be used to test whether the addition of variables adds significant predictive power to the model. Covariates will be controlled for in step-one (gender and generation status). In step-two, the predictor of interest will be entered into the model, and in step-three, interaction variables will be entered into the model. At each step of fitting the model, change in R^2 will be used to determine whether the added variable(s) significantly improved the model. Significant testing using an F-ratio will be done to determine whether R^2 is significant. In examining the results of the multiple regression analyses, unstandardized coefficients (*B*) will be used to determine the degree each predictor variable affects the outcome variable if the effects of all other predictors are held constant. *B* coefficients are recommended by statisticians over standardized coefficients (β) because they are easier to interpret, less problematic, and generally more meaningful. Finally, the effect size of significant results will be determined by examining R^2 i.e., the proportionate reduction in error in estimating the dependent when knowing the independents.

Hierarchical linear modeling. Hierarchical linear modeling (HLM; Raudenbush & Bryk, 2002) will be used to predict initial materialism, depressive symptoms and well-being as well as their rates of change between 1985 and 1997. HLM is preferable to repeated measures ANOVA as a method of analyzing change, because it represents a more accurate model of change (Atkins, 2005). While ANOVA-based techniques study change by examining group means across time points, HLM models change as a trajectory over time. HLM also has several advantages over other multilevel modeling techniques in that it can use all available data, account for missing outcome data, and accommodate any number of waves of longitudinal data. HLM is similar to multiple regression, but extends the approach to the utilization of repeated measures data in a two-phase process that examines change. In phase one, a level 1 model is used to characterize within-person change i.e., trajectories allowed to vary across individuals. Level 1 is unconditional model that provides data about underlying trajectories of change. In phase two, a level 2 model is used to characterize between-person differences in change and how

this variability is affected by various predictors. The unconditional HLM model (without predictors) includes three parameters referred to as *fixed effects*: an intercept that can be interpreted as the predicted value of the outcome when time is zero; a linear term that can be interpreted as the linear rate of change per unit of time. In addition, a quadratic term can be included as the rate of acceleration (or deceleration) in the trajectory over time if there are sufficient waves of data. HLM also includes an error term, which is partitioned into several different *random effects* and describes heterogeneity around the average growth trajectory.

A two-level HLM modeling strategy will be used for each of the three analyses. First, an unconditional model will be fit that includes no predictors at Level 2 and only time as a predictor at Level 1 (Model 1). The unconditional model specifies the repeated measures as a polynomial function of time (either linear or curvilinear). It also indicates whether the average level and average rate of change in the dependent variable is significantly different from 0 and whether there is significant variation among the individual intercepts and slopes. For the analysis that will examine materialism as an outcome variable, there are only three usable data points; therefore, the class of polynomial functions available will be limited to a linear model. In contrast, the analyses that will examine depressive symptoms and well-being as outcome variables include five data points, which will allow for the inclusion of a quadratic term at Level-1. For these analyses, a multivariate comparison test will be conducted to determine whether a linear or quadratic model best fits the data.

Next, for each outcome, a series of conditional models will be fit that include predictors of the intercepts and slopes at Level 2. First, control variables (gender and generation status) will be entered into the models to determine their effect on the outcomes' (dependent variable) initial level and slope (Model 2), and model comparison tests will be run to assess how much additional variance is accounted for by the control variables. Next, the main effects (independent variables) will be entered into the models to examine whether they explain any additional variance in the outcome variables (Model 3). For the analyses that examine depressive symptoms and well-being as outcome variables, interaction variables will be entered into the models to determine whether they explain any additional variance in the outcome variables (Model 4). For materialism, gender and generation were run separately so that the affects of generation over and above gender could be examined. At each step of fitting the conditional model, a deviance statistic will be calculated to determine whether the changes significantly improve the model and its ability to predict the intercepts and slope. A likelihood ratio test will be used to determine whether the change in deviance between the models is significant. Finally, the effect size of significant results will be determined by calculating the pseudo- R^2 i.e., the variance accounted for by the predictors over and above the variables included in the prior model.

For the multiple regression and HLM analyses that explore well-being and depressive symptoms as outcome variables, interaction variables representing the interaction between materialism and generation status will be included in order to explore whether the combined effect of materialism and generation status is a better predictor than materialism alone. For all multiple regression and HLM analyses, generation status and gender are considered covariates and will therefore be included as control variables so that the relationship between predictors of interest and outcome variables can be examined above and beyond the effects of gender and generation status. Other sociodemographic characteristics of interest, including age, race/ethnicity, education level and income level, were excluded from analyses for important reasons. Age was highly correlated with generation status and was necessarily excluded to avoid multicollinearity. All other sociodemographic characteristics of interest were excluded, because this data was missing at multiple data collection points for most generation one respondents.

Chapter Summary

This chapter began by describing the LSOG dataset from which the study sample was taken, including data collection procedures and characteristics of the original sample. Next, this chapter presented an overview of the present study, including a description of the sample, measures, and study design. Finally, this chapter provided a detailed description of the present study's analytic strategy.

CHAPTER FOUR

Results

This chapter presents the results of statistic analyses used to address this study's research questions. It begins with the results of preliminary analyses followed the results of primary analyses. Results of multiple regression analyses used to address research questions 1 and 2 are presented first, followed by results of HLM used to address research questions 3, 4 and 5. All results are presented in both narrative and tabular form.

Descriptive Statistics

Descriptives statistics are presented in Tables 6 through 10. Tables 6 and 7 contain descriptive statistics for the materialism variable. It should be noted that in the subsequent analyses the materialism group represents a subsample of a larger whole consisting of those respondents who had sufficient data to examine materialism over time. Table 6 contains descriptive statistics for the materialism variable for generations 1, 2 and 3 across the five time points of measurement.

10010 01 200011	p $m \in \mathbb{R}$		111000000000		
	N	M	SD	Minimum	Maximum
Generation 1					
Time 1	199	-3.02	9.99	-24	22
Time 2	105	-2.20		-24	17
Time 3	83	-2.42	9.87	-20	19
Time 4	69	-1.68	9.36	-18	17
Time 5	40	-0.98	8.61	-16	17
Generation 2					
Time 1	538	-0.64	10.02	-25	23
Time 2	430	-2.12	9.83	-23	22
Time 3	396	-1.18	8.84	-22	20
Time 4	418	0.00	8.93	-22	20
Time 5	381	-2.31	10.18	-23	24
Generation 3					
Time 1	548	1.66	9.20	-22	23

 Table 6. Descriptive Statistics for Materialism Variable

			-	a		
Time 5	378	-1.01	9.52	-24	24	
Time 4	409	-0.58	8.06	-21	19	
Time 3	391	-1.17	8.60	-21	21	
Time 2	426	-0.45	9.13	-25	24	

Note. Materialism variable = adaptation of Rokeach's Values Survey.

Table 7 provides information about the numbers and valid percentages of respondents who

ranked materialism higher than humanism, those who ranked humanism higher than materialism,

and those who gave equal weight to both materialism and humanism.

	Higher	Higher	Materialism/Humanism
	Materialism	Humanism	Ranked Equally
	N (Valid %)	N (Valid %)	N (Valid %)
Generation 1			
Time 1	49 (32.7)	92 (61.3)	9 (6)
Time 2	31 (38.8)	42 (52.5)	7 (8.8)
Time 3	24 (37.5)	38 (59.4)	2 (3.1)
Time 4	22 (40.7)	27 (50)	5 (9.3)
Time 5	13 (39.4)	17 (51.5)	3 (9.1)
Generation 2			
Time 1	213 (44.8)	241 (50.7)	21 (4.4)
Time 2	148 (38.1)	224 (57.7)	16 (4.1)
Time 3	160 (44.7)	184 (51.4)	14 (3.9)
Time 4	184 (49.1)	173 (46.1)	18 (4.8)
Time 5	138 (40.1)	193 (56.1)	13 (3.8)
Generation 3			
Time 1	284 (55.6)	208 (40.7)	19 (3.7)
Time 2	172 (43.4)	199 (50.3)	25 (6.3)
Time 3	162 (44.4)	187 (51.2)	14 (4.4)
Time 4	171 (44.5)	192 (50)	21 (5.5)
Time 5	164 (46.1)	181 (50.8)	11 (3.1)

Table 7. Descriptive Statistics for Materialism Variable: Materialismvs. Humanism

Note. Materialism variable = adaptation of Rokeach's Values Survey.

Tables 8 and 9 contain descriptive statistics for the depressive symptoms variable. Table 8 contains descriptive statistics for the depressive symptoms variable for generations 1, 2 and 3 across the five time points of measurement. The depressive symptoms variable was characterized by a slight skew thus violating multivariate normality, an assumption of both

multiple regression and HLM analyses. Depressive symptoms scores were transformed by taking their square root. Multiple regression and HLM analyses were run with both the transformed and untransformed depressive symptoms variables, but no significant differences in results were found. Only the results of analyses run with the untransformed depressive symptoms variables are reported.

Tuble 6. Descriptive	Statistics joi	Depressive			
	N	M	SD	Minimum	Maximum
Generation 1					
Time 1	169	11.43	8.13	0	45
Time 2	91	9.95	5.82	0	29
Time 3	81	10.67	6.94	0	28
Time 4	57	11.67	8.09	0	42
Time 5	31	11.03	7.33	0	23
Generation 2					
Time 1	509	8.86	8.89	0	53
Time 2	417	7.74	7.71	0	39
Time 3	385	8.18	7.69	1	43
Time 4	378	8.30	7.26	0	48
Time 5	363	8.51	6.91	1	36
Generation 3					
Time 1	526	10.85	9.00	0	49
Time 2	426	10.23	8.60	0	54
Time 3	402	11.17	9.54	0	57
Time 4	406	10.45	8.44	0	46
Time 5	377	10.51	9.98	0	52

Table 8. Descriptive Statistics for Depressive Symptoms Variable

Note. Depressive symptoms variable = Center for Epidemiologic Studies Depression (CES-D) scale.

Table 9 provides information about the numbers and valid percentages of respondents who fell above and below the clinical cut-off score of 16. As noted earlier, the depressive symptoms variable represents respondents' scores on the CES-D or level of depressive symptoms. Scores of 16 or higher are generally accepted to be indicative of clinical depression (Weissman et al., 1977).

r al lable by Cl	innear cur ojj jor	Depression
	Normal range	Clinically significant range
	< 16	≥16
	N (Valid %)	N (Valid %)
Generation 1		
Time 1	136 (80.5)	33 (19.5)
Time 2	81 (89)	10 (11)
Time 3	63 (77.8)	18 (22.2)
Time 4	43 (75.4)	14 (24.6)
Time 5	21 (67.7)	10 (32.3)
Generation 2		
Time 1	415 (81.5)	94 (18.5)
Time 2	367 (88)	50 (12)
Time 3	336 (87.3)	49 (12.7)
Time 4	325 (86)	53 (14)
Time 5	318 (87.6)	45 (12.4)
Generation 3		
Time 1	399 (75.9)	127 (24.1)
Time 2	335 (78.6)	91 (21.4)
Time 3	310 (77.1)	92 (22.9)
Time 4	329 (81)	77 (19)
Time 5	301 (79.8)	76 (20.2)

Table 9. Descriptive Statistics for Depressive SymptomsVariable by Clinical Cut-off for Depression

Note. Depressive symptoms variable = Center for Epidemiologic Studies Depression (CES-D) scale.

Table 10 contains descriptive statistics for the well-being variable for generations 1, 2 and 3 across the five time points of measurement. As suspected, negative correlations between respondents' depressive symptoms and well-being scores were relatively high: correlations ranged from -.6 to -.68 (p < .001) across five time points of data (see Appendix, tables 24-28). Both measures were retained as independent outcome variables, because the represent distinct psychological constructs.

 Table 10. Descriptive Statistics for Well-Being Variable

					0
	N	M	SD	Minimum	Maximum
Generation 1					
Time 1	167	7.33	2.27	1	10
Time 2	112	7.20	2.25	1	10
Time 3	90	7.33	2.31	1	10
Time 4	64	7.17	2.45	1	10
Time 5	37	7.54	2.09	1	10
--------------	-----	------	------	---	----
Generation 2					
Time 1	509	7.47	2.22	0	10
Time 2	437	7.71	2.01	1	10
Time 3	387	7.76	1.92	0	10
Time 4	409	7.90	1.84	1	10
Time 5	376	7.98	1.97	0	10
Generation 3					
Time 1	534	6.81	2.05	1	10
Time 2	442	6.78	2.01	1	10
Time 3	409	6.79	2.14	0	10
Time 4	413	6.87	2.08	1	10
Time 5	394	6.84	2.27	0	10

Note. Well-being variable = Affect Balance Scale.

Research Question One

The first research question addressed whether there was an association between materialism and depressive symptoms at each data point, and if so, whether it was modified by generation status. It was hypothesized that higher levels of materialism would be associated with higher levels of depressive symptoms at each data point. It was further hypothesized that subsequent generations would have higher levels of materialism and thus higher levels of depressive symptoms at each data point. To test this hypothesis, five multiple regression analyses were run. Each analysis used a three-step modeling strategy to test whether the addition of variables added significant predictive power to the model. In step-one, control variables were entered in order that subsequent models could examine the effect of materialism above and beyond the effects of gender and generation status. In step-two, the materialism variable—the predictor of interest—was entered into the model. In step-three, the interaction variable, which represented the interaction between generation status and materialism, was entered into the model.

Table 11 contains the results of the multiple regression analyses assessing the relationship

between materialism and depressive symptoms at Time 1 (1985).

	<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>
	(Controls)	(Controls, Main	(Controls, Main Effects,
		Effects)	Interactions)
Level of depressive	B(SE)	B(SE)	B (SE)
symptoms			
Intercept	8.05** (0.49)	8.08** (0.49)	8.12** (0.49)
Gender (males)	1.44* (0.52)	1.46* (0.52)	1.40* (0.52)
Gen1 (Gen2)	2.53** (0.78)	2.64** (0.78)	2.89** (0.81)
Gen3 (Gen2)	1.94** (0.55)	1.73** (0.56)	1.90** (0.55)
Materialism		0.05* (0.03)	0.07 (0.04)
Gen1 (Gen2) x Mat			0.08 (0.08)
Gen3 (Gen2) x Mat			-0.07 (0.06)

Table 11. *Multiple Regression Results Indicating Impact of Materialism on Depressive Symptoms at Time 1 (1985)*

Note. N = 1204. Missing data was handled through casewise deletion for individuals with missing data on either the independent or dependent variables. Comparison groups are listed in parentheses. $\Delta R^2 = 0.02$ for Step 1(ps < .001); $\Delta R^2 = 0.00$ for Step 2 (ps < .05); $\Delta R^2 = 0.00$ for Step 3 (ps = n.s.). *p < .05 **p < .001.

In step one, results indicated that women reported significantly more depressive symptoms than men at Time 1 (B = 1.44, p < 0.05). Results further indicated that generation was significantly associated with level of depressive symptoms when controlling for gender such that generation 2 reported significantly fewer depressive symptoms than generations 1 and 3 at Time 1 (B = 2.53, p< 0.001; B = 1.94, p < 0.001). Adding gender and generation to the model led to a 2% proportional reduction in variance in the level of depressive symptoms. In step two, results indicated that when controlling for the effects of gender and generation, higher levels of materialism were significantly associated with higher levels of depressive symptoms at Time 1(B= 0.05, p < 0.05). Adding materialism as a predictor to the model led to a .3% proportional reduction in variance in the level of depressive symptoms. In step 3, results indicated that the interaction between materialism and generation was not significantly associated with level of depressive symptoms when controlling for gender, generation and materialism. Table 12 contains the results of the multiple regression analyses assessing the relationship

between materialism and depressive symptoms at Time 2 (1988).

Symptoms at $1 \text{ time} = 1$.00)		
	<u>Step 1</u>	Step 2	<u>Step 3</u>
	(Controls)	(Controls, Main	(Controls, Main Effects,
		Effects)	Interactions)
	Unstandardized	Unstandardized	Unstandardized
Level of depressive	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
symptoms			
Intercept	7.35** (0.51)	7.38** (0.51)	7.26** (0.52)
Gender (males)	.57 (0.55)	.60 (0.55)	.62 (0.55)
Gen1 (Gen2)	2.18* (0.99)	2.19* (0.99)	2.3* (1.0)
Gen3 (Gen2)	2.21** (0.56)	2.17** (0.56)	2.17** (0.56)
Materialism		0.02 (0.03)	- 0.03 (0.04)
Gen1 (Gen2) x Mat			0.12 (0.10)
Gen3 (Gen2) x Mat			0.09 (0.06)
N . N 074 N	1 / 1 11 1 /1	1 111	0 1 1 1 1 1

 Table 12. Multiple Regression Results Indicating Impact of Materialism on Depressive

 Symptoms at Time 2 (1988)

Note. N = 874. Missing data was handled through casewise deletion for individuals with missing data on either the independent or dependent variables. Comparison groups are listed in parentheses. $\Delta R^2 = 0.02$ for Step 1(ps < .001); $\Delta R^2 = 0.00$ for Step 2 (ps = n.s.); $\Delta R^2 = 0.00$ for Step 3 (ps = n.s.). *p < .05 **p < .001.

In step one, gender was not associated with level of depressives symptoms. In contrast, results indicated that generation was significantly associated with level of depressive symptoms when controlling for gender such that generation 2 reported significantly fewer depressive symptoms than generations 1 and 3 at Time 2 (B = 2.18, p < 0.05; B = 2.21, p < 0.001). Adding gender and generation to the model led to a 2% proportional reduction in variance in the level of depressive symptoms. In step two, materialism was not significantly associated with level of depressive symptoms. In step 3, the interaction between materialism and generation was not significantly associated with level of depressive symptoms. In step 3, the interaction between materialism for gender, generation and materialism.

Table 13 contains the results of the multiple regression analyses assessing the relationship between materialism and depressive symptoms at Time 3 (1991).

Step 1	Step 2	Step 3
(Controls)	(Controls, Main	(Controls, Main Effects,
	Effects)	Interactions)
Unstandardized	Unstandardized	Unstandardized
Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
7.80** (0.57)	7.8** (0.57)	7.78** (0.61)
.49 (1.23)	.60 (0.62)	.57 (0.55)
1.81 (1.13)	1.86 (1.13)	1.93 (1.34)
3.12** (0.63)	3.10** (0.63)	3.1** (0.63)
	0.04 (0.03)	0.03 (0.05)
		0.07 (0.12)
		0.00 (0.07)
	<u>Step 1</u> (Controls) Unstandardized Coefficient (<i>SE</i>) 7.80** (0.57) .49 (1.23) 1.81 (1.13) 3.12** (0.63)	$\begin{array}{c} \underline{\text{Step 1}} \\ (\text{Controls}) \\ \hline \\ (\text{Controls}) \\ \hline \\ \text{Unstandardized} \\ \text{Coefficient (SE)} \\ \hline \\ $

Table 13. Multiple Regression Results Indicating Impact of Materialism on Depressive Symptoms at Time 3 (1991)

Note. N = 819. Missing data was handled through casewise deletion for individuals with missing data on either the independent or dependent variables. Comparison groups are listed in parentheses. $\Delta R^2 = 0.03$ for Step 1(ps < .001); $\Delta R^2 = 0.00$ for Step 2 (ps = n.s.); $\Delta R^2 = 0.00$ for Step 3 (ps = n.s.). *p < .05 **p < .001.

In step one, gender was not associated with level of depressives symptoms. In contrast, results indicated that generation was significantly associated with level of depressive symptoms when controlling for gender such that generation 2 reported significantly fewer depressive symptoms than generation 3 at Time 2 (B = 3.12, p < 0.001). There was no significant difference in level of depressive symptoms between generations 1 and 2. Adding gender and generation to the model led to a 3% proportional reduction in variance in the level of depressive symptoms. In step two, materialism was not significantly associated with level of depressive symptoms. In step 3, the interaction between materialism and generation was not significantly associated with level of depressive symptoms.

Table 14 contains the results of the multiple regression analyses assessing the relationship between materialism and depressive symptoms at Time 4 (1994).

	<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>
	(Controls)	(Controls, Main	(Controls, Main Effects,
		Effects)	Interactions)
	Unstandardized	Unstandardized	Unstandardized
Level of depressive	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
symptoms			
Intercept	7.59** (0.53)	7.58** (0.53)	7.58** (0.53)
Gender (males)	1.17* (.57)	1.19* (0.57)	1.19* (0.57)
Gen1 (Gen2)	2.56* (1.18)	2.66* (1.18)	2.65* (1.18)
Gen3 (Gen2)	2.19** (0.57)	2.20** (0.57)	2.19** (0.57)
Materialism		0.01 (0.03)	0.00 (0.05)
Gen1 (Gen2) x Mat			0.09 (0.12)
Gen3 (Gen2) x Mat			0.01 (0.07)

Table 14. Multiple Regression Results Indicating Impact of Materialism on Depressive Symptoms at Time 4 (1994)

Note. N = 824. Missing data was handled through casewise deletion for individuals with missing data on either the independent or dependent variables. Comparison groups are listed in parentheses. $\Delta R^2 = 0.03$ for Step 1(ps < .001); $\Delta R^2 = 0.00$ for Step 2 (ps = n.s.); $\Delta R^2 = 0.00$ for Step 3 (ps = n.s.). *p < .05 **p < .001.

In step one, results indicated that women reported significantly more depressive symptoms than men at Time 1 (B = 1.17, p < 0.05). Results further indicated that generation was significantly associated with level of depressive symptoms when controlling for gender such that generation 2 reported significantly fewer depressive symptoms than generations 1 and 3 at Time 1 (B = 2.56, p< 0.05; B = 2.19, p < 0.001). Adding gender and generation to the model led to a 3% proportional reduction in variance in the level of depressive symptoms. In step two, materialism was not significantly associated with level of depressive symptoms. In step 3, the interaction between materialism and generation was not significantly associated with level of depressive symptoms when controlling for gender, generation and materialism.

Table 15 contains the results of the multiple regression analyses assessing the relationship between materialism and depressive symptoms at Time 5 (1997).

	<u>Step 1</u>	Step 2	<u>Step 3</u>
	(Controls)	(Controls, Main	(Controls, Main Effects,
		Effects)	Interactions)
	Unstandardized	Unstandardized	Unstandardized
Level of depressive	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
symptoms			
Intercept	7.70** (0.56)	7.67** (0.57)	7.70** (0.57)
Gender (males)	1.43* (.60)	1.41* (0.60)	1.4* (0.6)
Gen1 (Gen2)	2.65 (1.58)	2.68 (1.58)	2.5 (1.59)
Gen3 (Gen2)	1.76* (0.59)	1.78* (0.60)	1.8* (0.6)
Materialism		-0.01 (0.02)	-0.00 (0.03)
Gen1 (Gen2) x Mat			0.17 (0.18)
Gen3 (Gen2) x Mat			-0.03 (0.05)

Table 15. *Multiple Regression Results Indicating Impact of Materialism on Depressive Symptoms at Time 5 (1997)*

Note. N = 741. Missing data was handled through casewise deletion for individuals with missing data on either the independent or dependent variables. Comparison groups are listed in parentheses. $\Delta R^2 = 0.02$ for Step 1(ps < .001); $\Delta R^2 = 0.00$ for Step 2 (ps = n.s.); $\Delta R^2 = 0.00$ for Step 3 (ps = n.s.). *p < .05 **p < .001.

In step one, results indicated that women reported significantly more depressive symptoms than men at Time 1 (B = 1.43, p < 0.05). Results further indicated that generation was significantly associated with level of depressive symptoms when controlling for gender such that generation 2 reported significantly fewer depressive symptoms than generation 3 at Time 2 (B = 1.76, p <0.05). There was no significant difference in level of depressive symptoms between generations 1 and 2. Adding gender and generation to the model led to a 2% proportional reduction in variance in the level of depressive symptoms. In step two, materialism was not significantly associated with level of depressive symptoms. In step 3, the interaction between materialism and generation was not significantly associated with level of depressive symptoms when controlling for gender, generation and materialism.

Research Question Two

The second research question addressed whether there was an association between

materialism and well-being at each data point, and if so, whether it was modified by generation status. It was hypothesized that higher levels of materialism would be associated with lower levels of well-being at each data point. It was further hypothesized that subsequent generations would have higher levels of materialism and thus lower levels of well-being at each data point. To test this hypothesis, five multiple regression analyses were run. Each analysis used the same three-step modeling strategy used to address research question one.

Table 16 contains the results of the multiple regression analyses assessing the relationship between materialism and well-being at Time 1 (1985).

Table 16.	Multiple Regression Re	sults	Indicating	Impact of	of Materialism	on Well-bei	ng at	Time 1	l
(1985)									
	C.	1		0.	2	C.	2		

	Step 1	Step 2	Step 3
	(Controls)	(Controls, Main	(Controls, Main Effects,
		Effects)	Interactions)
	Unstandardized	Unstandardized	Unstandardized
Level of depressive	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
symptoms			
Intercept	7.47** (0.12)	7.47** (0.12)	7.46** (012)
Gender (males)	.01 (0.13)	.00 (0.13)	.01 (0.13)
Gen1 (Gen2)	-1.4(0.19)	19 (0.19)	24(0.20)
Gen3 (Gen2)	66** (0.13)	62** (0.13)	64** (0.13)
Materialism		02* (0.01)	02* (0.01)
Gen1 (Gen2) x Mat			01 (0.02)
Gen3 (Gen2) x Mat			.02 (0.01)

Note. N = 1210. Missing data was handled through casewise deletion for individuals with missing data on either the independent or dependent variables. Comparison groups are listed in parentheses. $\Delta R^2 = 0.02$ for Step 1(ps < .001); $\Delta R^2 = 0.01$ for Step 2 (ps < .001); $\Delta R^2 = 0.00$ for Step 3 (ps = n.s.). *p < .05 **p < .001.

In step one, gender was not associated with level of well-being. In contrast, results indicated that generation was significantly associated with level of well-being when controlling for gender such that generation 2 reported significantly greater well-being than generation 3 at Time 1 (B = -0.66, p < 0.001). There was no significant difference in level of well-being between generations 1 and 2. Adding gender and generation to the model led to a 2% proportional reduction in variance in

the level of well-being. In step two, results indicated that when controlling for the effects of gender and generation, higher levels of materialism were significantly associated with lower levels of well-being at Time 1(B = -0.02, p < 0.05). Adding materialism as a predictor to the model led to a 1% proportional reduction in variance in the level of well-being. In step 3, results indicated that the interaction between materialism and generation was not significantly associated with level of well-being when controlling for gender, generation and materialism.

Table 17 contains the results of the multiple regression analyses assessing the relationship between materialism and well-being at Time 2 (1988).

Table 17. Multiple Regression Results Indicating Impact of Materialism on Well-being at Time 2(1988)

	<u>Step 1</u>	<u>Step 2</u>	Step 3
	(Controls)	(Controls, Main	(Controls, Main Effects,
		Effects)	Interactions)
	Unstandardized	Unstandardized	Unstandardized
Level of depressive	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
symptoms			
Intercept	7.71** (0.13)	7.69** (0.13)	7.7** (0.13)
Gender (males)	.02 (0.14)	.01 (0.14)	.00 (0.14)
Gen1 (Gen2)	48* (0.24)	49* (0.24)	5* (0.24)
Gen3 (Gen2)	69** (0.14)	87** (0.14)	87** (0.24)
Materialism		02* (0.01)	01 (0.01)
Gen1 (Gen2) x Mat			01 (0.02)
Gen3 (Gen2) x Mat			01 (0.02)

Note. N = 921. Missing data was handled through casewise deletion for individuals with missing data on either the independent or dependent variables. Comparison groups are listed in parentheses. $\Delta R^2 = 0.04$ for Step 1(*ps* < .001); $\Delta R^2 = 0.01$ for Step 2 (*ps* < .05); $\Delta R^2 = 0.00$ for Step 3 (*ps* = n.s.). **p* < .05 ***p* < .001.

In step one, gender was not associated with level of depressives symptoms. In contrast, results indicated that generation was significantly associated with level of depressive symptoms when controlling for gender such that generation 2 reported significantly greater well-being than generations 1 and 3 at Time 1 (B = -0.48, p < 0.05; B = -0.69, p < 0.001). Adding gender and generation to the model led to a 4% proportional reduction in variance in the level of well-being.

In step two, results indicated that when controlling for the effects of gender and generation, higher levels of materialism were significantly associated with lower levels of well-being at Time 1(B = -0.02, p < 0.05). Adding materialism as a predictor to the model led to a 1% proportional reduction in variance in the level of well-being. In step 3, the interaction between materialism and generation was not significantly associated with level of well-being when controlling for gender, generation and materialism.

Table 18 contains the results of the multiple regression analyses assessing the relationship between materialism and well-being at Time 3 (1991).

 Table 18. Multiple Regression Results Indicating Impact of Materialism on Well-being at Time 3 (1991)

	a 1	a a	a . a
	<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>
	(Controls)	(Controls, Main	(Controls, Main Effects,
		Effects)	Interactions)
	Unstandardized	Unstandardized	Unstandardized
Level of depressive	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
symptoms			
Intercept	7.76** (0.13)	7.75** (0.13)	7.76** (0.13)
Gender (males)	.06 (0.14)	.04 (0.14)	.04 (0.14)
Gen1 (Gen2)	46 (0.26)	47 (0.23)	47* (0.26)
Gen3 (Gen2)	98** (0.15)	98** (0.15)	98** (0.15)
Materialism		01* (0.01)	01 (0.01)
Gen1 (Gen2) x Mat			00 (0.03)
Gen3 (Gen2) x Mat			01 (0.02)

Note. N = 838. Missing data was handled through casewise deletion for individuals with missing data on either the independent or dependent variables. Comparison groups are listed in parentheses. $\Delta R^2 = 0.05$ for Step 1(*ps* < .001); $\Delta R^2 = 0.00$ for Step 2 (*ps* = n.s); $\Delta R^2 = 0.00$ for Step 3 (*ps* = n.s.). **p* < .05 ***p* < .001.

In step one, gender was not associated with level of well-being. In contrast, results indicated that generation was significantly associated with level of well-being when controlling for gender such that generation 2 reported significantly greater well-being than generation 3 at Time 1 (B = -0.98, p < 0.001). There was no significant difference in level of well-being between generations 1 and 2. Adding gender and generation to the model led to a 5% proportional reduction in variance in

the level of well-being. In step two, results indicated that when controlling for the effects of gender and generation, higher levels of materialism were significantly associated with lower levels of well-being at Time 1(B = -0.01, p < 0.05). Adding materialism as a predictor to the model led to a .2% proportional reduction in variance in the level of well-being. In step 3, the interaction between materialism and generation was not significantly associated with level of well-being when controlling for gender, generation and materialism.

Table 19 contains the results of the multiple regression analyses assessing the relationship between materialism and well-being at Time 4 (1994).

Table 19. Multiple Regression Results Indicating Impact of Materialism on Well-being at Time 4(1994)

	<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>
	(Controls)	(Controls, Main	(Controls, Main Effects,
		Effects)	Interactions)
	Unstandardized	Unstandardized	Unstandardized
Level of depressive	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
symptoms			
Intercept	7.98** (0.13)	7.99** (0.13)	7.99** (0.13)
Gender (males)	11 (0.14)	14 (0.14)	13 (0.14)
Gen1 (Gen2)	39 (0.28)	41 (0.28)	44 (0.29)
Gen3 (Gen2)	-1.06** (0.14)	-1.07** (0.14)	-1.07** (0.14)
Materialism		02* (0.01)	01 (0.01)
Gen1 (Gen2) x Mat			04 (0.03)
Gen3 (Gen2) x Mat			02 (0.02)

Note. N = 864. Missing data was handled through casewise deletion for individuals with missing data on either the independent or dependent variables. Comparison groups are listed in parentheses. $\Delta R^2 = 0.07$ for Step 1(ps < .001); $\Delta R^2 = 0.01$ for Step 2 (ps < .05); $\Delta R^2 = 0.00$ for Step 3 (ps = n.s.). *p < .05 **p < .001.

In step one, gender was not associated with level of well-being. In contrast, results indicated that generation was significantly associated with level of well-being when controlling for gender such that generation 2 reported significantly greater well-being than generation 3 at Time 1 (B = -1.06, p < 0.001). There was no significant difference in level of well-being between generations 1 and 2. Adding gender and generation to the model led to a 7% proportional reduction in variance in

the level of well-being. In step two, results indicated that when controlling for the effects of gender and generation, higher levels of materialism were significantly associated with lower levels of well-being at Time 1(B = -0.02, p < 0.05). Adding materialism as a predictor to the model led to a 1% proportional reduction in variance in the level of well-being. In step 3, the interaction between materialism and generation was not significantly associated with level of well-being when controlling for gender, generation and materialism.

Table 20 contains the results of the multiple regression analyses assessing the relationship between materialism and well-being at Time 5 (1997).

 Table 20. Multiple Regression Results Indicating Impact of Materialism on Well-being at Time 5 (1997)

	<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>
	(Controls)	(Controls, Main	(Controls, Main Effects,
		Effects)	Interactions)
	Unstandardized	Unstandardized	Unstandardized
Level of depressive	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
symptoms			
Intercept	8.16** (0.15)	8.41** (0.16)	8.14** (0.16)
Gender (males)	24 (0.16)	24 (0.16)	24 (0.16)
Gen1 (Gen2)	41 (0.41)	39 (0.41)	29(0.42)
Gen3 (Gen2)	-1.12** (0.16)	-1.10** (0.16)	-1.12** (0.16)
Materialism		01 (0.01)	01 (0.01)
Gen1 (Gen2) x Mat			06 (0.05)
Gen3 (Gen2) x Mat			.01 (0.01)

Note. N = 770. Missing data was handled through casewise deletion for individuals with missing data on either the independent or dependent variables. Comparison groups are listed in parentheses. $\Delta R^2 = 0.06$ for Step 1(ps < .001); $\Delta R^2 = 0.00$ for Step 2 (ps = n.s.); $\Delta R^2 = 0.00$ for Step 3 (ps = n.s.). *p < .05 **p < .001.

In step one, gender was not associated with level of well-being. In contrast, results indicated that generation was significantly associated with level of well-being when controlling for gender such that generation 2 reported significantly greater well-being than generation 3 at Time 1 (B = -1.12, p < 0.001). There was no significant difference in level of well-being between generations 1 and 2. Adding gender and generation to the model led to a 6% proportional reduction in variance in

the level of well-being. In step two, materialism was not significantly associated with level of well-being at Time 1 when controlling for gender, generation. In step 3, the interaction between materialism and generation was not significantly associated with level of well-being when controlling for gender, generation and materialism.

Research Question Three

The third research question examined whether materialism was associated with initial level of depressive symptoms and their rate of change from 1985 to 1997, and whether the effect of materialism on depressive symptoms differed depending on respondents' generation status. It was hypothesized that higher levels of materialism would be associated with higher levels of depressive symptoms at baseline and would lead to increased depressive symptoms over time. Further, it was hypothesized that subsequent generations would have higher levels of materialism and thus higher initial levels of depressive symptoms and greater increase in depressive symptoms over time.

To test these hypotheses, a two-level HLM modeling strategy was used to determine the best way to model change in depressive symptoms. First, an unconditional model testing for linear change in depressive symptoms was run, followed by an unconditional model that included quadratic change over time, which tests for curvature in trajectory. A significant model comparison test of the two models indicated that the quadratic model was a better fit to the data than the linear model ($\Delta \chi^2(4) = 44.90, p < 0.001$). The average intercept indicated that the level of depressive symptoms across all generations at Time 1 was significantly different from 0 (β = 9.84, *p* < 0.001) with respondents generally reporting levels of depressive symptoms below the clinical cut-off of 16 (Weissman et al., 1977). The average slope indicated there was no change in level of depressive symptoms over time; however, examination of the variance components

indicated significant variability among individual intercepts ($\tau_{00} = 51.59$, $\chi^2 = 2437.70$, p < 0.001), linear slope parameters ($\tau_{11} = 1.88$, $\chi^2 = 1271.80$, p < 0.001), and quadratic slope parameters ($\tau_{22} = 0.01$, $\chi^2 = 1232.76$, p < 0.001). In other words, between 1985 and 1997, the linear slope parameters suggested that some individuals' levels of depressive symptoms increased, some decreased, and some may have remained stable. Furthermore, quadratic slope parameters suggested that individuals experienced different overall patterns of change in their levels of depressive symptoms.

In the next phase of analyses, predictors were added to the model to explain variation in initial levels of depressive symptoms and their trajectories. First, control variables were added in order that subsequent models could examine the effect of materialism above and beyond the effects of gender and generation status. Model 2 results indicated that gender was significantly associated with level of depressive symptoms such that women reported significantly more depressive symptoms than men at Time 1 (β = 1.41, *p* < 0.05). Results further indicated that generation was significantly associated with level of depressive symptoms when controlling for gender such that generation 2 reported significantly fewer depressive symptoms than generations 1 and 3 at Time 1 (β = 2.42, *p* < 0.05; β = 1.92, *p* < 0.05). None of the control variables were significantly associated with linear or quadratic change in level of depressive symptoms. Adding gender and generation to the model led to a 1% proportional reduction in variance in the level of depressive symptoms. Examination of the variance components showed significant variance left to explain in the intercept (τ_{00} = 50.10, χ^2 = 2377.89, *p* < 0.001), linear slope (τ_{11} = 1.88, χ^2 = 1272.67, *p* < 0.001), and quadratic slope (τ_{22} = 0.01, χ^2 = 1233.31, *p* < 0.001).

In Model 3, materialism was not significantly associated with initial level of depressive symptoms or linear or quadratic change in level of depressive symptoms when controlling for

gender and generation. Similarly, Model 4 results indicated that the interaction between materialism and generation was not significantly associated with initial level of depressive symptoms or linear or quadratic change in level of depressive symptoms when controlling for gender, generation and materialism. The full model for depressive symptoms with all controls, main effect variables, interaction terms, and variance components is shown in Table 21.

Model 1 Model 3 Model 2 Model 4 (Unconditional) (Controls) (Controls, Main (Controls, Main Effects) Effects, Interactions) Unstandardized Unstandardized Unstandardized Unstandardized Level of Coefficient (SE) Coefficient (SE) Coefficient (SE) Coefficient (SE) depressive symptoms 9.89** (0.25) 7.90** (0.48) 7.92** (0.48) 7.95** (.48) Intercept Gender 1.41* (0.51) 1.44* (0.51) 1.39* (0.51) (males) Gen1 (Gen2) 2.42*(0.80)2.54*(0.80)2.83*(0.82)Gen3 (Gen2) 1.92* (0.54) 1.81* (0.54) 1.89* (0.54) Materialism 0.05 (0.03) 0.07(0.04)Gen1 (Gen2) 0.08 (0.08) x Mat Gen3 (Gen2) -0.07(0.06)x Mat Linear Change Intercept -0.03(0.08)0.07(0.15)0.06(0.15)0.07(0.15)Gender (male) -0.24(0.16)-0.25(0.16)-0.25(0.16)Gen1 (Gen2) -0.29(0.30)-0.32(0.30)-0.34(0.31)0.17 (0.17) Gen3 (Gen2) 0.14(0.16)0.16 (0.16) Materialism -0.01 (0.01) -0.01(0.01)Gen1 (Gen2) -0.01(0.03)x Mat Gen3 (Gen2) -0.01 (0.02) x Mat Quadratic change Intercept 0.00(0.01)-0.01 (0.01) -0.01(0.01)-0.01(0.01)Gender (male) 0.02(0.01)0.02 (0.01) 0.02 (0.01) Gen1 (Gen2) 0.04 (0.03) 0.04(0.03)0.04(0.03)

Table 21. Multilevel Results Indicating Impact of Materialism on Depressive Symptoms (1985-1997)

Gen3 (Gen2)		-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	
Materialism			0.00 (0.00)	0.00 (0.00)	
Gen1 (Gen2)				0.00 (0.00)	
x Mat					
Gen3 (Gen2)				0.00 (0.00)	
x Mat					
Variance					
Components					
Intercept	51.59**	51.10**	49.86**	49.64**	
Linear change	1.88**	1.88**	1.88**	1.87**	
Quadratic	0.10**	0.01**	0.01**	0.01**	
change					
Level 1	27.14	27.12	27.10	27.10	
variance					

Note. Comparison groups are listed in parentheses. Linear change = Time in years centered at Time 1 (1985). Quadratic change = Time squared in years centered at Time 1 (1985). *p < .05. *p < .001.

Research Question Four

The fourth research question examined whether materialism was associated with initial well-being level in 1985 and its rate of change from 1985 to 1997, and whether the effect of materialism on well-being differed depending on respondents' generation status. It was hypothesized that higher levels of materialism would be associated with lower levels of well-being at baseline and would lead to increased well-being over time. Further, it was hypothesized that subsequent generations would have higher levels of materialism and thus lower levels of well-being and greater decrease in well-being over time.

To test these hypotheses, a two-level HLM modeling strategy was used to determine the best way to model change in well-being. First, an unconditional model testing for linear change in well-being was run, followed by an unconditional model that included quadratic change over time, which as noted earlier, tests for curvature in trajectory. Model comparison tests showed a quadratic model provided a better fit to the data than the linear model ($\Delta \chi^2(4) = 44\ 22.76$, *p* < 0.001). The average intercept indicated that the level of well-being across all generations at

Time 1 was significantly different from 0 (β = 7.19, p < 0.001). The average slope indicated there was no change in well-being over time; however, examination of the variance components indicated significant variability among individual well-being intercepts (τ_{00} = 2.77, χ^2 = 2109.87, p < 0.001), linear slope parameters (τ_{11} = 0.09, χ^2 = 1150.60, p < 0.001), and quadratic slope parameters (τ_{22} = 0.00, χ^2 = 1187.05, p < 0.001). In other words, between 1985 and 1997, the linear slope parameters suggested that some individuals' well-being levels increased, some decreased, and some may have remained stable (see Figure 1). Furthermore, quadratic slope parameters suggested that individuals experienced different overall patterns of change in their well-being levels.

In the next phase of analyses, materialism was added to the model as a predictor to explain variation in initial levels of well-being and their trajectories. Control variables were added to examine the effect of materialism above and beyond the effects of gender and generation status. In Model 2, gender was not significantly associated with level of well-being while controlling for generation. Additional results indicated that when controlling for gender, generation was significantly associated with level of well-being such that generation 3 reported significantly lower well-being than generation 2 (the default) at Time 1 (β = -0.69, *p* < 0.05). None of the control variables were significantly associated with linear or quadratic change in level of well-being. Adding gender and generation to the model led to a 4% proportional reduction in variance in the level of well-being. Examination of the variance components showed significant variance left to explain in the intercept (τ_{00} = 2.66, χ^2 = 2039.71, *p* < 0.001), linear slope (τ_{11} = 0.09, χ^2 = 1150.82, *p* < 0.001), and quadratic slope (τ_{22} = 0.00, χ^2 = 1186.15, *p* < 0.001).

In Model 3, the predictor of interest was entered. Results indicated that when controlling

for the effects of gender and generation, higher levels of materialism were significantly associated with lower levels of well-being at Time 1(β = -0.02, *p* < 0.05). Materialism was not significantly associated with linear or quadratic change in well-being. Adding materialism as a predictor to the model led to a 1% proportional reduction in variance in well-being. Examination of the variance components showed significant variance left to explain in the intercept (τ_{00} = 2.64, χ^2 = 2041.89, *p* < 0.001), linear slope (τ_{11} = 0.09, χ^2 = 1151.60, *p* < 0.001), and quadratic slope (τ_{22} = 0.00, χ^2 = 1187.15, *p* < 0.001). Model 4 results indicated that the interaction between materialism and generation was not significantly associated with initial level of wellbeing or linear or quadratic change in well-being when controlling for gender, generation and materialism. The full model for well-being with all controls, main effect variables, interaction terms, and variance components is shown in Table 22.

	Model 1	Model 2	Model 3	Model 4
	(Unconditional)	(Controls)	(Controls, Main	(Controls, Main
			Effects)	Effects, Interactions)
	Unstandardized	Unstandardized	Unstandardized	Unstandardized
Level of	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
depressive				
symptoms				
Intercept	7.19 **	7.51**	7.51** (0.12)	7.50** (0.12)
	(0.06)	(0.12)		
Gender		-0.00 (0.13)	-0.01 (0.13)	-0.00 (0.13)
(males)				
Gen1 (Gen2)		-0.15 (0.20)	-0.19 (0.20)	-0.23 (0.20)
Gen3 (Gen2)		-0.69* (0.13)	-0.65** (0.13)	-0.67** (0.13)
Materialism			-0.02* (0.01)	-0.02 (0.01)
Gen1 (Gen2) x				-0.01 (0.02)
Mat				
Gen3 (Gen2) x				0.02 (0.01)
Mat				
Linear Change				
Intercept	0.01 (0.02)	0.02 (0.04)	0.02 (0.04)	0.02 (0.04)
Gender (male)		0.03 (0.04)	0.03 (0.04)	0.03 (0.04)
Gen1 (Gen2)		-0.06 (0.08)	-0.05 (0.08)	-0.03 (0.08)

Table 22. Multilevel Results Indicating Impact of Materialism on Well-Being (1985-1997)

Gen3 (Gen2)		-0.05 (0.04)	-0.06 (0.04)	-0.06 (0.04)
Materialism			0.00 (0.00)	0.00 (0.00)
Gen1 (Gen2) x				0.01 (0.01)
Mat				
Gen3 (Gen2) x				0.00 (0.0)
Mat				
Quadratic				
change				
Intercept	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Gender (male)		-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.01)
Gen1 (Gen2)		0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Gen3 (Gen2)		0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Materialism			0.00 (0.00)	-0.00 (0.00)
Gen1 (Gen2) x				-0.00 (0.00)
Mat				
Gen3 (Gen2) x				-0.00 (0.00)
Mat				
Variance				
Components				
Intercept	2.77**	2.66 **	2.64**	2.63**
Linear change	0.09**	0.09 **	0.09 **	0.09**
Quadratic	0.00**	0.00 **	0.00**	0.00**
change				
Level 1	2.01	2.01	2.01	2.01
variance				

Note. Comparison groups are listed in parentheses. Linear change = Time in years centered at Time 1 (1985). Quadratic change = Time squared in years centered at Time 1 (1985). *p < .05. ** p < .001.

Research Question Five

The fifth research question examined whether well-being, depressive symptoms, and generation status were associated with materialism level in 1985 and its trajectory of change from 1985 to 1997. It was hypothesized that materialism would increase from 1985 to 1997 and that higher levels of depressive symptoms and lower levels of well-being would be associated with higher levels of materialism at baseline and would lead to increased materialism over time. Further, it was hypothesized that subsequent generations would have higher levels of materialism at baseline and greater increase in materialism over time.

To test this hypothesis, a two-level HLM modeling strategy was used to determine the best way to model change in materialism. To determine the best way to model change in materialism, an unconditional model testing for linear change in materialism was run. As noted, analyses were conducted on a subsample of 1148 respondents who completed the materialism measure at baseline (1985) and at least one other time point. Further, the materialism measures administered at Time 3 (1991) and Time 4 (1994) were comprised of different ranking schemes than the materialism measures administered at Time 1 (1985), Time 2 (1988), and Time 5 (1997). As a result, there were only three data points available for this analysis, which limited the class of polynomial functions to a linear model.

The average intercept indicated that the level of materialism across all generations at Time 1 was not significantly different from 0 suggesting that respondents ranked materialism and humanism equally. The average slope indicated that materialism significantly decreased over time such that for every year materialism scores decreased by 0.18 (p < 0.001). Examination of the variance components indicated significant variability among individual materialism intercepts ($\tau_{00} = 63.23$, $\chi^2 = 3328.16$, p < 0.001) and linear slope parameters ($\tau_{11} =$ 0.94, $\chi^2 = 2596.93$, p < 0.001). In other words, at baseline, there was significant variability in individuals' materialism levels. Further, between 1985 and 1997, the linear slope parameters suggested that some individuals' materialism levels increased, some decreased, and some may have remained stable.

In the next phase of analyses, generation status was added to the model as a predictor to explain variation in initial levels of materialism and their trajectories. Control variables were also added to examine the effect of generation above and beyond the effects of gender. In Model 2, gender was not significantly associated with initial materialism or its linear change. In Model

3, a predictor of interest was entered. Results indicated that generation was significantly associated with materialism such that controlling for gender, generation 2 reported significantly higher levels of materialism than generation 1 (β = -2.31, *p* < 0.05) and significantly lower levels materialism than generation 3 (β = 1.94, *p* < 0.001) at Time 1. Generation was not significantly associated with linear change in materialism. Adding generation status as a predictor to the model led to a 3% proportional reduction in variance in materialism. Examination of the variance components showed significant variance left to explain in the intercept (τ_{00} = 61.23, χ^2 = 3277.01, *p* < 0.001) and linear slope (τ_{11} = 0.09, χ^2 = 2593.91, *p* < 0.001). Model 4 results indicated that level of depressive symptoms and well-being were not significantly associated with initial level of materialism or its linear change when controlling for gender and generation. Because well-being and depressive symptoms were highly correlated, there was concern that the lack of significance was due to collinearity. However, when the predictors were entered into the model separately, results remained insignificant. The full model for materialism with all controls, main effect variables, interaction terms, and variance components is shown in Table 23.

	Model 1	Model 2	Model 3	Model 4
	(Unconditional	(Controls)	(Controls, Main	(Controls, Main
	Model)		Effects)	Effects, Interactions)
Level of	Unstandardized	Unstandardized	Unstandardized	Unstandardized
materialism	Coefficient (SE)	Coefficient	Coefficient (SE)	Coefficient (SE)
		(SE)		
Intercept	-0.11 (0.28)	0.20 (0.43)	-0.33 (0.53)	-0.23 (0.53)
Gender (males)		-0.55 (0.56)	-0.63 (0.56)	-0.67 (0.56)
Gen1 (Gen2)			-2.31* (0.88)	-2.39* (0.88)
Gen3 (Gen2)			1.94** (0.59)	1.81* (0.59)
Depression				0.03 (0.04)
Well-Being				-0.13 (0.16)
Linear Change				
Intercept	-0.18** (0.04)	-0.14* (0.07)	-0.17* (0.08)	-0.15 (0.08)
Gender (males)		-0.07 (0.09)	-0.06 (0.08)	-0.07 (0.09)

Table 23. Multilevel Results Indicating Impact of Depressive Symptoms, Well-Being and Generation Status on Materialism (1985-1997)

Gen1 (Gen2)			0.29 (0.19)	0.30 (0.19)
Gen3 (Gen2)			0.01 (0.09)	-0.01 (0.09)
Depression				0.00 (0.01)
Well-Being				-0.02 (0.02)
Variance				· ·
Components				
Intercept	63.23**	63.15**	61.23**	61.00 **
Linear change	0.94**	0.93**	0.93**	0.92 **
Level 1	33.17	33.16	33.15	33.20
variance				

Note. Gen = generation. Comparison groups are listed in parentheses. Depression and well-being entered separately and together. Linear change = Time in years centered at Time 1 (1985). *p < .05. ** p < .001.

CHAPTER FIVE

Discussion

The purpose of this chapter is to provide an integrated discussion of the results of the present study. The chapter begins with a summary and explanation of findings organized by hypothesis. Hypotheses will be restated and relevant results summarized. Findings will then be explained and discussed in reference to past literature and limitations of the present study. The summary of results section will be followed by discussions of the overall implications of results and general limitations of the study. The chapter will conclude with an integrated discussion of implications of the study's findings for practice, education and policy and suggestions for future research.

Hypothesis 1. The first hypothesis predicted that higher levels of materialism would be associated with higher levels of depressive symptoms at each data point and that subsequent generations would have higher levels of materialism and thus higher levels of depressive symptoms at each data point. Results of the present study were mixed with most results failing to support the above hypothesis. The exception were the results of analyses conducted with data collected in 1985, which showed that higher levels of materialism were significantly associated with higher levels of depressive symptoms.

Explanation of findings. Taken together, the findings pertaining to hypothesis 1 were mixed and generally inconsistent with the results of similar studies. As detailed in the Empirical Literature Review (chapter 2), studies that have investigated the relationship between materialism and depression have consistently found a statistically significant relationship between higher levels of materialism and higher levels of depressive symptoms (Burroughs & Rindfleisch, 2002; Kasser & Ryan, 1993, 1996; Schor, 2004). Further, this relationship has been

found within a variety of samples, including a representative sample of U.S. adults (Burroughs & Rindfleisch, 2002), U.S. psychology students (Kasser & Ryan, 1993), adults from an urban neighborhood in Rochester, NY (Kasser & Ryan, 1996), undergraduates from the University of Rochester (Kasser & Ryan, 1996), and elementary school students from Boston, MA and a wealthy Boston suburb (Schor, 2004).

In contrast to the above literature, the weak, but significant, positive relationship between materialism and depressive symptoms found at time 1 (1985) did not hold across the other time points and most likely represents a false positive result rather than a true relationship. As Westfall and Young (1993) argue, in descriptive research studies, there is risk of obtaining false positive or erroneously significant results by chance when running multiple analyses. In other words, the more hypotheses you test, the greater chance there is that you will obtain statistically significant results by chance.

Another explanation for the inconclusive findings related to materialism is the problem of missing data. As noted in the methods section (Chapter 3), respondents who either failed to complete the materialism measure or completed it incorrectly were excluded from analyses. It is probable that the cases of missing data were distributed at random throughout the sample; however, there is no guarantee that this was the case. It is less likely, though possible, that there was a systematic reason for the missing data, in which case the loss of these individuals may have reduced the sample's representativeness and ultimately distorted the findings.

A more fundamental explanation for the inconsistent findings described above is the questionable validity of the materialism measure used in the present study. As detailed in the Methods section (chapter 3), the materialism measure used in the present study is a ranking scale based on Rokeach's (1973) original Values Survey. Bengston (2005) adapted this materialism

measure and included it in the initial LSOG survey. Bengston, Biblarz and Roberts (2002) attest to this materialism measure's construct validity and reliability, yet these assurances are based on research conducted by the authors themselves (Bengston, 1975 & 1989; Roberts & Bengston, 1993 & 1999). Ranking scales, which provide data about the relative importance individuals place on two values, have been criticized for providing only superficial information about each particular value (Richins & Dawson, 1992). For example, in the case of Bengston's adapted materialism scale, information is provided about how respondents ranked materialistic values only in relation to humanistic values. Richins and Dawson (1992) have also criticized ranking scales as too complicated, and they suggest that individuals have difficulty ranking a large number of items in an order that accurately reflects their true values. The fact that social science researchers who investigate materialism have consistently chosen alternative materialism measures is perhaps the most telling limitation of the materialism measure used in the present study. As detailed in the Empirical Literature Review (chapter 2), most studies that have examined materialism have relied on one of three materialism measures: a version of Belk's (1984) materialism scale, Richins (1987) materialism scale, or Kasser and Ryan's (1993) Aspiration Index. Because the present study made use of an existing longitudinal database, however, the option to use an alternative materialism measure was not available.

Hypothesis 2. The second hypothesis predicted that higher levels of materialism would be associated with lower levels of well-being at each data point and that subsequent generations would have higher levels of materialism and thus lower levels of well-being at each data point. Results of the present study were mixed with regard to their support of the above hypothesis. In 1985, 1988, 1991, and 1994, higher levels of materialism were significantly associated with lower levels of well-being. It is notable that results of analyses conducted with data collected in 1997 were not significant.

Explanation of findings. Overall, the findings pertaining to hypothesis 2 formed a somewhat consistent pattern and were generally supportive of the results of similar studies. As detailed in the Empirical Literature Review (Chapter 2), empirical studies that have investigated the relationship between materialism and aspects of emotional well-being have consistently found a moderate negative relationship between these constructs. However, there were two important differences between the results of the present study and the results of similar studies. In the present study, the modest effect size of the relationship between materialism and wellbeing is significantly smaller than the generally moderate effect sizes found across the literature (Wright & Larsen, 1993). Further, the results of empirical studies that comprise the literature on materialism and well-being are generally more consistent than the results of the current study, which did not show a significant relationship between materialism and well-being at time 5 (1997).

The significant findings pertaining to hypothesis 2 are somewhat unexpected given the lack of significant results pertaining to hypothesis 1. As noted in the Results section (Chapter 4), negative correlations between respondents' depressive symptoms and well-being scores were relatively high across all five time points (see Appendix A, tables 11-15). These correlations suggest a significant overlap between depressive symptoms and well-being as measured by their respective instruments. This is to be expected given that an individual who endorses a high number of depressive symptoms should also report a low level of well-being. Given this overlap, however, one would expect a similar pattern of results pertaining to both hypotheses 1 and 2. Instead, the relevant findings are contradictory.

It is likely that here are multiple reasons for the lack of consistent findings across time

points and hypotheses. As elaborated earlier, one likely explanation for the general lack of consistency across findings is the materialism measure and its lack of construct validity. Another possible explanation for the results, which ignores concerns about the materialism measure's validity, is that for the individuals in the present sample, higher levels of materialism are related to negative affect, but not to symptoms of depression. In other words, having negative feelings leads to increased materialism or vice verse, but these negative feelings are not equivalent to symptoms of depression. An examination the instruments used to measure depressive symptoms and well-being suggests that the latter measure is more sensitive to detecting "normal" or everyday negative feelings. The results of the present study suggest that these feelings, rather than symptoms of depression, are related to higher levels of materialism.

Hypothesis 3. The third hypothesis predicted that higher levels of materialism would be associated with higher initial levels of depressive symptoms and would lead to increased depressive symptoms over time. Further, it was hypothesized that subsequent generations would have higher levels of materialism and thus higher initial levels of depressive symptoms and greater increase in depressive symptoms over time. Results of the present study failed to support the above hypothesis. Instead, results indicated that average level of depressive symptoms across all generations in 1985 was well below the clinical cut-off of 16 and that there was no change in average level of depressive symptoms over time.

Explanation of findings. The findings pertaining to hypothesis 3 were consistent with the findings pertaining to the first hypothesis and inconsistent with the literature discussed in chapters 1 and 2, which suggested that Americans are growing increasingly materialistic and correspondingly unhappy (Lane, 2001; Cushman, 1996; Schor, 1999a; Kasser et al., 2007). In contrast, the results of the present study indicate that while individuals' levels of depressive

symptoms varied between 1985 and 1997, there was no change in average level of depressive symptoms. One possible explanation for this stability is that 12 years is too narrow of a time period to detect change in average level of depressive symptoms. The original intent of this study was to examine the data over a 29-year period, from 1971 to 2000. Had this been possible, the predicted changes in average level of depressive symptoms may have been apparent.

Another possible explanation for the lack of significant results pertaining to the third hypothesis is that the literature is wrong and that on average, Americans are not experiencing increasing levels of depressive symptoms over time. This may be true, and if so, would explain the above findings. Given the limitations of the present study, however, it is not possible to extrapolate from the above findings and suggest this is true of the rest of the American population. In other words, the results of the present study pertain to a specific sample of Americans over a specific 12-year period and have little to say about changes in the average level of depressive symptoms in American society over the course of the 20-century.

Hypothesis 4. The fourth hypothesis predicted that higher levels of materialism would be associated with lower initial levels of well-being and would lead to decreased well-being over time. Further, it was hypothesized that subsequent generations would have higher levels of materialism and thus lower initial levels of well-being and greater decrease in well-being over time. Results of the present study failed to support the above hypothesis. Although higher levels of materialism were significantly associated with lower levels of well-being in 1985, there was no change in average level of well-being over time.

Explanation of findings. These findings were consistent with the findings pertaining to the second hypothesis, which found a significant relationship between higher levels of materialism and lower levels of well-being at 1985. In contrast, these findings were inconsistent

with the literature discussed in chapters 1 and 2. As explained above, the literature argues that Americans are growing more materialistic and more unhappy, a trend that Schor (1999a) calls the new consumerism. The findings of the present study fail to support this contention. Instead, results show that while individuals' levels of well-being varied between 1985 and 1997, there was no change in average level of well-being. As argued above, a period of 12 years may be too brief a period to detect change in average level of well-being, and such change may have been apparent had additional data waves been available for analysis. Another possible explanation for the lack of significant results pertaining to the fourth hypothesis is that the literature is wrong and that on average, Americans' well-being is not declining over time. If true, this trend, or lack thereof, would explain the present study's results. However, as pointed out above, these results are limited and cannot be generalized to the rest of the American population.

Hypothesis 5. The fifth hypothesis predicted that materialism would increase from 1985 to 1997 and that higher levels of depressive symptoms and lower levels of well-being would be associated with higher levels of materialism at 1985 and greater increase in materialism over time. Further, it is hypothesized that subsequent generations would have higher levels of materialism at baseline and greater increases in materialism over time. Results of the present study were mixed in their support of the above hypothesis. Concerning change in materialism over time, results failed to support the above hypothesis. Instead, results indicated that the average level of materialism across all generations significantly decreased between 1985 and 1997 such that for every year materialism scores decreased by 0.18. This change was not related to well-being or depressive symptoms. On average, respondents' materialism levels dropped by 2.16 points over this 12 year period; however, given the range of the materialism scale (-24 to 24), this is change is relatively small.

In regard to the relationship between materialism and generation status, results partially supported the above hypothesis in that generation 1 reported the lowest level of materialism in 1985 while generation 3 reported the highest level of materialism. Generation status was not significantly related to change in materialism over time.

Explanation of findings. The findings, which show that on average, respondents' materialism levels slightly decreased from 1985 to 1997 contradict the literature discussed in the Introduction to the present study (chapter 1) and Literature Review (chapter 2). This literature argued that the rise of American corporate capitalism over the course of the 20th century promoted a corresponding rise in materialistic values amongst Americans (Fromm, 1976; Kasser et al., 2007; Schor, 1999a, 2004). If the health of our economic system is dependent upon increasing individual consumption of goods and services, as Kasser et al. argue (2007), it follows that Americans should be growing more materialistic over time. However, the results of the present study suggest otherwise.

There are several possible explanations for the results showing an unexpected drop in materialism. The most likely of these is that the materialism measure and/or missing materialism data compromised the study's internal validity and produced erroneous results. The possible impact of running analyses with missing data on the materialism measure as well as the reasons for suspecting that the materialism measure lacks construct validity were discussed earlier in the chapter (see Hypothesis 1: Explanation of findings) and will not be repeated here.

Other possible explanations for the results ignore concerns about the study's internal validity. As mentioned earlier, 12 years may be too brief to observe the kind increases in materialism predicted in the literature. It is also possible that increases in materialism amongst Americans during the 20th century were not detected in the present study, because the sample or

time period studied were not representative of the rest of the American population during the 20th century. In other words, there may have been something different about the sub-sample of individuals studied that caused them to value materialism differently from rest of Americans. Similarly, there may have been something particular to the period studied (1984-1997) that led to an overall decline in materialism that was uncharacteristic of the rest of the 20th century. The most basic, but least probable explanation for the study's results is that the literature is wrong and Americans' have gotten less materialistic over the course of the 20th century. While these explanations are unlikely given the study's internal validity problems, and therefore purely speculative, they underscore the importance of recognizing threats to a study's external validity and using caution when generalizing from results to the larger population.

The validity of the findings that show a weak, but significant relationship between materialism and generation status in 1985 must be questioned considering the above stated concerns about the study's internal validity. These findings are further limited, because this study did not include a cross-sectional analysis of generational differences in materialism, which would have determined whether these generational differences exist at the remaining four time points. Ignoring these caveats, one possible explanation for these results is that there are generational differences in materialism levels with younger Americans valuing materialism more than their parents and grandparents valuing materialism the least. This explanation is consistent with literature cited above, which suggests that younger Americans, who are more immersed in consumer culture, are more likely to adopt the values of American corporate capitalism (Schor, 2004).

Additional findings. Although gender was not a primary focus of the present study, results indicated significant differences in the level of depressive symptoms reported by men and

women at several time points. Specifically, women reported significantly more depressive symptoms than men at 1985, 1994, and 1997. These results are consistent with the literature on depression, which shows that women are more likely to suffer from major depressive disorder than men (Kessler et al., 2003).

Results also showed significant generational differences in levels of depressive symptoms at each time point. Specifically, at 1985, 1988, 1992, 1994, and 1997, generation 2 reported significantly fewer depressive symptoms than 3. The differences between generations 1 and 2 were less consistent with generation 2 reporting significantly fewer depressive symptoms than generations 1 in 1985, 1988, and 1994. Consistent with these findings, results also showed significant generational differences in well-being levels at several time points. Specifically, at 1985, 1988, 1992, 1994, and 1997, generation 2 reported significantly greater well-being than generation 3. In contrast, significant differences between generations 1 and 2 were limited to one time point: in 1988, generation 2 reported significantly greater well-being than generation 1.

The findings related to generation status and mood suggest a somewhat consistent pattern across time points. Specifically, generation 2 respondents reported slightly greater well-being and slightly fewer depressive symptoms than their children (members of generation 3) at each time point. Further, generation 2 respondents reported slightly greater well-being than their parents (members of generation 1) at one time point and slightly fewer depressive symptoms than their parents at three out of four time points. These findings have no relationship to level of materialism and are therefore beyond the scope of the present study. However, they do suggest an interesting pattern related to mood and generation status, which may be worth exploring in future research.

General Implications of Results

In general, the results of the present study were mixed and inconsistent. As detailed above, some results were consistent with the materialism literature discussed in chapters 1 and 2 while many results contradicted this literature. Given this variability, it is difficult to draw broad conclusions about the relationship materialism and aspects of emotional well-being from the results of the present study. Instead, it is more appropriate to identify the results' implications for future research design and measurement. Most significantly, the results of the present study strongly suggest that Bengston's (2005) materialism measure lacks the construct validity necessary to merit its inclusion in future studies. In other words, studies that seek to examine materialism should select an alternative instrument that is well researched with sufficient documented evidence to support its construct validity and test/retest reliability. Given the inherent limitations of psychometric instruments that measure sensitive, and at times, socially unacceptable phenomena such as materialism, researchers may have to abandon empirical measurement as a means of examining materialism.

General Limitations of Study

The present study has a number of significant limitations, which threaten its internal and external validity. Several of these limitations have direct implications for the study's findings and were therefore identified and discussed within the context of these results (see Summary of Results). These limitations include the use of a homogenous, non-representative sample, the relatively short period of time analyzed (12 years), the missing materialism and demographic data, and the materialism measure's questionable validity.

Each of these limitations arose from the initial decision to conduct the present study using data from an existing database, the LSOG. This decision had both costs and benefits for the

present study. As indicated in the Methods section (Chapter 2), the advantages of using the LSOG database were that it included data about the materialism, depressive symptoms and wellbeing of a large number of people. Most importantly, the LSOG allowed for the longitudinal examination of this data, which represented a unique contribution to a body of literature that is primarily cross-sectional in design.

The main cost of using data collected by others is the inability to make design decisions, which can ultimately have important implications for a study's internal and external validity. In the case of the present study, the most significant design decisions concerned selection of instruments. Specifically, the decision to collect materialism data using the adapted materialism measure and the failure to collect data regarding depressive symptoms in the initial survey administered in 1971. Bengtson, however, may be excused for his decisions regarding instrumentation as neither the CES-D nor the most commonly used materialism measures existed in 1970 when he began the process of data collection for the LSOG.

Given the limitations inherent to the LSOG database, it is reasonable to conclude that the costs of using pre-existing data exceeded the benefits. It should be noted, however, that the impossibility of using data from 1971 and 2000 and the validity issues with the materialism measure became known only after a significant amount of time and effort had been dedicated to completing the study. Had the LSOG's limitations been known at the outset of the study, it is unlikely that the study would have proceeded as it did.

Future Research

The most obvious direction for future research is the need for studies that investigate the claim made by Schor (1999a) and others that Americans have become increasingly materialistic and that this overall rise in materialism has caused an overall decline in happiness and other

aspects of emotional well-being. Specifically, within the materialism literature there is a shortage of studies that examine the relationship between materialism and aspects of emotional well-being over time. Instead, most of the studies, which examine this relationship are cross-sectional in design. This gap in the materialism literature was initially discussed in the Rational for the Study section (Chapter 1) and served as the motivation for the present study.

The need for longitudinal studies examining the relationship between materialism and aspects of emotional well-being is particularly pressing given America's current economic climate. Articles in the popular media (*Time*, 2009; Walker, 2008; Harper, 2009; Singletary, 2009) and a report by the Pew Research Center (Morin, Taylor, Parker, Cohn, & Wang, 2009) suggest that Americans are becoming less materialistic in response to the current economic recession. Studies are needed to investigate and validate this supposed trend. If true, additional research is needed to determine the durability of these changes, to monitor whether an economic recovery would reverse these trends, and to determine the nature of the relationship between the economic recession and declining materialism. Studies are also needed to explore the impact of declining materialism on Americans' well-being. This line of research will be particularly challenging given the need to control for the recession's detrimental impact on the well-being of many Americans.

In addition to the need for longitudinal research, Schor's (1999a) contention points to another limitation in the materialism literature, namely the shortage of studies that identify a causal connection between higher levels of materialism and decreased well-being and/or increased depressive symptoms. With the exception of Kasser and Sheldon's (2000) experimental study, the materialism literature is entirely correlational in design. In other words, the vast majority of studies that examine the relationship between materialism and aspects of emotional well-being cannot assert that increases in materialism cause decreases in well-being. Future research must address this limitation by providing evidence of a causal link between materialism and emotional distress. Once this link is well established, additional studies will be needed to delineate the mechanism by which materialism influences well-being. These studies should be informed by theoretical models, such as Richins' (1995), which provide detailed explanations for how materialistic values work to erode well-being (see Theoretical Review, Chapter 2). Research intended to address this topic must consider the macro-level processes involved. Specifically, there is a need for studies, which examine the role of societal-level influences on the relationship between materialism and aspects of emotional well-being.

The primary value of studies designed to examine the causal link between materialism and aspects of emotional well-being is the extent to which they inform treatment interventions. As noted in the Introduction to the present study (Chapter 1), most of the efforts that have been undertaken to combat materialism have been targeted at the societal, school and community levels. These efforts include activist campaigns that inform the public, promote government regulation and institutional reform, and disrupt corporate practices designed to increase materialism and consumption. Less is known about how to address the problem of materialism at the individual and family levels.

If the causal link between materialism and aspects of emotional well-being can be established, the field of psychology will need effective interventions designed to reduce materialism and/or counteract its negative impact at the individual and/or family levels. It is unlikely, however, that these interventions will be developed until there is consensus within the field of professional psychology that materialism represents a threat to mental health. Kramer's (2006) call to action (see Introduction, Chapter 1) was intended to both alert psychologists to the dangers of materialism and motivate them to fight against it by citing their ethical obligations. Cushman's (1996) hermeneutical analyses (see Theoretical Review, Chapter 2) went farther by implicating the field of psychology as actively, if unwittingly, involved in rise of materialism, consumerism and the sense of emotional emptiness, which pervaded American society at the end of the 20th century. Despite the efforts of Cushman, Kramer, and several other psychologists whose work focuses primarily on the psychological impact of materialism, mainstream psychology continues to overlook the problem of materialism. Given the field's bias for empirically validated studies, it may take a sufficient body of "gold standard" research to convince the majority of psychologists that materialism poses a genuine threat to their clients' well-being and should therefore be addressed within the context of the therapeutic relationship.

Conclusion

The present study sought to examine the relationships between materialism and depressive symptoms and well-being cross-sectionally and longitudinally from 1985 to 1997. The study utilized a pre-existing, longitudinal database, the LSOG (Bengtson, 2005), which included materialism, depression and well-being data from three generations of California families. It was hypothesized that higher levels of materialism would be related to higher levels of depressive symptoms and lower levels of well-being in 1985 and at each subsequent time points. It was further hypothesized that materialism would increase from 1985 to 1997 and that there would be a corresponding increase in depressive symptoms and decrease in well-being.

The findings of the present study were generally mixed and inconclusive. Results showed that higher materialism was related to higher levels of depressive symptoms in 1985, but this relationship did not hold across the remaining time points. In contrast, results showed that higher materialism was related to lower well-being at four of five times points. Additional
results showed no change in the average level of depressive symptoms and well-being over time. The most surprising finding was that the average level of materialism declined slightly over the 12 years.

These findings were mixed in the extent to which they supported the existing materialism literature. The findings related to depressive symptoms generally contradicted the results of similar studies, which tend to show a moderate negative association between materialism and aspects of emotional well-being. In contrast, the findings related to well-being generally converged with this literature. The findings showing a decline in materialism over time directly contradicted much of the theoretical literature, which argues that Americans have grown increasingly materialistic over time due to the influence of American corporate capitalism and that this has resulted in a general decline in well-being.

While a number of explanations were offered for the study's findings, there was significant evidence to suggest that several limitations posed sufficient threat to the study's internal validity as to render the results invalid. These limitations included the use of a homogenous, non-representative sample, the relatively short period of time analyzed (12 years), the missing materialism and demographic data, and the materialism measure's questionable validity.

The mixed and inconclusive results of the present study point to the need for additional research examining the relationship between materialism and aspects of emotional well-being over time. This need is seen as particularly urgent given the current economic recession in America, which has reportedly caused a decline in materialism and corresponding increases in thriftiness and frugality. Additional research is also needed to demonstrate and delineate the causal connection between materialism and emotional distress and to better understand the

involvement of societal-level influences.

The primary value of future research into the relationship between materialism and wellbeing is the extent to which it justifies the need for and informs effective treatment interventions. Over the past decade, psychologists and activists from other disciplines have been working to combat materialism at the school, community, and societal levels. However, most psychologists do not yet appreciate the potential threat that materialism poses to the mental health of their clients. Additional empirically validated research into the phenomenon of materialism and its impact on mental health is needed to convince mainstream psychology of the dangers of materialism. If and when such a paradigm shift takes place, clients will benefit as psychologists will be prepared and willing to address materialism within the context of the therapeutic relationship

References

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: Author.
- American Psychologist, 57(12), 1052–1059.
- Anderson, N. H. (1981). Foundations of Information Integration Theory. New York: Academic press.
- Andrews, F. M. & Withey, S. B. (1976). Social Indicators of Well-Being: America's Perception of Life Quality. New York: Plenum Press.
- Arndt, J., Solomon, S., Kasser, T., & Sheldon, K. M. (2004). The urge to splurge: A terror management account of materialism and consumer behavior. *Journal of Consumer Psychology*, 13(3), 198-212.
- Atkins, D. C. (2005). Using multilevel models to analyze couple and family treatment data: Basic and advanced issues. *Journal of Family Psychology*, *19*(1), 98-110.
- Aversa, J. (2010, May 30). Poll finds debt-dogged Americans stressed out. Associated Press. Retrieved from

http://news.yahoo.com/s/ap/20100530/ap_on_bi_ge/us_ap_poll_stressing_over_debt

- Ballou, M. Matsumoto, A., & Wagner, M. (2002). Towards a feminist ecological theory of human nature: Theory building in response to real-world dynamics. In M. Ballou and L.
 S. Brown (Eds.), *Rethinking Mental Health and Disorder: Feminist Perspectives*, 99-141. New York: Guilford Press.
- Bearden, W. O., Netermeyer, R. G., & Teel, J. E. (1989). Measurement of consumer susceptibility to interpersonal influence. *Journal of Consumer Research*, *15*, 473-485.

Becker, E. (1971). The Birth and Death of Meaning (2nd ed.). New York: Free Press.

Becker, E. (1973). The Denial of Death. New York: Free Press.

- Belk, R. W. (1984). Three scales to measure constructs related to materialism: Reliability, validity, and relationships to measures of happiness. *Advances in Consumer Research*, 11, 291-297.
- Belk, R. W. (1985). Materialism: Trait Aspects of Living in the Material World. *The Journal of Consumer Research*, 12(3), 265-280.
- Belk, R. W. (1988). Possessions and the Extended Self. *The Journal of Consumer Research*, *12*(2), 139-168.
- Bengston, V. L. (1975). Generation and family effects in value socialization. American Sociological Review, 40, 358-71.
- Bengston, V. L. (1989). The problems of generations: Age group contrasts, continuities, and social change. In V. L. Bengston and K. W. Schaie (eds.), *The Course of Later Life: Research and Reflections*. New York: Springer.
- Bengston, V. L. (2005). Longitudinal Study of Generations, 1971, 1985, 1988, 1991, 1994, 1997 [Data file]. Available from The Inter-university Consortium for Political and Social Research Web site: http://www.icpsr.umich.edu/
- Bengston, V. L., Biblarz, T. J., & Roberts, R. E. L. (2002). How Families Still Matter: A Longitudinal Study of Youth in Two Generations. Cambridge, UK: Cambridge University Press.
- Best, M. & Connelly, W. E. (1976). The Politicized Economy. Lexington, MA: D. C. Health.
- Blatt, S. J., D'Afflitti, J. P. & Quinian, D. M. (1979). Depressive Experiences Questionnaire. New Haven, CT: Yale University.

Board of Governors of the Federal Reserve System. (2007, April 6). *Federal Reserve Statistical Release: Consumer Credit: February 2007.* Retrieved April 9, 2007, from Board of Governors of the Federal Reserve System Web Site:

http://www.federalreserve.gov/releases/g19/Current/

Bradburn, N. M. & Caplovitz, D. (1965). Report on Happiness. Chicago: Aldine.

- Bradburn, N. M. (1969). The Structure of Psychological Well-Being. Chicago: Aldine.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and by design*. Cambridge, MA: Harvard University Press.

Bronfenbrenner, U. (1995). Developmental ecology through space and time: A future perspective. In P. Moen, G. H. Elder, Jr., & K. Lüscher (Eds.), *Examining Lives in Context: Perspectives on the Ecology of Human Development*, 619-647. Washington, DC: American Psychological Association.

- Brueggemann, W. (2007, November). What Would Jesus Buy? Rev. Billy and his "Church of Stop Shopping" preach the gospel of love, anti-consumerism, and radical neighborliness. *Sojourners Magazine*. Retrieved from <u>http://www.sojo.net</u>
- Bryce, W., & Olney, T. J. (1991). Gender differences in consumption aspirations: A crosscultural appraisal. *Social Behavior and Personality*, *19*(4), 237-253.

Bureau of Economic Analysis, U.S. Department of Commerce. (2008). *Real personal consumption expenditures by major type of product, chained dollars*. Retrieved May 5, 2008, from Bureau of Economic Analysis Web site: http://www.bea.gov/bea/dn/nipaweb/TablePrint.asp

Burger, J. M. (1992). Desire for control. New York: Plenum Press.

Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). The Quality of American Life:

Perceptions, Evaluation and Satisfaction. New York: Russell Sage.

- Carver, C. S., & Baird, E. (1998). The American dream revisited: Is it What you want or why you want it that matters? *Psychological Science*, *9*(4), 289-292.
- Chinoy, E. (1952). The tradition of opportunity and aspirations of automobile workers. *American Journal of Sociology*, *57*(5), 453-459.

Chinoy, E. (1955). Automobile Workers and the American Dream. Boston: Beacon Press.

- Cohen, P., & Cohen, J. (1996). *Life values and adolescent mental health*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Cole, D., Wright, N. D., Sirgy, M. J., Kosenko, R., Rahtz, D., & Meadow, H. L. (1992). Testing the reliability and validity of Belk's and Richins' materialism scales. *Developments in Marketing Science*, 383-387.
- Collins, L. M. & Sayer, A. G. (2000) "Modeling Growth and Change Processes:
 Design, Measurement, and Analysis for Research in Social Psychology." In
 Reis, H. T. & Judd, C. M., Eds. Handbook of Research Methods in Social and
 Personality Psychology. New York: Cambridge University Press, pp. 478-495.
- Conniff, R. (2008, November 27). No more shop till you drop. *The Progressive*. Retrieved from http://www.progressive.org/

Crosby, F. (1976). A model of egoistical relative deprivation. *Psychological Review*, 83, 85-113.

- Crowne, D. P., & Marlow, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, *24*, 349-354.
- Csikszentmihalyi, M. (Ed.). (2003). Materialism the evolution of consciousness. Washington, DC: American Psychological Association.

- Csikszentmihalyi, M., & Rochberg-Halton, E. (1978). People and things: Reflections on materialism. *The University of Chicago Magazine*, *70*, 6-15.
- Cushman, P. (1996). *Constructing the self, constructing America: A cultural history of psychotherapy*. Reading, MA: Addison-Wesley/Addison Wesley Longman.
- Dawson, S. (1988). Trait materialism: Improved measures and an extension to multiple domains of life satisfaction. In S. Shapiro and A. H. Walle (Eds.), *AMA Winter Educators' Conference Proceedings*, 478-481. Chicago: American Marketing Association.
- Dawson, S., & Bamossy, G. (1990). Isolating the effect of non-economic factors on the development of a consumer culture: A comparison of materialism in the Netherlands and the United States. *Advances in Consumer Research*, 17, 182-185.
- Dawson, S., & Bamossy, G. (1991). If 'we are what we have,' what are we when we don't have? An exploratory study of materialism among expatriate Americans. *Journal of Social Behavior & Personality*, 6(6), 363-384.
- Derogatis, L. R. (1974). The Hopkins Symptom Checklist (HSCL): A self-report symptom inventory. *Behavioral Science*, *19*(1), 1-15.
- Derogatis, L. R., Lipman, R. S. Rickels, K. Uhlenhuth, E. H., & Covi, L. (1974). The Hopkins Symptom Checklist (HSCL): A self-report symptom inventory. *Behavioral Science*, 19, 1-15.
- Diener, E., Emmons, R. A., Larsen, R. J. & Griffin, S. (1985). The satisfaction-with-life scale: A
- Dittmar, H., Beattie, J. & Friese, S. (1996). Objects, decision considerations and self-image in men's and women's impulse purchases. *Acta Psychologica*, 93, 187-206.
- Easterlin, R. A. & Crimmins, E. M. (1991). Private materialism, personal self-fulfillment, family life, and public interest: The nature, effects, and causes of recent changes in the values of

American youth. Public Opinion Quarterly, 55, 499-533.

- Emmons, R. A. (1991). Personal strivings, daily life events, and psychological and physical wellbeing. *Journal of Personality*, *59*, 453-472.
- Experian. (n.d.). *National Score Index*. Retrieved April 9, 2007, from http://www.nationalscoreindex.com/USScore.asp
- Eysenck, H. J. & Eysenck, S. B. G. (1975). Manual of the Eysenck Personality Questionnaire, San Diego, CA: Educational and Industrial Testing Service.
- Fenigstein, A., Scheier, M. F. & Buss, A. H. (1975). Public and private self-consciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology*, 43, 522-527.
- Fenigstein, A., Scheier, M. F., & Buss, A. H, (1975). Public and private self-consciousness: assessment and theory. *Journal of Consulting and Clinical Psychology*, *43*, 522-527.
- Festinger, L. (1954). A theory of social comparison processes. Human Relations, 7, 114-140.
- Fordyce, M. W. (1988). A review of research on the happiness measures: A sixty second index of happiness and mental health. *Social Indicators Research*, *20*, 355-381.
- Fournier, S. & Guiry, M. (1993), "An emerald green Jaguar, a house on Nantucket, and an African safari:": Wish lists and consumption dreams in materialist society. *Advances in Consumer Research*, 20, 352-358.
- Frederick, C. M. & Ryan, R. M. (1993). *A theory and measure of vitality*. Unpublished manuscript, University of Rochester, Rochester, NY.
- Fromm, E. (1976). To Have or to Be ? New York: Harper and Row, Publishers, Inc.
- Games, P. A. (1990). Correlation and causation: A logical snafu. *The Journal of Experimental Education*, 58(3), 239-246.

Ger, G. & Belk, R. W. (1996). Cross cultural difference in materialism. Journal of Economic

Psychology, 17, 55-77.

Ger, G. & Belk, R. W. (1990). Measuring and comparing materialism cross-culturally. *Advances in Consumer Research*, *17*, 186-192.

Gorz, A. (1967). Strategy for Labor. Boston: Beacon Press.

- Gurin, G., Veroff, J., & Feld, S. (1960). *Americans View on Their Mental Health*. New York: Basic Books.
- Harper, J. (2009, January 2). Simple pleasures No. 1 as frugality takes hold; Americans embrace thriftiness. *The Washington Times*, p. A01.
- Hautzinger, M. (1988). Die CES-D Skala. Ein depressionsmessinstrument fuer untersuchungen in der allgemeinbevoelkerung. *Diagnostica 2*, 167-173.
- Herjanic, B. & Reich, W. (1982). Development of a structured psychiatric interview for children:
 Agreement between child and parent on individual symptoms. *Journal of Abnormal Child Psychology, 10*, 307-324.
- Ikle, D. N., Lipp, D. O., Butters, E. A. & Ciarlo, J. (1983). Development and validation of the adolescent community mental health questionnaire. Denver, CO: Mental Health Systems Evaluation Project.
- Illescas, C. (2009, July 3). Broadcasts on school buses run into static: BusRadio, used in some metro districts, is under fire for its ads and choice of music. *The Denver Post*, pp. B-01.

James, W. (1890). The principles of psychology. New York: Holt.

- Jones, A. & Crandall, R. (1986). Validation of a short index of self-actualization. *Personality* and Social Psychology Bulletin, 12, 63-73.
- Kasser, T. (2003). The High Price of Materialism. Cambridge, MA: The MIT Press.

Kasser, T., & Ahuvia, A. (2002). Materialistic values and well-being in business students.

European Journal of Social Psychology, 32(1), 137-146.

- Kasser, T., Cohn, S., Kanner, A. D., & Ryan, R. M. (2007). Some costs of American corporate capitalism: A psychological exploration of value and goal conflicts. *Psychological Inquiry*, 18, (1), 1–22.
- Kasser, T., & Kanner, A. D. (Eds.). (2004). *Psychology and consumer culture: The struggle for a good life in a materialistic world*. Washington, DC: American Psychological Association.
- Kasser, T. & Ryan, R. M. (1993), A dark side of the American dream: Correlates of financial success as a central life aspiration," *Journal of Personality and Social Psychology*, 65, 410-422.
- Kasser, T. & Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin, 22*, 280-287.
- Kasser, T., Ryan, R. M., Zax, M., & Sameroff, A. J. (1995). The relations of maternal and social environments to late adolescents' materialistic and prosocial values. *Developmental Psychology*(6), 907-914.
- Kasser, T., & Sheldon, K. M. (2000). Of wealth and death: Materialism, Mortality Salience, and Consumption Behavior. *Psychological Science*, *11*, 348-351.
- Keng, K. A., Jung, K., Jiuan, T. S. & Wirtz, J. (2000). The influence of materialistic inclination on values, life satisfaction and aspirations: An empirical analysis. *Social Indicators Research*, 49, 317-333.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Koretz, D., Merikangas, K. R., Rush, A. J.,
 Walters, E. E., & Wang, P. S. (2003). The epidemiology of major depressive disorder:
 results from the National Comorbidity Survey Replication. *Journal of the American Medical Association*, 289(23), 3095-3105.

- Kessler, R. C., Berglund, P. A., Demler, O., Jin, R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62(6), 593-602.
- Kessler, R. C., Chiu, W. T., Demler, O., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62(6), 617-627.
- Koplewicz, H. S., Gurian, A. & Williams, K. (2009). The era of affluence and its discontents. Journal of the American Academy of Child & Adolescent Psychiatry, 48, 1053-1055.
- Kramer, J. B. (2006). Ethical analysis and recommended action in response to the dangers associated with youth consumerism. *Ethics and Behavior*, *16*(4), 291–303.
- Lane, R. E. (2000, May 28). The loss of happiness in market democracies. *Miami Herald*. Retrieved May 18, 2008, from http://www.commondreams.org/views/052800-105.htm
- Lane, R. E. (2001). *The Loss of Happiness in Market Democracies*. New Haven: Yale University Press.
- La Barbera, P. A., & Gurhan, Z. (1997). The role of materialism, religiosity, and demographics in subjective well-being. *Psychology and Marketing*, *14*, 71-97.
- Marx, K. (1964). *Economic and philosophic manuscripts of 1844* (1st American ed.). New York,: International Publishers.

Marx, K. (1967). Capital: A critique of political economy. New York: International Publishers.

- Maslow, A. H. (1954). *Motivation and Personality*. New York: Harper and Row.
- McClosky, H., & Schaar, J. H. (1965). Psychological dimensions of anomie. *American* Sociological Review, 30, 14-40.

McHoskey, J. W. (1999). Machiavellianism, intrinsic versus extrinsic goals, and social interest:

A self-determination theory analysis. Motivation and Emotion, 23(4), 267-283.

Meadow, H. L., Mentzer, J. T., Rahtz, D. R., and Sirgy, M. J. (1992). "A Life Satisfaction Measure Based on JudgmentTheory," *Social Indicators Research*, 26 (1), 23-59.

- Mick, D. G. (1996). Are studies of dark side variables confounded by socially desirable responding? The case of. *Journal of Consumer Research*, *23*(2), 106.
- Morin, R., Taylor, P., Parker, K., Cohn, D., & Wang, W. (2009). Luxury or necessity? The public makes a u-turn. *Pew Research Center: A Social and Demographic Trends Report*. Retrieved from http://pewsocialtrends.org/pubs/733/luxury-necessity-recession-era-reevaluations
- National Association for Media Literacy Education. (2010, April 24). *Core Principles of Media Literacy Education*. Retrieved from http://www.namle.net/core-principles
- Oleson, K. C, Poehlmann, K. M., Yost, J. H., Lynch, M. E., & Arkin, R. M. (2000). Subjective overachievement: individual differences in self-doubt and concern with performance. *Journal of Personality*, 68, 491-524.
- Olson, J. M., & Hazlewood, J. D. (1986). Relative deprivation and social comparison: An integrative perspective. In J.M. Olson, C. P. Herman, & M. P. Zanna (Eds.), *Relative deprivation and social comparison, The Ontario Symposium* (Vol. 4, pp. 1-5). Hillsdale, N. J.: Lawrence Erlbaum.

Pennebaker, J. W. (1983). The Psychology of Physical Symptoms. New York: Springer Verlag.

Pettigrew, T. F. (196 7). Social evaluation theory: Convergences and applications. In D. Levine (Ed.), *Nebraska symposium on motivation*, 1967 (pp. 241-315). Lincoln: University of Nebraska Press.

Pyszczynski, T., Greenberg, J., Solomon, S., Arndt, J., & Schimel, J. (2004). Why Do People

Need Self-Esteem? A Theoretical and Empirical Review. *Psychological Bulletin, 130*(3), 435-468.

- Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, *1*(3), 385-401.
- Rankin, J. E. & Armah, M. (2007, March 30). Personal Income and Outlays: February 2007.
 Retrieved April 9, 2007, from Bureau of Economic Analysis, US Department of
 Commerce Web Site: http://www.bea.gov/newsreleases/national/pi/pinewsrelease.htm
- Raskin, R., & Terry, H. (1988). A principle-components analysis of the Narcissistic Personality Inventory and further of evidence of its construct validity. *Journal of Personality and Social Psychology*, 54, 890-902.
- Raudenbush, S. W. & Bryk, A. S. (2002). *Hierarchical Linear Models: Applications and Data Analysis Methods* (2nd ed.). Newbury Park, CA: Sage.
- Reich, W., Herjanic, B., Welner, Z., & Gandby, P. R. (1982). Development of a structured psychiatric interview for children: Agreement on diagnosis comparing child and parent interviews. *Journal of Abnormal Child Psychology*, 10, 325-336.
- Richins, M. L. & Dawson, S. (1992). A consumer values orientation for materialism and its measurement: Scale development and validation. *Journal of Consumer Research*, 19, 303-316.
- Richins, M. L. (1991). Social Comparison and the idealized images of advertising. *Journal of Consumer Research*, 18, 71-83.
- Richins, M. L. (1987). Media, materialism, and human happiness. *Advances in Consumer Research*, *14*(1), 352-356.

Roberts R. E. L. & Bengston, V. L. (1993). Relationship with parents, self-esteem and

psychological well-being in young adulthood: A further examination of identity theory. *Social Psychological Quarterly, 59*, 96-106.

- Roberts R. E. L. & Bengston, V. L. (1999). The social psychology of values: Effects of individual development, social change, and family transmission over life span. In C. D. Ryff and V. W. Marshall eds.), *The Self and Society in Aging Processes* (pp. 453-482). New York: Springer.
- Roberts, B. W., & Robins, R. W. (2000). Broad dispositions, broad aspirations: The intersection of personality traits and major life goals. *Personality and Social Psychology Bulletin*, 26(10), 1284-1296.
- Rokeach, M. (1973). The nature of human values. New York: Free Press.
- Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.
- Ruskin, G. (2006, September 14). *Children's advocates ask companies not to advertise on Bus Radio and Channel One*. Retrieved April 24, 2010 from Commercial Alert website: http://www.commercialalert.org/news/news-releases/2006/09/childrens-advocates-askcompanies-not-to-advertise-on-busradio-and-channel-one
- Ryan, R. M. & Frederick, C. (1997). On energy, personality, and health: Subjective vitality as a dynamic reflection of well-being. *Journal of Personality*, 65, 529-565.
- Ryan, R. M., & Deci, E. L. (1985). Intrinsic Motivation and Self-Determination in Human Behavior. New York: Plenum.
- Ryan, R. M., Chirkov, V. I., Little, T. D., Sheldon, K. M., Titnoshina, E. & Deci, E. L. (1999).
 The American dream in Russia: Extrinsic aspirations and well-being in two cultures.
 Personality and Social Psychology Bulletin, 25, 1509-1524.

- Ryan, R., & Connell, J. (1989). Perceived locus of causality and internalization : Examining reasons for acting in two domains. *Journal of Personality and Social Psychology*, 57, 749-761.
- Sagiv, L., & Schwartz, S. H. (2000). Value priorities and subjective well-being: Direct relations and congruity effects. *European Journal of Social Psychology*, 30(2), 177-198.
- Sartre, J.-P. (1966). *Being and nothingness : a phenomenological essay on ontology*. New York: Pocket Books.
- Saunders, S. (2007). A Snapshot of Five Materialism Studies in Australia. *Journal of Pacific Rim Psychology*, *I*(1), 14-19.
- Schor, J. (1999a). The Overspent American: Why We Want What We Don't Need. New York: HarperCollins Publishers.
- Schor, J. (1999b). The new politics of consumption: Why Americans want so much more than they need [Electronic Version]. *Boston Review*. Retrieved April 22, 2006 from http://bostonreview.net/BR24.3/schor.html
- Schor, J. (2004). *Born to Buy: The commercialized Child and the New Consumer Culture*. New York: Scribner.
- Schroeder, J. E., & Dugal, S. S. (1995). Psychological correlates of the materialism construct. Journal of Social Behavior & Personality, 10(1), 243-253.
- Schudson, M. (1991). Delectable Materialism: Were the Critics of Consumer Culture Wrong All Along? *The American Prospect, Spring*, 26-35.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology*, Vol. 25, (pp. 1-65). New York: Academic Press.

- Shaffer, D., Gould, M. S., Brasic, J., Ambrosini, P., Fisher, P., Bird, H., & Aluwahlia, S. (1983). A children's global assessment scale (CGAS). *Archives of General Psychiatry*, 40, 1228-1231.
- Share Save Spend. (2010, April 24). *FINANCIAL SANITY™ FROM SHARE SAVE SPEND*®. Retrieved from http://www.sharesavespend.com/
- Sherif, C. W., Sherif, M., & Nebergall, R. E. (1965). *Attitude and Attitude Change: The Social Judgment-Involvement Approach*. Philadelphia: W. B. Saunders.
- Singletary, M. (2009, May 21). Necessity or Luxury? Please Redefine. *The Washington Times*, p. A18.
- Sirgy, M. J. (1998). Materialism and quality of life. Social Indicators Research, 43(3), 227-260.
- Sirgy, M. J., Cole, D., Kosenko, R., Meadow, H. L., Rahtz, D., Cicic, M. Jin, G. X. Yarsuvat, D. Blenkhorn, D. & Nagpal, N. (1995). A life satisfaction measure: Additional validational data for the Congruity Life Satisfaction measure. *Social Indicators Research*, 34, 237--259.
- Sirgy, M.J., Wright, N., Lee, D., Kosenko, R., Meadow, H.L., Rahtz, D., Cicic, M., Xi Jin, G., Yarsuvat, D. & Blenkhorn, D.L. (1998). Does Television Viewership Play a Role in the Perception of Quality of Life? *Journal of Advertising*, 27(1), 125-142.
- Spielberger, C. D., Vagg, P. R., Barker, L. R., Donham, G. W., & Westberry, L. G. (1980). The factor structure of the State-Trait Anxiety Inventory. In I. G. Sarason and C. D. Spielberger (Eds.), *Stress and Anxiety* (Vol. 7, pp. 95-109).
- Spinoza, B. D., & Curley, E. M. (1994). A Spinoza reader : the Ethics and other works. Princeton, N.J.: Princeton University Press.

Srivastava, A., Locke, E. A., & Bartol, K. M. (2001). Money and subjective well-being: It's not

the money, it's the motives. *Journal of Personality and Social Psychology*, *80*(6), 959-971.

- The World Health Organization. (2004). Annex Table 3. *The World Health Report 2004*. Geneva: Author.
- *Time*. (2009, April 27). How Americans spend now: Americans react to the downturn with big changes in attitudes and spending habits, but they're not giving up hope. Retrieved from http://www.time.com/time/specials/packages/completelist/0,29569,1891475,00.html
- Timmer, S. G. & Kahle, L. R. (1983) Birthright demographic correlates of values. In L. Kahle (Ed.), Social Values and Social Change, (pp. 73-96). New York: Praeger Publishers.
- Tomarken, A. J. & Waller, N. G. (2005). Structural equation modeling: Strengths, limitations, and misconceptions. *Annual Review of Clinical Psychology*, *1*, 31-65.
- UNICEF. (2007). Child poverty in perspective: An overview of child well-being in rich countries. *Innocenti Report Card*. Retrieved May 18, 2008, from UNICEF Web site: http://www.unicef.org/media/files/ChildPovertyReport.pdf
- Wachtel, P. L., & Blatt, S. J. (1990). Perceptions of economic needs and of anticipated future income. *Journal of Economic Psychology*, 11(3), 403-415.
- Walker, R. (2008, December 14). Talk is cheap: The new thift. The New York Times, MM, p. 30.
- Ward, S. L. & Wackman, D. B. (1971). Family and media influence on adolescent consumer learning. *American Behavioral Scientist*, 14, 415-427.
- Weissman, M. M., Sholomskas, D., Pottenger, M., Prusoff, B. A., & Locke, B. Z. (1977). Assessing depressive symptoms in five psychiatric populations: A validation study. *American Journal Of Epidemiology*, 106 (3), 203-14.

Westfall, P. H. & Young, S. S. (1993). Resampling-Based Multiple Testing: Examples and

Methods for P-value Adjustment. New York: John Wiley & Sons, Inc.

Wicklund, R. A. & P. M. Gollwitzer (1982). Symbolic Self-Completion. Hillsdale, NJ: Erlbaum.

- Wood, J. V. (1989). Theory and research concerning social comparisons of persona attributes. *Psychological Bulletin, 106*, 231-248.
- Wright, N. D., & Larsen, V. (1993). Materialism and life satisfaction: A meta-analysis. Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior, 6, 158-165.

Appendix

Table 24. Intercorrelations	oj ali s	iuay v	ariables	<i>ai 11</i>	me I (19	05)
Variable	1	2	3	4	5	6
Measures						
1. Materialism						
2. Depression	.06*					
3. Well-Being	09**	6**				
Controls						
4.Gender	03	$.08^{*}$	00			
5. Generation 1 Dummy	13**	.06*	.03	.02		
6. Generation 3 Dummy	.15**	.08*	14**	.02	37**	
<i>Note.</i> $*p < .05 **p < .001$.						

Table 24 Intercorrelations of all Study Variables at Time 1 (1985)

Table 25. Intercorrelations of all Study Variables at Time 2 (1988)

Variable	1	2	3	4	5	6
Measures						
1. Materialism						
2. Depression	.03					
3. Well-Being	09**	65**				
Controls						
4.Gender	06	03	.00			
5. Generation 1 Dummy	03	04	01			
6. Generation 3 Dummy	.09**	.13**	2**			
<i>Note.</i> ** <i>p</i> < .001.						

 Table 26. Intercorrelations of all Study Variables at Time 3 (1991)
 \$\$\$

Variable	1	2	3	4	5	6
Variable	1	2	5	-	5	0
Measures						
1. Materialism						
2. Depression	.04					
3. Well-Being	05	68**				
Controls						
4.Gender	09**	.02	.01			
5. Generation 1 Dummy	04	.03	.01			
6. Generation 3 Dummy	.01	.12**	21**			
N_{ata} ** $n < 0.01$						

Note. ***p* < .001.

	. 09 an Si				1 (1)	~ ' /
Variable	1	2	3	4	5	6
Measures						
1. Materialism						
2. Depression	.00					
3. Well-Being	06	67**				
Controls						
4.Gender	09**	.07*	02			
5. Generation 1 Dummy	04	.07*	03			
6. Generation 3 Dummy	02	.11**	23**			

Table 27. Intercorrelations of all Study Variables at Time 4 (1994)

Note. *p < .05 **p < .001.

Table 28. Intercorrelations of all Study Variables at Time 5 (1997)

Variable	1	2	3	4	5	6
Measures						
1. Materialism						
2. Depression	01					
3. Well-Being	05	62**				
Controls						
4.Gender	04	.1**	06			
5. Generation 1 Dummy	.02	.04	.01			
6. Generation 3 Dummy	.08*	.11**	24**			

Note. *p < .05 **p < .001.