

**THE IMPACT OF INTRINSIC AND EXTRINSIC VALUES ON WELL-BEING: EVIDENCE  
FROM AMERICAN DATA**

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**ABSTRACT** *This paper examines how different intrinsic and extrinsic values can impact the subjective well-being of American citizens. This study uses data from the 2011 World Value Survey. Previous studies in the United States suggest that valuing intrinsic goals is associated with enhanced well-being, whereas, the pursuit of extrinsic values leads to either little or no impact on well-being. Consistent with the major pattern, the empirical findings of this paper suggest that besides the effects of control variables such as gender, relationship status, and household income-level, American citizens who demonstrate intrinsically oriented values are more likely to feel happy and be satisfied with their life, whereas, extrinsic values have a negative, little or no impact on their well-being. Furthermore and interestingly, the results suggest that Americans demonstrating intrinsically oriented values are even more likely to demonstrate very high levels of happiness and life satisfaction in comparison to moderate levels of subjective well-being.*

## I. Introduction

What kinds of values make people happy and satisfied with life? Can we determine a set of values that enhances individual well-being? Should people employ and pursue certain values in order to be happy and satisfied? In the Western culture, it is very common to hear expressions such as: “Money can’t buy happiness”, “Outer beauty fades with age. Inner beauty lasts a lifetime”, and “Fame is temporary”. All these notions are constructed to avoid and dismiss this wave of enhanced importance attributed to fame, money, beauty, and other external rewards pursued in the Western world. On one hand, people hear the latter messages suggesting that pursuing such goals fails to contribute to their long-term happiness and well-being. On the other hand, Westerners seem to constantly pursue happiness by aiming for goals such as greater fortunes, desirable physical appearance, and increased popularity (Kasser & Kanner, 2004). These conflicting signals lead us to the question: what values account for the happiness and life satisfaction of individuals in Western society? This paper attempts to answer this question using data from the World Value Survey (WVS) restricted to American citizens in the United States (U.S.).

Conventional economic models focus on the importance of income in determining individual well-being. Income is perceived as a way for purchasing goods and services that increase individual well-being. However, the relationship between income and well-being has been proved to be rather complex. Many scholars investigated the relationship between economic variables, especially income, and well-being. In the literature of subjective well-being, it is commonly known that income and material gains have a significant impact on Subjective Well-Being (SWB) up to a certain point and then reaches a convenient plateau, after which the impact flattens (Myers, 2000). It was also found that the level of people’s well-being does not increase as a society becomes wealthier (Clark, Frijters, & Shields, 2008). These findings led to an era of economic and social focus on “happiness” and the “pursuit of happiness”.

An era that is constantly searching for the meaning and core causes of happiness, in the attempt to promote better well-being, and in the ultimate goal to guide people towards the “happy” state.

The quantitative study of subjective well-being and other related topics has been widely used to address policy issues and important economical questions. Among the determinants of SWB are objective and measurable variables such as age, gender, education, marital status, income, and health status. Nevertheless, objective factors only account for 10 to 15% of the variability in SWB (Argyle, 1999). As a result, researchers started exploring subjective variables to take into consideration other factors that could impact SWB. Hence, the birth of the topic on values, and more particularly intrinsic and extrinsic values. Values orient people’s behavior and daily life. They impact people’s perception and life experience, as well as the objectives and beliefs they adopt (Vroom, 1964; Feather, 1992).

As defined by Ryan and Deci (2000), intrinsically oriented values are performed to fulfill innate and deep-rooted psychological needs for independence and competence. Intrinsic motivation is performed out of pure interest, and for the pleasure generated from the activity itself, rather than its separable outcome or instrumental value. In contrast, extrinsic values are motivated by separable outcomes such as social pressures and rewards. Many studies of American data have found that valuing and attaining intrinsic goals is associated with enhanced well-being, whereas, the pursuit of extrinsic values lead to either little or no impact (Ryan et al., 1999; Kasser & Ryan, 1996; Sheldon, Gunz, Nichols, & Ferguson, 2010), or a negative impact (Swinyard, Kau, & Phua, 2000) on well-being. These studies have used intrinsic indicators such as affiliation, community feeling, and self-acceptance. Common extrinsic values that have been used in the latter studies are: financial success, attractive appearance, and social recognition. In this paper, I intend to contribute to this literature in many ways. I use data from the WVS Wave 6 (2010-2014) for the United States (2011). I focus my research question on the relationship between intrinsic and extrinsic values, and SWB. The WVS asks questions on both happiness and life satisfaction. Thus, to ensure a fulsome and comprehensive analysis, I employ both SWB indicators.

I explore the impact of select intrinsic and extrinsic values on the reported level of happiness of a sample of 1983 Americans, and the impact of the same values on life satisfaction for a sample of 1986 Americans. Personal values and motivations are conditional of the respondent’s personality traits, background, past and current experience, and most importantly culture. Personal values are interrelated to cultural values. Thus, and in contrast with other studies that employed survey data of American respondents regardless of their cultural background, I restrict my sample to American citizens. I place this restriction to take into account the cultural background that leads people to pursue certain goals and adopt specific values. The WVS asks questions that provide useful information on variables essential for the economic analysis of SWB, such as age, gender, marital status, and income-level. The individual

characteristics and social variables I account for in this study are: gender, relationship status, and household income-level.

Therefore, the purpose of this study is to estimate and compare the impact of intrinsic and extrinsic values on the level of happiness and life satisfaction in the U.S. once individual characteristics and social variables are controlled for. The hypotheses of this study are the following: (1) Intrinsically oriented values have a positive impact on well-being and are associated with enhanced well-being; (2) Extrinsically oriented values have little or no association with well-being while certain extrinsic values could have a negative impact. Intrinsic values fulfill innate psychological needs that could contribute to fulfilling an individual's "purpose" in life leading to a meaningful and happier life. An individual's SWB is a complex formula consisting of various personal, economic, and social factors. In this paper, I factor in gender, income-level and relationship status to take into consideration the impact of such factors on an individual's happiness and life satisfaction levels.

Consistent with the major pattern, the empirical findings of this paper suggest that besides the effects of the control variables, individuals who demonstrate intrinsically oriented values are more likely to feel happy and be satisfied with their life in comparison to those who do not demonstrate intrinsic values. Intrinsic values are positively and significantly associated with enhanced well-being. Furthermore, and consistent with the second hypothesis, extrinsic values have a negative impact, little or no impact on well-being. The relationship between extrinsic values and well-being is not consistently significant.

The remainder of this paper is divided as follows: In section II, I conduct a literature review on economics and well-being, the definitions of intrinsic and extrinsic values, and previous studies examining the impact of intrinsic-extrinsic values on well-being. In Section III, I describe the econometric model and empirical specifications used in this study. In section IV, I describe the data employed for this study. In Section V, I discuss major findings, including robustness checks and a discussion of underlying econometrics issues. Finally, I discuss and conclude in section VI.

## **II. Literature Review**

### *Economics and Well-being*

Helliwell and Barrington-Leigh (2010) discuss the measuring and understanding of subjective well-being. They question the relativity of happiness which could differ between individuals. How do poor versus rich people report to subjective well-being? How do each one of these groups define happiness or life satisfaction? How can economists and analysts compare the happiness or life satisfaction of people with different backgrounds, incomes, personality traits, and cultures? Although subjective well-being scores are determined by personality, ability, past experience, and other unobservable variables,

data for 140 countries suggest that the dissimilarities in subjective well-being levels between individuals and across countries can be associated to the same factors and life conditions.

Di Tella and MacCulloch (2006) discuss some uses of happiness data in Economics. They believe that questions related to happiness lead to unstructured answers given the open-endedness nature of the question. The simplicity and ambiguity of subjective questions may lead to little information. However, research and findings show that happiness measures true utility. Research using happiness data measures true utility with some noise (e.g. unobservable data, measurement errors, poor econometric interpretation, and inaccurate data). However, it is believed that the econometric noise does not preclude empirical research from being meaningful and productive. Furthermore, Di Tella and MacCulloch (2006) explored if happiness scores can be compared between individuals. The comparison of happiness levels between individuals is a controversial question. The comparison of happiness levels between individuals is critical. How similarly are people reporting on the level of their happiness? It is believed that people can exaggerate when reporting to what extent they feel happy. Exaggeration is considered an unobservable variable that is omitted from the happiness model, which leads to biased coefficients of one individual's coefficient of happiness compared to the other individual's happiness coefficient. However, when the study of happiness focuses on groups rather than individuals, the challenges are minimized. Reporting biases are reduced when a large number of individuals are compared. It is very common that happiness models include individual fixed effects to account for the unobserved differences between individuals, such as social support, personality traits, ability, and exaggeration. All in all, happiness data are being used to tackle important policy and economical questions and concerns. Trends and findings in the empirical studies of happiness data provide insightful information that could feed the evaluation of social policies and goals. Having said that, there is a general agreement that happiness data should be tackled and analyzed carefully.

### *Intrinsic and Extrinsic Values*

The definitions of intrinsic and extrinsic motivations as well as the distinction between the two have been widely investigated. Typically, people have different motivational levels, but they also have different types and orientations of motivation. The orientation of motivation is related to the core cause of these motives. It depicts the “why”, and the underlying inclinations that lead to an action. Ryan and Deci (1985, 2000) revisited the classic definitions of intrinsic and extrinsic motivations. These researchers have significantly contributed to the literature of intrinsic and extrinsic motivation by introducing the “Self-Determination Theory” (SDT; Ryan & Deci, 1985). They shed light to the difference between different types of motivations. The most fundamental distinction is between intrinsic and extrinsic motivations.

Intrinsic motivation is not a deliberate and intentional activity, but it is a fundamental and universal one. It is demonstrated when a person acts out of pure interest, and for the pleasure generated from the activity itself, rather than its separable outcome or instrumental value. In contrast, extrinsic values are motivated by separable outcomes such as social pressures, rewards, and social integration. Skinner (1953) maintains the definition that extrinsic motivations are driven by external rewards and materialistic outcomes, but he builds on this definition by stating that intrinsic motivations are stimulated by a different internalized reward. This reward is in the activity itself. This important definition supports and enhances the main conceptualization of intrinsic motivations. Ryan and Deci (1985) introduced Cognitive Evaluation Theory (CET) which investigates the root causes that determine the orientation of motivations. It states that intrinsic motivations are performed to fulfill innate and deep-rooted psychological needs for independence and competence. They argue that circumstances and occurrences that generate a feeling of competence (e.g. rewards, recognition, and compliments) can strengthen intrinsic motivations which satisfy the inherent psychological needs to be competent. Furthermore, CET specifies that competence should be accompanied by the feeling of autonomy in order to assure a high level of intrinsic motivation. For people to maintain and enhance their intrinsic motivations, they must experience a fulfillment and self-determination generated from the needs of both autonomy and competence. However and clearly, self-determination is defined differently for extrinsic motivations. Extrinsic motivations are more self-determined by integration and internalization. Since extrinsic motivations are awakened by external factors that only appear after early childhood, behaviors stemming from extrinsic motivations are not of innate interest. Therefore, most likely, extrinsic motivations are valued because of the external reward of having significant others approve and value these behaviors. This explanation demystifies why extrinsic motivations represent self-determination that is determined by integration and internalization. In contrast with intrinsic motivation, extrinsic motivation is stimulated by the instrumental value it generates. Extrinsic motivations are a construct of social pressures and expectations that entice individuals to pursue extrinsic motivations to attain non-intrinsically separable and interesting outcomes.

It is important to note that not all individuals have the same level and type of motivations, and not all individuals are intrinsically motivated for the same reasons and grounds. When Ryan & Deci (2000) revisited the definitions of intrinsic and extrinsic motivations, they emphasized the achievement of individual well-being through the fulfillment of three psychological and innate needs: autonomy, competence and social relatedness. Thus, intrinsic motivation is considered to fulfill these psychological needs which are crucial for individual well-being. A long history of research has shown that demonstrating intrinsic versus extrinsic motivation can significantly impact the quality of performance and experience.

### *Intrinsic-Extrinsic Values and Well-being in the World and the United States*

In summary, intrinsic values, such as community feeling, affiliation and self-acceptance, are more directly associated with satisfying people's innate psychological needs and enhancing personal development and growth. In contrast, extrinsic values, such as image, financial success and social recognition, are less directly associated with satisfying people's personal growth and developmental needs (Kasser, 2002). People allocate a different level of relative importance to different types of values and motivations. For instance, some people value intrinsic values more than extrinsic values, and vice versa.

A major pattern has been found within numerous cross-sectional and longitudinal studies (Sheldon & Kasser, 1998; Sheldon, Ryan, Deci, & Kasser, 2004; Sheldon & Kasser, 2001; Vansteenkiste, Simons, Lens, Sheldon, & Dessi, 2004), as well as cross-cultural studies (Grouzet et al., 2005; Schmuck, Kasser, & Ryan, 2000). These studies show that individuals who attribute more weight to extrinsic values are less likely to be happy, and mentally and emotionally stable compared to those who attribute more importance to intrinsically oriented values. Therefore, years of studies have shown that people's values can have a meaningful and considerable impact on their mental health beyond the simple cognitions associated with the achievement of those values (Sheldon, 2004).

Similarly, numerous studies have explored the link between intrinsic-extrinsic values and well-being in the United States (Kasser & Ryan, 1996; Ryan, Chirkov, Little, Sheldon, Timoshina, & Deci, 1999; Swinyard, Kau, & Phua, 2000; Salinas-Jiménez & Artés, 2010). Again, results are consistent with the main pattern, suggesting that individuals who strongly value extrinsic motivations in comparison with intrinsic motivations experience less well-being. It was found by Swinyard, Kau, and Phua (2000) that happiness is negatively associated with materialism in the U.S. and Singapore. Based on the definition of extrinsic motivations, materialism can be interpreted as the separable and outward outcome that entices extrinsically oriented values. Other research shows that materialism-idealism is most important for variations in happiness (Hellevik, 2003). It also claims that the differentiation between extrinsic relative to intrinsic values is similar to the materialism-idealism dimension. Additionally, Swinyard et al. (2000) find that intrinsically religious people, those who perceive religion as personal and spiritual and those who are genuinely committed to their religious beliefs, are more likely to be happy and satisfied with their lives than others. In contrast, those who perceive religion as a vehicle for social and personal benefits are less content and satisfied with their lives.

Most studies found a positive relationship between religion and happiness (French & Joseph, 1999; Francis, Jones, & Wilcox, 2000; Lewis et al., 2005), and numerous ones found that religiosity is

associated with greater well-being compared to the lack thereof. Some studies have examined the relationship between happiness and religious orientation (i.e. intrinsic-extrinsic religious orientation). Most studies found that a positive relationship exists between intrinsic religiosity and happiness (Swinyard et al. (2000); Park, Cohen, & Herb, 1990). However, other studies (Lewis et al., 2005; Dezuttar, Soenens, & Hutsebault, 2006) found contradicting results. Lewis et al. (2005) found no correlation between extrinsic religious orientation and happiness. Whereas, Dezuttar, Soenens, & Hutsebault (2006) found a significantly negative relationship between extrinsic religiosity and happiness. In light of these contrasting results, Sillick & Cathcart (2013) conducted further studies on the relationship between religious orientation and happiness, and more particularly, they examined if the impact of religion on happiness is mediated by the purpose of life. All in all, and regardless of the conflicting results found in different contexts, extensive research findings suggest that religious people experience, and especially intrinsically religious people, better well-being compared to non-religious people.

Research done by Sheldon, Gunz, Nichols, and Ferguson (2010) provides a substantial contribution to the literature of intrinsic-extrinsic goal attainment and well-being. They conducted several studies that intend to, not only assess the relationship between intrinsic-extrinsic goal orientation and well-being, but also examine the actual effects of demonstrating and attaining intrinsic and extrinsic goals on well-being, by going above and beyond actual perception and orientation. Their first study found that achieving extrinsic goals could potentially lead to happiness, although, individuals who have values that are relatively more extrinsically oriented experience a lower level of happiness. Interestingly, Sheldon, Gunz, Nichols, and Ferguson (2010), suggest that extrinsically oriented people believe that extrinsic objectives would have a higher and more-lasting positive impact on their mood, in comparison to intrinsic objectives. This finding was immediately offset by their second study. They further investigated the impact of the actual demonstration, by American students, of intrinsic relative to extrinsic objectives. They found that there is no mediating factor that could lead extrinsically oriented individuals to benefit from extrinsically targeted goals. Consistent with other research findings, their in-depth study reveals that extrinsically oriented individuals did not benefit from higher well-being by achieving extrinsic objectives, whereas, individuals achieving intrinsically oriented objectives experienced gains in well-being. Sheldon, Gunz, Nichols, & Ferguson (2010), extend on their previous findings to conclude that extrinsically oriented individuals overestimate the gains from demonstrating and achieving extrinsic objectives. They conclude that the effects of extrinsic goals on well-being is partly mediated by the reliance and trust that achieving such goals will enhance their feelings of competence and autonomy. These are characteristics and attributes that constitute the core cause of intrinsically oriented goals based on the SDT theory (Ryan & Deci, 1985). As a matter of interest, the latter studies suggest that extrinsically oriented individuals

may underestimate the ineffectiveness of extrinsic goals on their well-being and, instead, overestimate the benefits from attaining such goals.

### III. Empirical Strategy

In this paper, I examine how intrinsic and extrinsic values impact the self-reported level of happiness and life satisfaction in the United States. To explore this issue, I run probit regressions to model the probability of happiness for American citizens as a function of intrinsic and extrinsic values, and individual controls. Using the 2011 World Value Survey for the United States, I estimate the following probit model:

$$(1) \quad P(y_i = 1 \mid \mathbf{x}) = \Phi(\beta_0 + \beta_1 \mathbf{I}_i + \beta_2 \mathbf{E}_i + \beta_3 \mathbf{X}_i)$$

where  $\Phi(\cdot)$  is a cumulative distribution function (CDF). The variable  $y_i$  is equal to one if individual  $i$  reports to be “Very happy” or “Rather happy”, and zero otherwise.  $\mathbf{I}_i$  is a set of intrinsic value dummy variables. Each dummy is equal to one if individual  $i$  demonstrates an intrinsically oriented value, and zero otherwise.  $\mathbf{E}_i$  is a set of extrinsic value dummy variables. Each dummy is equal to one if individual  $i$  demonstrates an extrinsically oriented value, and zero otherwise.  $\mathbf{X}_i$  is a set of controls at the individual level. By adding individual-level controls, we control for characteristics that may affect the level of happiness of an individual and that may be correlated with other explanatory variables. The probit regression generates the maximum likelihood estimates of the latter set of explanatory variables coefficients (i.e. for a given set of  $\mathbf{x}$  values).

I then examine the impact of intrinsically and extrinsically oriented values on life satisfaction. In a similar fashion, I run a probit regression to estimate the likelihood that American citizens are satisfied with their life as a whole, as a function of intrinsic and extrinsic values, and individual controls.

$$(2) \quad P(z_i = 1 \mid \mathbf{x}) = \Phi(\gamma_0 + \gamma_1 \mathbf{I}_i + \gamma_2 \mathbf{E}_i + \gamma_3 \mathbf{X}_i)$$

where  $z_i$  is equal to one if individual  $i$  reports a life satisfaction ranging from level 6 to level 10 on a scale of 1 (i.e. completely dissatisfied) to 10 (i.e. completely satisfied), and zero otherwise.  $\mathbf{I}_i$  the same set of intrinsic value dummy variables as the previous empirical specification. Similarly,  $\mathbf{E}_i$  represents the same set of extrinsic value dummy variables, and  $\mathbf{X}_i$  is the same set of chosen controls at the individual level.

In both specifications, I take into account individual characteristics by including individual-level controls in a sequential manner. The first specification includes intrinsic and extrinsic value explanatory variables ( $\mathbf{I}_i$  and  $\mathbf{E}_i$ ). The second specification is the same as the first one with gender as an additional

control variable. The third specification is the same as the second one with marital status as an additional control variable. The fourth specification is the same as the previous one with household income level as an additional control variable. These individual controls take into consideration individual differences that could contribute to a lower or higher likelihood of happiness and life satisfaction. Additionally, the inclusion of control variables is one way to evaluate the robustness of the empirical specification.

In addition to adding individual-level controls, I adopt another strategy to test the robustness of results. I consider alternative definitions for both happiness and life satisfaction that fall on the other end of the spectrum. More precisely, I explore the impact of intrinsic and extrinsic values on the state of having a high level of happiness and a high level of life satisfaction, i.e. I construct two dependent variables that correspond to being “very happy” and “completely satisfied”, respectively.

Furthermore, I later compute and focus the analysis on the marginal effects for each specification. The marginal effects reflect the change in the probability of the dependent variable being equal to one given a one unit change in the explanatory variable. Note that in the probit model all the regressors are involved in computing the changes in the probability. It is also important to note that alternative models could have been used to run a regression with the categorical dependent variables happiness and life satisfaction, such as the ordered probit model or multinomial logit model. While the happiness dependent variable has four categories and the life satisfaction dependent variable has ten categories, I use a very simple approach by re-categorizing each variable as a binary variable that takes only two values, zero or one. This allows a straightforward interpretation of the coefficients for the probit estimates.

To interpret the probit coefficients, the analysis should be restricted to coefficient signs. This is because the probit coefficients differ by a scale factor, and therefore, I cannot interpret the magnitude of the coefficients. However, marginal effects are almost similar between probit models, and the signs are the same for both models. Therefore, to allow a straightforward analysis, I interpret marginal effects.

It is also worth noting that there are three potentials of endogeneity in the study of subjective data such as happiness and life satisfaction. The first one is the presence of omitted variables that could be correlated with other explanatory variables in the empirical specification. The second one is reverse causality as happiness and life satisfaction could drive intrinsic and extrinsic values, rather than the opposite. A third and very common concern in the world of subjective data is measurement errors. The interpretation of the scales for “happiness” and “life satisfaction” could differ between individuals. In addition, the ambiguity of subjective questions related to happiness and life satisfaction contributes to errors in measurement, and therefore, endogeneity.

#### **IV. Data**

In this paper, I use data from the World Value Survey (WVS) Wave 6 (2010-2014). The WVS has been conducted periodically since 1981, in which each wave of data covers five consecutive years. The WVS, led by an international team of scholars, collects information on human beliefs and values across 100 countries using a common questionnaire and a nationally representative survey. The Wave 6 database of the WVS covers 57 countries and more than 85,000 respondents, including the world's major cultural areas. What distinguishes the WVS from other initiatives is that it is considered to be the largest and most-representative investigation of global and cultural variations around the world. It gathers information on various topics such as politics, religion, and subjective well-being. Additionally, the WVS gathers demographic, social, and economic information, such as age, sex, citizenship, marital status, educational level, and employment status. For the purposes of this paper, I use cross-sectional data from the 2011 WVS for the United States. In order to study the impact of certain intrinsic and extrinsic values in the American culture, I restrict the WVS sample to American citizens.

#### A. *Happiness and Life Satisfaction*

Standard questions on subjective well-being are explicitly incorporated in the U.S. WVS survey. For the main part of the analysis, I rely on two dependent variables: happiness and life satisfaction. The dependent variable in the first empirical specification is the reported level of happiness. This is a dummy  $HAPPY_i$  equal to one if individual  $i$  reports to be "Very happy" or "Rather happy" in response to the following question: "Taking all things together, would you say you are very happy, rather happy, not very happy or not at all happy?" Irrelevant responses including "Don't know", "No answer", "Not applicable" and "Inappropriate response" were excluded from the data-set (Appendix Question A-1). I construct a binary variable for the self-reported level of happiness in order to estimate the conditional probability that happiness occurs for American citizens as a function of intrinsic and extrinsic values, and individual controls.

To motivate the analysis, I construct a second empirical specification to include the impact of the values in question on life satisfaction. This dependent variable is constructed using the responses to the following question: "All things considered, how satisfied are you with your life as a whole these days? Using this card on which 1 means you are "completely dissatisfied" and 10 means you are "completely satisfied" where would you put your satisfaction with your life as a whole?" (Appendix Question A-2). Irrelevant responses to this question were also excluded from the data-set. The same procedure was used to construct the dependent variable for life satisfaction. It is a dummy  $LIFESATISFACTION_i$  equal to one if individual  $i$  reports a life satisfaction ranging from level 6 to 10 (10 = completely satisfied).

## B. *Intrinsic Versus Extrinsic Values*

Recall that the primary hypothesis of this study is that individuals who value intrinsic goals versus extrinsic goals experience better well-being. To test this hypothesis, I choose three intrinsic and three extrinsic goals to ensure a sufficient level of comparability. In addition, I selected a question that provides respondents with two distinct points of views, one that demonstrates intrinsically motivated values and one that demonstrates extrinsic motivations.

Respondents rated the importance of intrinsic life goals using a four-point scale ranging from 1 = “Very important” to 4 = “Not at all important”. Thus, a high score indicates a low level of importance. I explore the relation between well-being and the following intrinsic values: *Affiliation<sub>i</sub>*, *Friendship<sub>i</sub>*, and *Religiosity<sub>i</sub>*. Each is a dummy variable equal to one if individual *i* reports that the intrinsic value in question is relatively “Very important” or “Rather important”, and zero otherwise. The latter variables are classified as intrinsic variables since they are related to the satisfaction of basic psychological needs such as community feeling, relationships with others, and spirituality. Religiosity is a controversial variable as it could be categorized as an intrinsic or extrinsic value. Intrinsically religious people who perceive religion as a personal and spiritual matter are happier and more satisfied with their lives compared to others. Extrinsically religious people are intrigued by the social and personal gains from religion (MacFarland, 1989). In the U.S., it has been found that people who are extrinsically religious are less happy and satisfied with their lives compared to others (Swinyard, Kau, & Phua, 2000). Nevertheless, the consistent finding of a positive correlation between intrinsic measures and religiousness validates the conquering intrinsic orientation of this variable (Kirkpatrick & Hood, 1990). Also, the correlations in Table B-2 show that the “Religion” variable is negatively correlated with most extrinsic variables (Social recognition, financial success) while it is strictly positively correlated with other intrinsic values (Affiliation and friendships). For the latter reasons, I categorize *Religiosity<sub>i</sub>* as an intrinsic variable.

To explore the impact of intrinsic versus extrinsic values on well-being, I selected three extrinsic values. Respondents indicated to what extent each extrinsic value is similar to their personality, using a six-point scale ranging from 1 = “Very much like me” to 6 = “Not at all like me”. The three target extrinsic values are: *Social Recognition<sub>i</sub>*, *Conformity<sub>i</sub>*, and *Financial success<sub>i</sub>*. Each is a dummy variable equal to one if individual *i* reports that the extrinsic value in question is “Very much like me”, “Like me”, or “Somewhat like me”, and zero otherwise. The latter variables are categorized as extrinsic since they contribute to the feelings of integration and internalization, which are process through which extrinsically oriented values are self-determined (Deci & Ryan, 1986, 2000). These variables were operationalized in the same manner as intrinsic variables, which means a binary variable was constructed for each extrinsic variable. Additionally, I selected a distinct variable to distinguish between intrinsic and extrinsic

motivations. Participants were asked to select the statement that comes closer to their point of view when discussing the environment and economic growth: (1) Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs; (2) Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent. I refer to this variable as *Economic Growth<sub>i</sub>*. This study is the first to examine the impact of being environmentally friendly versus keen on economic growth on well-being. Based on the definitions of intrinsic and extrinsic values, caring for economic growth and the creation of more jobs can be categorized as a motivation that is intrigued by an external source or reward such as income, higher Gross Domestic Product, social conformity, and recognition. Being environmentally friendly is a type of value that is developed from within the individual and is usually influenced by ones' own concern for protecting the environment. Therefore, I categorize *Economic Growth<sub>i</sub>* as an extrinsic value.

### C. Control variables

Empirical studies on the topic of SWB have mostly looked at the impact of socio-economic factors such as gender, income-level, educational level, health status, and marital status on life satisfaction and self-reported happiness. Peirò (2006) used data from the World Value Survey from 1995 to 1996 for 15 countries, such as China, Japan, Sweden, and the United States. While these countries have different economic, social, cultural, and political attributes, the study examined self-reported happiness, life satisfaction, and financial satisfaction for individuals residing in these countries. Several findings from this study support the use of select control variables in this study. These findings are the following: (1) There is a significant relationship between health status and the level of happiness and life satisfaction; (2) Married people are happier and more satisfied compared to separated and widowed people; and (3) There is a significant association between income and financial satisfaction but the relationship with happiness and life satisfaction is smaller. Therefore, we take into account these factors to avoid omitted variable bias that could have a meaningful impact on the SWB measures in this study. SWB is the outcome of the interplay different factors such as past and current life events, psychological measures other than happiness and life satisfaction, and objective health measures. Nonetheless, WVS does not provide information related to these variables that have proved to impact SWB.

From the survey, I use the following individual-control variables,  $\mathbf{X}_i$ : a dummy equal to one if individual  $i$  is a female; a dummy for the relationship status equal to one if individual  $i$  is in a relationship (i.e. married or living together as married); a dummy for household-income level equal to one if individual  $i$  reports belonging to a low-income level household; and a dummy equal to one if individual  $i$  belongs to a middle-income level household. Three household-income dummies were constructed using

the WVS 10-point scale (i.e. low-income for levels 1-3, middle-income for levels 4-7, and high-income for levels 8-10 which was chosen as a reference group). Definitions for all variables are available in Appendix Table B-1.

#### *D. Multicollinearity Test and Summary Statistics*

I test for multicollinearity to determine whether or not the explanatory variables in the regression equations are highly correlated, and whether or not these correlations are likely to pose a problem for statistical inference. Multicollinearity refers to the existence of linear relationships between the explanatory variables in a regression equation. Near multicollinearity is the most important concern to the set of variables used in this study. Near multicollinearity exists when the linear relationships between the explanatory variables are strong. It is considered a data problem rather than an econometric modelling issue.

To test for multicollinearity, I test for simple correlations between explanatory variables. Correlations for all variables are available in Appendix Table B-2. One can conclude that a value of 0.8 or above is indicative of high correlation. Only two variables, low-income and middle-income households, exhibit a high level of negative correlation (-0.7398) in the data-set. Therefore, I drop the middle-income household variable and set it as the reference group. This strategy will reduce multicollinearity. The problem with dropping a variable is that it can introduce an even more severe complication of specification error. Nevertheless, in this case, the omitted dummy variable is considered as a reference group. The remaining two dummy variables, namely low-income and high-income households, are included in the regression equations. This allows us to evaluate the impact of household income-level on the level of happiness and life satisfaction, and avoids the severe problem of specification error.

Additionally, summary statistics for variables of both empirical specifications are reported in Appendices Table C-1 and Table C-2. The first table provides descriptive statistics for the first empirical specification sample (N=1986) which evaluates the impact of select values on happiness. The second table shows the descriptive statistics for the sample generated from the second empirical specification (N=1983). Similar observations apply to explanatory and control variables in both samples. Both tables show that half of individuals in both samples are females (51 percent in both weighted samples). In both samples, 63 percent are in a relationship, which means either married or “living together as married”. Additionally, only 22 percent of individuals belong to a low-income household, while 67 percent fall in the middle-income category, and only 8 percent are reported to belong to a high-income household. Most of Americans attribute a significantly high level of importance to affiliation (family) and friendships (98 percent and 94 percent respectively). Relatively speaking, religion is attributed the lowest level of

importance (63 percent) in comparison to the latter intrinsic values. On the other hand, the highest level of importance is attributed to conformity (63 percent) in comparison to other extrinsic values. Similarly, about 62 percent of Americans attribute a higher level of importance to economic growth (extrinsic motivation) even if the environment suffers to some extent. Americans attribute a fair level of importance to social recognition (46 percent). On the contrary, they attribute a low level of importance to financial success (18 percent).

## V. Econometric Results

In this section, I employ more than one indicator for well-being to formally test the hypothesis that individuals demonstrating intrinsic versus extrinsic values experience better well-being. I present the main results for both studies. I start by presenting the main results for both dependent variables, namely happiness and life satisfaction, and then discuss robustness.

### A. Main Results

#### *Happiness*

Appendix Table D-1 contains the first set of results for the dependent variable  $HAPPY_i$ . The variables of interest are the target intrinsic values ( $Affiliation_i$ ,  $Friendships_i$ , and  $Religion_i$ ) and target extrinsic values ( $Social\ Recognition_i$ ,  $Conformity_i$ ,  $Financial\ success_i$ , and  $Economic\ growth_i$ ). In this table, I present the findings of the probit regression including marginal effects and standard errors from estimating specifications (1) to (4). In column (1), I regress  $HAPPY_i$  on intrinsic and extrinsic values without any controls. In columns (2), (3) and (4), I introduce other individual characteristics to control for individual differences in gender, relationship status, and household income-level. These controls are added in order to take into account other characteristics that may be associated with a lower or higher level of happiness.

In this analysis, individuals are identified as happy if they claim to be “Very happy” or “Rather happy”. Table D-1 suggests that the probit coefficients and marginal effects of all three intrinsic values are positive and statistically significant. The marginal effects show that American citizens who think that affiliation (i.e. family) is important (i.e. “Very important” or “Rather important”) are 16% more likely to be happy in comparison to those who think that affiliation is not that important (i.e. “Not very important” or “Not at all important”). This result is positive, and both statistically and economically significant in specifications (1) and (2). The marginal effect becomes statistically insignificant in specifications (3) and (4) but qualitatively similar. Similarly, those who value friendships are 14% more likely to be happy in

comparison to those who don't. Again, the result is positive, economically significant, and statistically significant at 1 percent level in all specifications. Lastly, American citizens who value religion are 2% more likely to be happy in comparison to the benchmark category. This result is statistically significant in all specifications. Religion does not seem to have an economically significant impact on happiness in comparison to the impact of the other two intrinsic values, namely affiliation and friendships.

Furthermore, the results show that extrinsic values have little or no impact on happiness. Table D-1 shows that the probit coefficients and marginal effects of three out of four extrinsic values are negative. For instance, American citizens who think financial success is important (i.e. select the option "Very much like me", "Like me" or "Somewhat like me") are 4% less likely to be happy compared to those who do not value financial success (i.e. select the option "A little like me", "Not like me" or "Not at all like me"). This is the only extrinsic value with statistically and economically significant results in all specifications. Nonetheless, the analysis of coefficients and marginal effects signs, shows that most extrinsic values have a negative or no impact on happiness. For instance, those who value conformity and those who value economic growth more than the protection of the environment are less likely to be happy in comparison to those who don't demonstrate these values. However, it is important to note that the results of the latter two variables (conformity and economic growth) are statistically insignificant and lack economic significance. That being said, the analysis of the signs reveals results that are consistent with the main hypothesis that extrinsic values could impede or have no impact on the level of happiness. Lastly, the only extrinsic value that is positively associated with happiness is social recognition. Results show that individuals who value social recognition are 2% more likely to be happy in comparison to those who do not demonstrate this value. The latter result is statistically significant in specifications (1) to (3), however, it lacks economic significance.

The inclusion of different controls does not substantially affect the marginal effects of intrinsic and extrinsic values, therefore, the results are robust to the inclusion of additional variables. The first control variable is a dummy for whether the individual is a female (column 2). The inclusion of this variable does not have a substantial effect on the results. Similar results are obtained when I control for whether individuals are in a relationship in column 3. While the inclusion of low-income and high-income households variables do not alter the findings, the introduction of these variables eliminates the statistical significance for *Affiliation<sub>i</sub>* and *Social Recognition<sub>i</sub>*. It also alters the sign of the marginal effects for *Conformity<sub>i</sub>*. This is not a concern since the marginal effects of the latter variable are not statistically significant in all specifications. It is worth noting that American citizens who belong to low-income households are 10% less likely to feel happy compared to the benchmark category (i.e. individuals belonging to medium-income level households). This finding is economically significant and statistically significant at 1 percent level. Note that the result for high-income individuals is positive, however, it is

not statistically significant. The marginal effect shows that those who belong to a high-income household are 2% more likely to be happy in comparison to middle-income households.

All in all, the results confirm that individuals who value intrinsic values relative to extrinsic values are more likely to feel happy. The signs of the effects of extrinsic values are mixed, while the magnitudes of the effects are small. This could be due to the lack of self-awareness when answering questions related to extrinsic values. The question for extrinsic values asks participants to indicate the extent to which each description is like them (Appendix Question A-4). Given the nature of the question, individuals could underestimate or conceal their extrinsic value orientation. Furthermore, respondents could lack self-knowledge, and therefore, understate their extrinsic motivations. It is also possible that unhappy individuals lack self-awareness compared to happy people (Swinyard, Kau, & Phua, 2000) which could affect the answers of certain respondents. Biased answers lead to measurement errors which could impede the significance of the results.

### *Life Satisfaction*

I repeat the same sequence of estimations to evaluate the impact of intrinsic and extrinsic values on  $SATISDIED_i$ . The same controls are used in all regressions. Control variables are: a dummy for gender, a dummy for relationship status, and two dummies for household income-level of American citizens. In the same fashion, in column (1), I regress  $SATISFIED_i$  on intrinsic and extrinsic values without any control variables. In columns (2), (3) and (4), I include the same individual-level controls used in the previous regression. These controls could have a significant impact on life satisfaction. For this reason, I include these additional controls to take into consideration other factors that could impact the life satisfaction of an individual.

Table D-2 presents the set of probit coefficients, marginal effects, and standard errors from estimating specifications (1) to (4) for the dependent variable,  $SATISFIED_i$ . The respondents are identified as somewhat satisfied if they report a life satisfaction ranging from 6 to 10 on a 10-point scale (10 = completely satisfied). Hence, the dependent variable is equal to one if individual  $i$  reports a life satisfaction that falls somewhere between 6 and 10, inclusively.

The same conclusions can be drawn regarding the relationship between intrinsic values and life satisfaction in comparison to the relationship between intrinsic values and happiness. Table D-2 shows that the coefficients of all three intrinsic values are positive and statistically significant in all specifications. American citizens who value affiliation are 30% more likely to be satisfied with their life as a whole in comparison to the benchmark category (i.e. individuals who classify the value in question as “Not very important” or “Not at all important”). Those who value friendships are 8% more likely to be satisfied with life as a whole in comparison to those who do not demonstrate this value. Lastly, American

citizens who value religion are 3% more likely to be satisfied with life as a whole in comparison to the benchmark category. Clearly, it can be concluded that intrinsic values increase the probability of both happiness and life satisfaction. In other words, intrinsic values have a positive impact on well-being.

On the other hand, results show that extrinsic values have a negative or little effect on life satisfaction. Again, not all results are statistically and economically significant, and the signs of marginal effects are mixed. Table D-2 shows that conformity is negatively associated with life satisfaction. Americans who value conformity are 3% less likely to be satisfied with life as a whole compared to those who do not demonstrate this value. This result is statistically significant in specifications (3) – (4). Another extrinsic value that suggests a negative association with life satisfaction is financial success. It is found that American citizens who value financial success are 2% less likely to be satisfied with life in comparison to those who do not value financial success. It is important to note that this result is statistically insignificant but qualitatively similar to the impact of financial success on happiness. Furthermore, it is found that social recognition is positively associated with both happiness and life satisfaction. Individuals who value social recognition are 3% more likely to be satisfied with their life in comparison to the benchmark category. This result is statistically significant in specifications (1) to (3) and consistently proves the existence of a positive relationship between the value of social recognition and well-being. Lastly, the results related to individuals who choose economic growth over the protection of the environment are not informative. The marginal effects are neither statistically nor economically significant. In conclusions and generally speaking, extrinsic values are negatively or poorly associated with well-being.

The inclusion of different controls does not substantially affect the coefficients of intrinsic and extrinsic. The inclusion of the female variable does not have a substantial effect on the coefficients of variables of interest. Similarly, adding the in a relationship variable does not have a considerable effect on the coefficients of variables. It is worth nothing that individuals who are in a relationship are 6% to 9% more likely to be satisfied with their life as a whole compared to those who are not in a relationship. Low-income households are associated with a significantly low likelihood of life satisfaction. Individuals who belong to low-income households are 21% less likely to be satisfied compared to medium-income level households. This finding is economically significant and statistically significant at 1% level. In contrast, high-income households are positively associated with life satisfaction. Individuals who belong to high-income households are 7% more likely to be satisfied with life in comparison to those who belong to medium-income households. This result is statistically significant at 1% level.

Altogether, the results are consistent with the main hypothesis. Individuals who demonstrate intrinsically oriented values relative to extrinsically oriented values experience a higher level of life

satisfaction. Again, extrinsic results are generally less significant for the same reasons outlined in the previous section.

### B. *Robustness*

In the previous section, the results proved to be robust to the inclusion of different controls. In this section, I explore the construction of different definitions of the same dependent variables. Again, it is proven that the results are robust to using different measures of both dependent variables. Note that the size of coefficients for intrinsic and extrinsic values cannot be compared to the benchmark regression estimates in Table D-1 and Table D-2 because the dependent variables are defined differently.

#### *Happiness*

In table E-1, I report results obtained using a different definition for happiness. In the main analysis, I employ a moderate definition of happiness in which case individuals are considered to be happy if they indicate that they are “very happy” or “rather happy”, taking all things together. In this case and as a robustness check, I adopt the highest degree of happiness level to define the dependent variable. I explore the impact of intrinsic and extrinsic values on the utmost level of happiness, namely “very happy”. More specifically, the dependent variable is a dummy equal to one if individual  $i$  reports to be “very happy”, and zero otherwise. The dependent variable in this specification is  $VERYHAPPY_i$ . This variable is constructed using the same question in the WVS (Appendix Question A-1).

The purpose of the research question is to assess how intrinsic and extrinsic values impact happiness in general. Therefore, in the main analysis, I take into consideration people who claim to be happy, regardless of their level of happiness. The question in the WVS gives respondents the opportunity to choose between four options: Very happy, rather happy, not very happy, and not at all happy. Given this scale, individuals who are happy would select one of first two options, which creates the basis of our main definition of happiness in this paper. In other words, the purpose of this research paper is to explore how intrinsic and extrinsic motivations impact your level of happiness, and not necessarily your utmost level of happiness. For this reason, I only employ the definition of a high level of happiness as a robustness check.

The intrinsic and extrinsic values’ dummies are defined as in the previous regressions. The intrinsic values (Affiliation, friendship and religion) are equal to one if individual  $i$  considers these values as “very important” or “rather important”, and zero otherwise. Similarly, the extrinsic values (Social conformity, conformity, financial success) are equal to one if individual  $i$  reports that the extrinsic value in question is “Very much like me”, “Like me”, or “Somewhat like me”, and zero otherwise. Finally, the

variable related to the preference between economic growth and environmental protection is employed in the same manner as the benchmark specification. Furthermore, I use the same individual-level controls used the main analysis. In the same fashion, I include a dummy variable for gender in column (2), a dummy variable for the relationship status in column (3), and two dummies for household income levels in column (4). Table E-1 reports OLS coefficients and standard errors using the same empirical strategy employed in specification (1) but with the dependent variable  $VERYHAPPY_i$ .

In all specifications, the coefficients and marginal effects of intrinsic and extrinsic values have the same signs as the benchmark equation with the exception of the results for  $Conformity_i$ . In any case, the results of the latter variable are not statistically significant. In order to evaluate the robustness of the results, I compare the signs of coefficients and marginal effects. The magnitude of the results cannot be compared for the purposes of robustness checks. The mean of the dependent variable used here ( $VERYHAPPY_i$ ) is 0.35 and the standard deviation is 0.47 (Table C-1). This means that 35% of the individuals in the sample report to be very happy while in the main analysis 90% of the sample report to be very happy or rather happy. The robustness check reveals that the coefficients for intrinsic values are consistently positive and significant, both economically and statistically. It is worth nothing that Americans are 25% more likely to feel very happy if they value affiliation (i.e. family) in comparison to those who do not demonstrate this value. This result is statistically significant at 1 percent level. In the main analysis, it was found that Americans are 9% more likely to feel somewhat happy, and the result was statistically insignificant. Therefore, individuals who value affiliation are more likely to be very happy. Similarly, it is found that religion is positively associated with a high level of happiness. Americans who value religion are 12% more likely to be very happy in comparison to those who do not value religion. This result is statistically significant at 1 percent level. The benchmark analysis revealed a positive but lower association between religion and a moderate level of happiness (2% likelihood).

Furthermore, the results for extrinsic values consistently have the same sign patterns in comparison to the benchmark regression with the exception of  $Conformity_i$ . In the main analysis, conformity was negatively associated with happiness, however, it is positively linked to the state of being very happy. The latter results are both statistically insignificant, therefore, this finding does not impede the robustness of the benchmark regression. Additionally, it is found that the coefficients and marginal effects of control variables have the same signs in comparison to the benchmark regression. Interestingly, individuals who belong to high-income households are 13% more likely to be very happy. This result is statistically and economically significant, whereas the main analysis does not reveal significant results. This result is statistically significant at 1 percent level. Nonetheless, altogether, the patterns are quantitatively similar with the two dependents variables.

## *Life Satisfaction*

In this section, I adopt the same approach to conduct a robustness check of the results for life satisfaction. I construct a different definition of this dependent variable to test the impact of intrinsic and extrinsic values on a high level of life satisfaction. The dependent variable is a dummy equal to one if individual  $i$  reports a life satisfaction ranging between 8 to 10 on a scale of 1 (i.e. completely dissatisfied) to 10 (i.e. completely satisfied). Table E-2 shows results obtained using this alternative definition. In contrast, in the main analysis, I employ a moderate definition of life satisfaction. In this case, the dependent variable is *VERYSATISFIED<sub>i</sub>*. This variable is constructed using the same question in the WVS (Appendix Question A-2).

The same explanatory variables and controls are used in the same fashion to test the robustness of the results. Table 4 reports probit coefficients, marginal effects, and standard errors using the same empirical strategy employed in specification (2).

Again, in all specifications, the coefficients of intrinsic and extrinsic values have the same signs as the benchmark estimates with the exception of *Conformity<sub>i</sub>*. The mean of the dependent variable used here (*VERYSATISFIED<sub>i</sub>*) is 0.58 and the standard deviation is 0.49 (Table C-2). This means that 58% of the individuals in the sample report a high level of satisfaction while in the main analysis 83% of the individuals report to be somewhat satisfied (i.e. a level of satisfaction ranging from 6 to 10).

The robustness check shows that the coefficients and marginal effects of intrinsic values are still positive and both economically and statistically significant. Additionally, the magnitudes of the robustness check estimates are very similar to the magnitudes of the benchmark estimates. For example, individuals who value affiliation are 34% more likely to be very satisfied with life as a whole. Similarly, the main analysis reveals that individuals who value affiliation are 30% more likely to be somewhat satisfied with life in comparison to those who do not demonstrate this value. Moreover, the signs of the marginal effects of extrinsic values are consistent with the signs of the benchmark estimates with the exception of the results for *Conformity<sub>i</sub>*. This value is negatively associated with a moderate level of satisfaction, however, the robustness check shows a positive relationship between *Conformity<sub>i</sub>* and a high level of satisfaction. Both results are statistically significant. In spite of that, the latter variable is the only variable with shifting signs in both robustness checks. Therefore, it can be inferred that the problem could be associated with the captured data for this variable, and not the empirical specifications.

Therefore, all in all, the patterns for the second measure of well-being, namely life satisfaction, are quantitatively similar with the two dependents variables.

## *C. Econometric Issues*

Due to the nature of research involving subjective data, it is essential and inevitable to discuss potential econometric issues. Endogeneity is a common concern in regressions using subjective data. The problem of endogeneity arises from the fact that the dependent variables and the main explanatory variables are subjective. Bertrand and Mullainthan (2001) argued that the order and wording of questions in the survey can affect subjective measures. In addition, the ability of respondents to give accurate and meaningful answers about their well-being can be impacted by the momentary mood and scales applied. Thereafter, the potential instability of attitudes could alter the self-reported subjective well-being. Theoretically, these issues could generate unreliable measures for regression analysis. Nonetheless, in this study, these problems are not of serious concern. The happiness and life satisfaction questions are asked at the beginning of the survey, before other targeted and subjective questions are asked. This eliminates the concern that respondents would try to align their answers to later questions with previous subjective answers. Furthermore, the questions preceding the happiness and life satisfaction questions could invoke feelings that could alter the respondent's perception and subjective answers. However, I believe that this is not a major concern in this study since most of the preceding questions do not necessarily invoke any negative or positive feelings. For instance, one of the questions asks participants to select the qualities that are considered to be important for children to learn at home. This question does not threaten the validity of subsequent subjective questions. Nevertheless, there is only one question that could impede the answers to the question on life satisfaction. Participants are asked to report their health state using a 4-point scale (1 = very good and 4 = poor). In this case and depending on the answer, this question could generate negative feelings that could lead to biased answers causing random measurement errors. On the other hand, the scales used to rate happiness and life satisfaction shouldn't be of any concern. They are wide enough to allow for precise and unambiguous answers.

Another reason that could be causing measurement errors is related to the fact that well-being and intrinsic-extrinsic values are unmeasurable and unobservable variables. The interpretation of happiness and life satisfaction scales could differ between individuals. Di Tella and MacCulloch (2006) explored if happiness scores can be compared between individuals concluding that the comparison of happiness levels between individuals can be critical. How similarly are people reporting on the level of their happiness? Some people tend to overestimate their level of well-being, whereas other people could underestimate their degree of happiness or life satisfaction. Therefore, subjective data could suffer from exaggeration (or the opposite), and it could lack validity. More specifically, it is believed that people can exaggerate when reporting to what extent they feel happy. Exaggeration is considered an unobservable variable that is omitted from the empirical specification involving SWB and other subjective variables. However, when the study of happiness focuses on groups rather than individuals, the challenges are minimized. Furthermore, self-reported subjective well-being is relative to an individual's own definition

of happiness and life satisfaction. The latter measures of well-being are volatile feelings and perspectives of life that can be defined differently from one person to another. Additionally, an individual's feelings and perspectives of life could significantly fluctuate in a very short period of time. For this reason, the ambiguity around the "happiness" and "life satisfaction" questions, and other subjective questions causes various measurement errors that lead to endogeneity, and therefore, inconsistent estimators. However, it is worthwhile to note that reporting biases are reduced when a large number of individuals are included in the study.

Additionally, other unmeasurable and unobservable factors that contribute to the wellbeing of an individual are personality traits. Doyle & Youn (2000), found that the happiness of people is dependent of their personality traits, such as extroversion versus introversion, and tendermindedness versus toughmindedness. Using data representing U.S. adult population, they found significant association between the latter personal traits and happiness. Therefore, it is very common that SWB models include individual fixed effects to account for the unobserved differences between individuals, such as personality traits and psychological characteristics. However, the WVS does not offer information that detect unobservable and complex personality traits, therefore, I am not able to control for such variables. The latter further supports the presumption that my findings may be endogenous.

Another potential problem is the presence of omitted variables that may be correlated with the explanatory variables in the regression. Examples of possible omitted variables include the amount of social support an individual has, such as the number of friends, the existence of family support (yes/no), and the health status. It is the presence of individual characteristics in the unobservable error term of the regression that causes the omitted variable issue. In this paper, I introduced a good number of control variables to account for the unexplained portions of individual well-being, and to allow for an accurate estimation of happiness and life satisfaction likelihood as a function of intrinsic and extrinsic values. In spite of adding control variables, the problem of endogeneity may still linger.

Another potential cause of endogeneity is reverse causality. Happiness and life satisfaction could drive intrinsic and extrinsic values instead of the opposite. It is unclear and uncertain whether extrinsic and intrinsic values have an impact on well-being or if the reverse is true. For instance, individuals who value friendships can be associated with a higher level of happiness compared to those who do not value friendships. However, individuals who are happy are prone to value interpersonal relationships and particularly friendships. Does valuing friendships make individuals happy or do happy individuals tend to value friendships? People could seek external and instrumental outcomes to enhance or complete their happiness. Conversely, people could demonstrate intrinsic values rather than extrinsic values because they are happier to start with.

Altogether, it is reasonable to presume that the findings in this study could suffer from endogeneity due to omitted unobservable controls, possible measurement errors, and reverse causality.

## **VI. Discussion and Conclusion**

In conclusion, the findings suggest that Americans are more likely to feel happy and be satisfied with their lives if they demonstrate and attribute more weight to intrinsic values. Intrinsic values are associated with a significantly positive and enhanced well-being. Whereas, extrinsic values have little or no contribution to well-being. In point of fact, the only positive and statistically significant results for extrinsic values are economically insignificant.

Interestingly, Americans demonstrating intrinsically oriented values are even more likely to be very happy and very satisfied with their lives. This result further supports the main finding and suggests that intrinsic values do not only increase the likelihood of being moderately happy and satisfied with life, but they also increase the likelihood of being very happy and very satisfied with life. On another note, intrinsic results are consistently positive and significant, however, most extrinsic results have mixed signs and are not consistently significant. It is worthwhile to note that this study is the first to examine the impact of being environmentally friendly versus keen on economic growth on well-being, however, the results turn out to be insignificant. The lack of significance of extrinsic results could be due to a lack of self-awareness or an underestimation of one's own extrinsic motivation. Furthermore, it is possible that the circumstances or the personality traits of individuals who claim to have extrinsically oriented values are the reason why such people are not likely to be happy or satisfied with their lives. However, extrinsically oriented individuals did not benefit from extrinsic goals, whereas, intrinsically oriented individual significantly gained in happiness and life satisfaction from demonstrating intrinsic values. Hence, it can be concluded that extrinsic goals can have a negative, little or no impact on well-being.

The pursuit of extrinsic goals is clearly a never-ending race. For instance, people who aim for financial success and social recognition will find themselves stuck in a vicious cycle. Those who aim to achieve a certain level of wealth or a certain degree of social recognition will always aim for more. Their meaning of life is primarily defined by possession, acquisition, and integration. However, satisfaction and happiness generated from such goals are likely temporary and hardly sustainable. It is important to note that rather than concluding that extrinsic individuals are unhappy and unsatisfied with their lives, one could argue that those people are searching outwardly for the fulfillment of their happiness and life satisfaction. This alternative analysis entails reverse causality. Sheldon et al. (2010) argue that people overestimate the benefits of attaining extrinsic goals. They are aiming to feel competent and autonomous by attaining such goals. Therefore, these individuals are aiming for the same end goal as intrinsically oriented individuals, while using a different path and probably a disadvantageous one. Also, it could be

possible that extrinsically oriented individuals do not attribute that much importance to happiness and life satisfaction per se, and continue to pursue these goals even though they do not seem to be sustainably enhancing their well-being (Lyubomirsky, 2001).

It is important to acknowledge that extrinsic values are not necessarily harmful and can be beneficial in certain case scenarios. For instance, aiming for financial success can be beneficial to low-income individuals who are significantly less likely to be happy and satisfied with their lives in comparison with others, as suggested by the findings of this study. However, strong extrinsic relative to intrinsic orientation could backfire or lead to lower than expected or no gains in well-being.

All in all, personal values and motivations are conditioned by the respondent's personality traits, psychological state, past and current experiences, and most importantly culture. The definition of happiness and the perception of one's life satisfaction can be different from one person to another; however, the findings of this study are substantial and consistent with the general pattern for intrinsic-extrinsic values and well-being. It is clearly found that intrinsic values significantly enhance well-being. Given the contradicting messages spread in Western cultures, further attention should be given to the values that optimize well-being. It seems inevitable that spreading awareness of the importance of intrinsic values could enhance individual well-being and, therefore, substantially benefit the society at large.

## APPENDIX

### The World Value Survey Questions:

**Question A-1:** Taking all things together, would you say you are:

- (1) Very happy
- (2) Rather happy
- (3) Not very happy
- (4) Not at all happy

**Question A-2:** All things considered, how satisfied are you with life as a whole these days? Using this card on which 1 means you are “completely dissatisfied” and 10 means you are “completely satisfied” where would you put your satisfaction with your life as a whole?

Completely dissatisfied

Completely satisfied

1      2      3      4      5      6      7      8      9      10

**Question A-3:** For each of the following, indicate how important it is in your life. Would you say it is:

Very important

Rather important

Not very important

Not at all  
important

Family

1

2

3

4

Friends	1	2	3	4
Religion	1	2	3	4

**Question A-4:** Now I will briefly describe some people. Using this card, would you please indicate for each description whether that person is very much like you, like you, somewhat like you, not like you, or not at all like you?

	Very much like me	Like me	Somewhat like me	A little like me	Not like me	Not at all like me
It is important to this person to be rich; to have a lot of money and expensive things	1	2	3	4	5	6
Being very successful is important to this person; to have people recognize one's achievements	1	2	3	4	5	6
It is important to this person to always behave properly; to avoid doing anything people say is wrong.	1	2	3	4	5	6

**Question A-5:** Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view?

- (1) Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs.
- (2) Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent.
- (3) Other answer

**Table B-1: Explanatory Variables Definitions (based on the sixth wave WVS questions – 2010-2014)**

Label	Description (WVS)
<i>Intrinsic values</i>	
Affiliation (Family)	Level of importance attributed to family
Friendship	Level of importance attributed to friendships
Religion	Level of importance attributed to religion
<i>Extrinsic values</i>	
Social recognition	To be successful; to have people recognize one's achievements
Conformity	It is important to always behave properly; to avoid anything people would say is wrong

Financial success	It is important to be rich; to have a lot of money and expensive things
Economic growth	Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent

**Table B-3: The Correlations among the Explanatory Variables**

	Financial satisfaction	Social recognition	Conformity	Affiliation	Friends	Religion	Economic growth	Female	In a Relationship	Low income	Middle income	High income
Financial success	1											
Social recognition	0.3068	1										
Conformity	0.1038	0.1767	1									
Affiliation	-0.012	-0.0055	0.0362	1								
Friends	-0.0283	0.0226	0.0446	0.2347	1							
Religion	-0.0993	-0.0767	0.1376	0.0967	0.1047	1						
Economic growth	0.0347	-0.0097	0.0539	0.0334	0.0436	0.1692	1					
Female	-0.1026	-0.0835	0.0047	0.0265	0.0687	0.0931	-0.0082	1				
In a relationship	-0.0737	-0.0303	0.05	0.1108	-0.0329	0.0686	0.0412	-0.0431	1			
Low income	-0.0395	-0.0546	-0.0378	-0.0418	-0.0158	0.0286	0.0005	0.021	-0.145	1		
Middle income	0.0049	-0.0154	0.0049	0.0403	0.0183	-0.0466	0.0002	-0.007	0.0908	-0.7398	1	
High income	0.0553	0.1006	0.0355	-0.0113	-0.0169	0.0302	-0.009	-0.0208	0.0574	-0.1633	-0.4990	1

**Table C-1 - Summary Statistics for the First Empirical Specification: Means and standard deviations in parentheses**

Variables	Weighted Sample	Min	Max
<b>A. Happiness</b>			
Happy <sup>(1)</sup>	0.9022 (0.2970)	0	1
Very happy <sup>(2)</sup>	0.3518 (0.4776)	0	1
<b>B. Intrinsic Values</b>			
Affiliation	0.9885 (0.1064)	0	1
Friendship	0.9453 (0.2274)	0	1
Religion	0.6807 (0.4663)	0	1
<b>C. Extrinsic Values</b>			
Social recognition	0.4614 (0.4986)	0	1
Conformity	0.6383 (0.4806)	0	1
Financial success	0.1863 (0.3894)	0	1
Economic growth	0.6287 (0.4832)	0	1
<b>D. Gender</b>			
Female	0.5144 (0.4999)	0	1
<b>E. Relationship Status</b>			
<b>In a relationship</b>	0.6349 (0.4815)	0	1
<b>F. Household Income-level</b>			
Low-income	0.2252 (0.4178)	0	1
Middle-income	0.6796 (0.4667)	0	1
High-income	0.0835 (0.2767)	0	1
<b>Observations</b>	1986	1986	1986

Notes: This table presents the mean of the weighted sample, and the minimum and maximum values of dependent and explanatory variables. Standard deviations are in parentheses.

(1) Dependent variable  $HAPPY_i$  equal to one if individual  $i$  is “very happy” or “rather happy”, and zero otherwise.

(2) Dependent variable  $VERYHAPPY_i$  for the robustness check equal to one if individual  $i$  is “very happy”, and zero otherwise.

Source: World Value Survey (United States 2011).

**Table C-2 - Summary Statistics for the Second Empirical Specification: Means and standard deviations in parentheses**

<b>Variables</b>	<b>Weighted Sample</b>	<b>Min</b>	<b>Max</b>
<b><i>G. Life Satisfaction</i></b>			
Satisfied <sup>(1)</sup>	0.8304 (0.3752)	0	1
Very satisfied <sup>(2)</sup>	0.5875 (0.4924)	0	1
<b><i>H. Intrinsic Values</i></b>			
Affiliation	0.9885 (0.1065)	0	1
Friendship	0.9452 (0.2274)	0	1
Religion	0.6802 (0.4664)	0	1
<b><i>I. Extrinsic Values</i></b>			
Social recognition	0.4625 (0.4987)	0	1
Conformity	0.6384 (0.4805)	0	1
Financial success	0.1863 (0.3894)	0	1
Economic growth	0.6291 (0.4831)	0	1
<b><i>J. Gender</i></b>			
Female	0.5151 (0.4998)	0	1
<b><i>K. Relationship Status</i></b>			
In a relationship	0.6337 (0.4819)	0	1
<b><i>L. Household Income-level</i></b>			
Low-income	0.2255 (0.4180)	0	1
Middle-income	0.6798 (0.4666)	0	1
High-income	0.0830 (0.2759)	0	1
<b>Observations</b>	1983	1983	1983

Notes: Standard deviations are in parentheses. This table presents the mean of the weighted sample, and the minimum and maximum values of dependent and explanatory variables. Standard deviations are in parentheses.

<sup>(1)</sup> Dependent variable  $SATISFIED_i$  is equal to one if individual  $i$  reports a life satisfaction ranging from 6 to 10.

<sup>(2)</sup> Dependent variable  $VERYSATISFIED_i$  for the robustness check equal to one if individual  $i$  reports a life satisfaction ranging from 8 to 10.  
Source: World Value Survey (United States 2011).

**Table D1 – Probit Regression Results for the Impact of Intrinsic and Extrinsic Values on Happiness**

Explanatory variables	Dependent variable ( $HAPPY_i$ ) = 1 if individual $i$ reports to be “Very happy” or “Rather happy”							
	Probit (1)	dy/dx	Probit (2)	dy/dx	Probit (3)	dy/dx	Probit (4)	dy/dx
<b>A. Intrinsic values</b>								
Affiliation	0.7243 (0.2854)	0.1692*	0.7258 (0.2852)	0.1696*	0.5232 (0.2892)	0.1069	0.4859 (0.2954)	0.0924
Friendships	0.6302 (0.1495)	0.1369***	0.6351 (0.1499)	0.1382***	0.7110 (0.1524)	0.1563***	0.7118 (0.1555)	0.1495***
Religion	0.2015 (0.0861)	0.0322**	0.2058 (0.0882)	0.0329**	0.1849 (0.0892)	0.0284**	0.2036 (0.0911)	0.0296**
<b>B. Extrinsic values</b>								
Social recognition	0.1705 (0.0882)	0.0256**	0.1688 (0.0883)	0.0253*	0.1741 (0.0891)	0.0252**	0.1418 (0.0913)	0.0193
Conformity	0.0031 (0.0861)	0.0004	0.0043 (0.0861)	0.0006	-0.0174 (0.0871)	-0.0025	-0.0195 (0.0887)	-0.0026
Financial success	-0.2750 (0.1058)	-0.0472**	-0.2790 (0.1062)	-0.0480**	-0.2411 (0.1075)	-0.0394**	-0.2881 (0.1097)	-0.0454**
Economic growth	-0.5402 (0.0861)	-0.0081	-0.0551 (0.0862)	-0.0083	-0.0678 (0.0871)	-0.0098	-0.0572 (0.0888)	-0.0078
<b>C. Gender</b>								
Female	...	...	-0.0399 (0.0825)	-0.0060	-0.0202 (0.0837)	-0.0029	-0.0087 (0.0854)	-0.0012
<b>D. Relationship status</b>								
In a relationship	...	...	...	...	0.4088 (0.0844)	0.0659***	0.3311 (0.0869)	0.0494***

<b>E. Income level</b>								
Low income	...	...	...	...	...	...	-0.5813 (0.0936)	-0.1030***
High income	...	...	...	...	...	...	0.1871 (0.1703)	0.0231
<b>Constant term</b>	-0.0594 (0.2868)		-0.0461 (0.2879)		-0.1450 (0.2889)		0.0784 (0.2981)	
<b>Observations</b>	1986		1986		1986		1986	
<b>Log Likelihood</b>	-569.95		-569.83		-558.17		-537.04	
<b>LR Chi2</b>	49.05		49.28		72.60		114.87	
<b>Prob &gt; Chi2</b>	0.000		0.000		0.000		0.000	

Notes: Table reports probit coefficients and marginal effects (dy/dx) of empirical specification (1). Regression includes intrinsic and extrinsic values dummies and individual characteristics controls (dummies). Standard errors are in parentheses.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

Data source: World Value Survey (United States 2011).

**Table D-2 – Probit Regression Results for the Impact of Intrinsic and Extrinsic Values on Life Satisfaction**

Explanatory variables	Dependent Variable ( <i>SATISFIED<sub>i</sub></i> ) = 1 if individual <i>i</i> reports a life satisfaction ranging from 6 to 10							
	Probit (1)	dy/dx	Probit (2)	dy/dx	Probit (3)	dy/dx	Probit (4)	dy/dx
<b>A. Intrinsic values</b>								
Affiliation	1.1402 (0.2782)	0.3903***	1.1402 (0.2782)	0.3903***	0.9458 (0.2814)	0.3102***	0.9705 (0.2918)	0.3093***
Friendships	0.2833 (0.1472)	0.0752*	0.2838 (0.1475)	0.0753*	0.3513 (0.1494)	0.0943**	0.3436 (0.1548)	0.0869*
Religion	0.1478 (0.0752)	0.0356*	0.1481 (0.0754)	0.0357*	0.1266 (0.0762)	0.0298	0.1524 (0.0789)	0.0339*
<b>B. Extrinsic values</b>								
Social recognition	0.1663 (0.0743)	0.0387**	0.1661 (0.0744)	0.0387**	0.1652 (0.0749)	0.0378**	0.1150 (0.0778)	0.0247
Conformity	-0.0996 (0.0742)	-0.0230	-0.0995 (0.0742)	-0.0230	-0.1241 (0.0750)	-0.0281*	-0.1529 (0.0778)	-0.0322**
Financial success	-0.1260 (0.0942)	-0.0308	-0.1264 (0.0945)	-0.0309	-0.0809 (0.0958)	-0.0191	-0.1304 (0.0990)	-0.0294
Economic growth	0.0189 (0.0722)	0.0044	0.0188 (0.0722)	0.0044	0.0071 (0.0728)	0.0016	0.0238 (0.0752)	0.0051
<b>C. Gender</b>								
Female	...		-0.0038 (0.0697)	-0.0008	0.0165 (0.0705)	0.0038	0.0302 (0.0729)	0.0065
<b>D. Relationship status</b>								
In a relationship	...		...		0.4050 (0.0719)	0.0096***	0.2958 (0.0752)	0.0672***
<b>E. Income level</b>								
Low income	...		...		...		-0.7858	-0.2136***

				(0.0811)	
High income	...	...	...	0.4388	0.0771
				(0.1604)	
<b>Constant term</b>	-0.4686		-0.5684	-0.3285	
	(0.2806)		(0.2839)	(0.2948)	
<b>Observations</b>	1983	1983	1983	1983	
<b>Log Likelihood</b>	-836.50	-836.50	-820.75	-764.40	
<b>LR Chi2</b>	39.62	39.63	71.11	183.81	
<b>Prob &gt; Chi2</b>	0.000	0.000	0.000	0.000	

Notes: Table reports probit coefficients and marginal effects (dy/dx) of empirical specification (2). Regression includes intrinsic and extrinsic values dummies and individual characteristics controls (dummies). Standard errors are in parentheses.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

Data source: World Value Survey (United States 2011).

**Table E-1 - Robustness Check: Regression Results for the Impact of Intrinsic and extrinsic values on happiness**

Explanatory variables	Dependent variable ( $VERYHAPPY_i$ ) = 1 if individual $i$ reports to be “Very happy”							
	Probit (1)	dy/dx	Probit (2)	dy/dx	Probit (3)	dy/dx	Probit (4)	dy/dx
<b>A. Intrinsic values</b>								
Affiliation	1.0480 (0.4715)	0.2764***	1.0470 (0.4711)	0.2762***	0.9293 (0.4705)	0.2569***	0.9582 (0.4823)	0.2598***
Friendship	0.3481 (0.1522)	0.1193**	0.3502 (0.1524)	0.1200**	0.3872 (0.1533)	0.1311***	0.3896 (0.1553)	0.1312***
Religion	0.3479 (0.0662)	0.1249***	0.3495 (0.0664)	0.1255***	0.3418 (0.0666)	0.1227***	0.3534 (0.0674)	0.1262***
<b>B. Extrinsic values</b>								
Social recognition	0.0888 (0.0625)	0.0329 (0.0231)	0.0877 (0.0626)	0.0325	0.0914 (0.0627)	0.0338	0.0578 (0.0634)	0.0213
Conformity	0.1062 (0.0630)	0.0390* (0.0230)	0.1062 (0.0630)	0.0390*	0.0949 (0.0632)	0.0349	0.0851 (0.0637)	0.0312
Financial success	-0.0606 (0.0816)	-0.0222 (0.0297)	-0.0625 (0.0818)	-0.0229	-0.0408 (0.0822)	-0.0150	-0.0644 (0.0830)	-0.0235
Economic growth	-0.0214 (0.0614)	-0.0079 (0.0227)	-0.0218 (0.0614)	-0.0080	-0.0282 (0.0616)	-0.0104	-0.0250 (0.0621)	-0.0092
<b>C. Gender</b>								
Female	...		-0.0188 (0.0589)	-0.0069	-0.0065 (0.0591)	-0.0024	-0.0027 (0.0596)	-0.0009
<b>D. Relationship status</b>								
In a relationship	...		...		0.2193 (0.0632)	0.0798***	0.1586 (0.0643)	0.0578**
<b>E. Income level</b>								

Low income	...	...	...	-0.4268 (0.0808)	-0.1472***
High income	...	...	...	0.3603 (0.0972)	0.1384***
<b>Constant term</b>	-2.0741	-2.0655	-2.1264 (0.4725)	-2.0656 (0.4842)	
<b>Observations</b>	1986	1986	1986	1986	
<b>Log Likelihood</b>	-1261.81	-1261.76	-1255.70	-1230.91	
<b>LR Chi2</b>	58.88	58.98	71.09	120.68	
<b>Prob &gt; Chi2</b>	0.000	0.000	0.000	0.000	

Notes: Table reports probit coefficients and marginal effects (dy/dx). Regression includes intrinsic and extrinsic values dummies and individual characteristics controls (dummies). Standard errors are in parentheses.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

Data source: World Value Survey (United States 2011).

**Table E-2 - Robustness Check: Regression Results for the Impact of intrinsic and extrinsic values on life satisfaction**

Explanatory variables	Dependent variable ( <i>VERYSATISFIED<sub>i</sub></i> ) = 1 if individual <i>i</i> reports a life satisfaction ranging from 8 to 10							
	Probit (1)	dy/dx	Probit (2)	dy/dx	Probit (3)	dy/dx	Probit (4)	dy/dx
<b>A. Intrinsic values</b>								
Affiliation	0.9858 (0.3144)	0.3691***	0.9906 (0.3159)	0.3706***	0.8210 (0.3222)	0.3155***	0.9048 (0.3434)	0.3442***
Friendship	0.2243 (0.1346)	0.0882*	0.2098 (0.1349)	0.0824	0.2687 (0.1363)	0.1058*	0.2755 (0.1391)	0.1084**
Religion	0.2095 (0.0633)	0.0814***	0.2005 (0.0635)	0.0779***	0.1859 (0.0639)	0.0722***	0.1998 (0.0652)	0.0774***
<b>B. Extrinsic values</b>								
Social recognition	0.0539 (0.0614)	0.0208	0.0606 (0.0616)	0.0233	0.0652 (0.0619)	0.0251	0.0190 (0.0634)	0.0073
Conformity	0.1345 (0.0612)	0.0521**	0.1335 (0.0612)	0.0517**	0.1159 (0.0617)	0.0448*	0.1083 (0.0629)	0.0418*
Financial success	-0.1121 (0.0793)	-0.0436	-0.1009 (0.0796)	-0.0392	-0.0637 (0.0803)	-0.0247	-0.1006 (0.0822)	-0.0390
Economic growth	-0.0251 (0.0603)	-0.0097	-0.0223 (0.0603)	-0.0086	-0.0337 (0.0609)	-0.1300	-0.0289 (0.0618)	-0.0111
<b>C. Gender</b>								
Female	...		0.1142 (0.0580)	0.0441**	0.1363 (0.0584)	0.0526**	0.1513 (0.0595)	0.0581**
<b>D. Relationship status</b>								
In a relationship	...		...		0.3683 (0.0612)	0.1432***	0.2893 (0.0629)	0.1121***

<b>E. Income level</b>					
Low income	...	...	...	-0.5823 (0.0749)	-0.2281***
High income	...	...	...	0.6652 (0.1145)	0.2267***
<b>Constant term</b>	-1.149 (0.3149)	-1.198 (0.3176)	-1.318 (0.3236)	-1.283 (0.3452)	
<b>Observations</b>	1983	1983	1983	1983	
<b>Log Likelihood</b>	-1312.77	-1310.83	-1292.72	-1235.52	
<b>LR Chi2</b>	43.45	47.33	83.55	197.95	
<b>Prob &gt; Chi2</b>	0.000	0.000	0.000	0.000	

Notes: Table reports probit coefficients and marginal effects (dy/dx). Regression includes intrinsic and extrinsic values dummies and individual characteristics controls (dummies). Standard errors are in parentheses.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

Data source: World Value Survey (United States 2011).

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