WORK VALUES AS A DETERMINANT FOR ECONOMIC GROWTH

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ABSTRACT

Aim of the Study: The findings in this study attempt to answer the question; Do work values predict economic growth?

Methodology: World Values data was used to explore the aim of the study through multiple linear regression statistical analysis.

Findings: The results indicate that work ethic does have a relatively evident relationship to economic growth and are significant predictors of GNI per capita and GDP per capita. These results indicated that work ethic changes as countries' priorities change from having higher motivation to work in poorer economies to having lower motivation to work in wealthier economies.

Managerial Implications: Leveraging the World Values Survey, this study shows that work priorities have shifted from working for material security/necessity in poorer economies to working for intrinsic needs in wealthier countries. This indicates an unusual non-generational shift in values indicating that employees can have large value shifts as wealth increases.

Keywords: work ethics, work priorities, work values, economic growth, work motivation, priority shifting, GDP/GNI per capita

JEL Classification: J11

INTRODUCTION

Culture and economic growth research has produced mixed results. Culture has been challenging to define, measure, and understand. Neoclassical economists have given primacy to economic factors for economic growth, whereas sociologists and anthropologists have often given primacy to cultural factors in combination with economic factors as the reason for economic growth. As in many fields, these kinds of philosophical differences have caused contention among researchers over decades. As the field has progressed, research investigating both cultural and economic factors for economic growth has become more widely accepted.

The World Values Survey items relating to work can be divided into three categories: (a) work and authority, with values ranging from autocracy to autonomy; (b) work ethic, with values ranging from high work motivation to low work motivation; and (c) work priorities, with values ranging from working for material necessity to working for intrinsic needs. In this study, countries were categorized by gross national income (GNI) per capita and gross domestic product (GDP) per capita, as compared to work and authority, work ethic, and work priorities.

LITERATURE REVIEW

Hofstede (Hofstede, 2001) Hofstede and Hofstede (2005), Schwartz (1992, 1994, 1999), and the Global Leadership and Organizational Behavior Effectiveness (GLOBE) study (Chhokar, Brodkeck, & House, 2007; House, Hanges, Javidan, Dorfman, & Gupta, 2004) produced studies on how culture impacts values. Each study defined dimensions of culture (not discussed in detail in this paper as they are available at the respective sources) based on a result of the study.

Hofstede's dimensions of culture. Hofstede (2001) conducted the first study to develop cultural dimensions. Focused on one organization, IBM, Hofstede conducted two rounds of surveys, totaling 116,000 returns from 72 countries, in 1968 and 1972. Through this study, Hofstede concluded that individuals have mental programs guided by values from a nation's culture. Hofstede (2001) found he could group values that affect human thinking, feeling, and acting into five dimensions: (a) power distance, (b) uncertainty avoidance, (c) individualism and collectivism, (d) masculinity and femininity, and (e) long-term orientation. Because these cultural dimensions were based on values, which changed little over time, value differences of countries could be quantified for the first time, thus introducing the importance of culture and offering a meaningful, quantifiable way to include cultural differences in research. The five dimensions of culture showed significant relationship when compared to 140 other studies. There was significant and meaningful correlations with geographic, economic, demographic, and political national indicators (Hofstede, 2001).

The GLOBE study. The GLOBE study by House et al. (2004) was the most recent major study to employ dimensions of culture, and it was also the most extensive, using 17,300 managers in 951 organizations. House et al. focused on answering three primary questions: (a) How is culture related to societal effectiveness? (b) How is culture related to organizational effectiveness? And, (c) how is culture related to leadership effectiveness? The GLOBE study measured culture using both practices and values (House et al., 2004).

The GLOBE study was based on Hofstede's (2001) dimensions of culture. The GLOBE study included all five of Hofstede's dimensions of culture and developed two additional dimensions. Power distance and uncertainty avoidance both related to Hofstede's cultural dimensions of the same name. Hofstede's individualism/collectivism dimension was split by the GLOBE study into two subgroups: in-group collectivism and institutional collectivism.

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Hofstede's masculinity dimension was also split into two sub-groups of assertiveness and gender egalitarianism by the GLOBE study.

Hofstede's future orientation dimension was most closely related to the GLOBE study's long-term orientation. The GLOBE study developed the two dimensions of performance orientation and human orientation. Part of the 27 tested hypotheses of the GLOBE studies included the analysis of cultural dimensions and economic health. The GLOBE study researchers were particularly interested in economic prosperity, economic productivity, government support for prosperity, and societal support for competitiveness (Dickson, BeShears, & Gupta, 2004).

The Schwartz Value Survey. Schwartz (1994) found that Hofstede did not uncover the full extent of cultural dimensions and Hofstede's cultural dimensions could be further refined into more finely tuned dimensions, based on Hofstede's work. Through the Schwartz Value Survey, Schwartz (1994) ultimately settled on seven cultural-level value types: conservatism, harmony, egalitarian commitment, intellectual autonomy, affective autonomy, mastery, and hierarchy. Schwartz proposed to use these new value types to advance research in the area of cultural dimensions.

Both Schwartz (1994) and the GLOBE study (House et al., 2004) compared the Schwartz value types to Hofstede's dimensions of culture. Schwartz (1994) conducted a study for comparison. However, the study sample was limited to 45, a relatively small subset for adequate comparison. The researchers in the GLOBE study conducted a more stringent comparison, determining that three of Schwartz's value types related with Hofstede's dimensions of culture, and one shared a relationship with the additional dimension added by the GLOBE study. Generally, power distance and hierarchy, uncertainty avoidance and intellectual autonomy, and masculinity and egalitarianism were found loosely related in the GLOBE study. The GLOBE dimension of performance orientation and the Schwartz value type of mastery were related, as well. The remaining value types of conservatism, harmony, and affective autonomy are omitted from this literature review because no universal agreement of relationship can be substantiated.

Dimensions of Culture and Economic Growth

According to Taras, Rowney, and Steel (2009), researchers have designed over 121 instruments while attempting to measure culture for cultural comparison, and countless dimensions of culture exist beyond the instruments. Review of each instrument and each dimension of culture is impractical. Hence, the three largest studies, which are most often cited in the literature, were compared in the current study. The three studies are Hofstede's (2001) IBM study, the GLOBE study by House et al. (2004), and the Schwartz (1994) Value Survey. Through the comparison of these three studies, seven dimensions of culture can be substantiated on a consistent basis: power distance, uncertainty avoidance, individualism/collectivism, masculinity, future orientation, performance orientation, and humane orientation. Table 1 relates the three major studies into these seven dimensions of culture. Each dimension has been well studied and has had substantial research conducted on its relationship to economic development.

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Table 1: *Dimensions of Culture: Comparison of Three Studies*

Hofstede's IBM Study	GLOBE Study	Schwartz Value Survey
Power Distance	Power Distance	Hierarchy
Uncertainty Avoidance	Uncertainty Avoidance	Intellectual Autonomy
Individualism/Collectivism	In-Group Collectivism Institutional Collectivism	N/A
Masculinity	Assertiveness Gender Egalitarianism	Egalitarianism
Future Orientation	Long Term Orientation	N/A
N/A	Performance Orientation	Mastery
N/A	Humane Orientation	N/A

Summary of dimensions of culture and economic growth: Connections between economic growth and the seven dimensions of culture–power distance, uncertainty avoidance, individualism/collectivism, masculinity, long-term orientation, performance orientation, and humane orientation–have been reviewed in the previous sections. Two cultural dimensions, power distance and, to a slightly lesser degree, performance orientation had significant relationships with economic growth. Three cultural dimensions, uncertainty avoidance, individualism/collectivism, and long-term orientation, had mixed relationships with economic growth. Humane orientation and masculinity had no relationship.

The World Values Survey (WVS) approached cultural research differently. The WVS did not utilize cultural dimensions to measure culture; instead, researchers grouped items by cultural categories. The WVS explained cultural differences by comparing values in different cultural categories and added a significant voice to cultural studies.

RESEARCH METHODOLOGY

Researchers have conducted the WVS in three waves over the past three decades. It is the only longitudinal survey measuring human beliefs and cultural values in 80 societies around the world. The WVS measures topics including economics, politics, religion, ethics, civic duty, family values, gender roles, and sexual behavior in a broad array of different economic and political societies (Inglehart, Basanez, Diez-Medrano, Halman, & Luijkx, 2004). The WVS has clearly shown that cultural values influence economic growth. Inglehart et al. (2004) showed that two value dimensions, survival/self-expression values and traditional/secular-rational values, clearly had a relationship with gross national product per capita (see Figure 1). Inglehart et al. (2004) stated, "One rarely finds such striking and consistent correspondence between an

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objective independent variable such as GNP per capita and subjective values and attitudes" (p. 13), as found in this comparison.

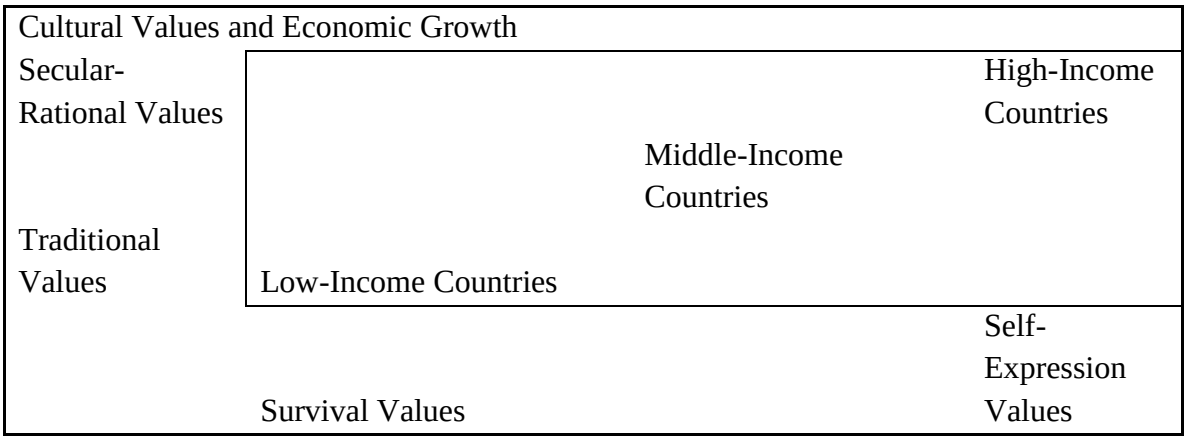

Figure 1. Values and economic growth comparison. Adapted from *Human Beliefs and Values* (p. 12), by R. Inglehart, M. Basanez, J. Diez-Medrano, L. Halman, & R. Luijkx, 2004. In L. Halman & O. Riis (Eds.), *Religion in Secularizing Society: The Europeans' Religion at the End of the 20th Century*. Leiden, The Netherlands: Brill. Copyright 2004 by Siglo XXI Editores.

Studies using the World Values Survey: Many researchers have published studies utilizing the WVS, ranging from culture and ethics (Parboteeah, Bronson, & Cullen, 2005) and religion and happiness (Snoep, 2007); to social capital and innovation (Chen, 2007); and degrees of trust in organizations (Torgler, 2008), to name just a small sample. Such studies have deemed the WVS data valid and reliable enough for inclusion in their studies. A select few papers and dissertations (Chen, 2001; Widmalm, 2005) represented written critiques on the research conclusions that Inglehart and his co-authors (Inglehart, 1997; Inglehart & Baker, 2000; Inglehart et al., 2004) reached as a result of the evaluation of the WVS data. The critiques do not concern the data contained in the WVS nor the method of data collection. In contrast, the critiques focus on the conceptualization of variables or the conclusions reached in papers written based on the WVS data (Welzel, Inglehart, & Deutsch, 2005).

World Values Survey flaws: Surveys themselves have particular drawbacks. Likert-type scale surveys are commonly used and well understood. The WVS administered Likert-type surveys orally, which has the advantage of ensuring that the respondent understands the questions and answers. The drawback is that the respondent may feel hesitant to answer truthfully, if the answer is antithetical to cultural norms in society or if the question is one the respondent is uncomfortable answering. Likert-type scale surveys may not provide a holistic answer to the question because limited responses are available and the researcher does not seek a deeper understanding, such as in a qualitative study. Understandably, in a study as large as the WVS, qualitative research would demand significantly more resources and a wider audience than just the researchers, and they might find the data more difficult to interpret (Creswell, 2007).

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A second challenge to the surveys relates to the longitudinal comparability of each wave. Each wave did not survey the same countries with the same items. In the present study, the items chosen were asked in some waves but not in others. In addition, countries were both added to and omitted from the survey. These circumstances cause a challenge to the reliability of data when compared longitudinally.

Culture challenges: Culture itself can be a barrier in comparing countries (Hofstede, 2001). First, wave surveys for certain countries required translation into the native language. In addition to potential translation errors, word meanings vary across languages. The destination language may not have a word that closely resembles the intent of the original survey wording. Second, surveys were altered based on cultural sensitivities or local conditions. Although the changes were documented, the modification might impact the validity of the item. Third, social differences may exist regarding presentation of a survey between interviewer-respondent in varying cultures, causing the respondent to answer differently than with a different interviewer or in another culture. Such factors can significantly affect the respondent's answer to an item and affect the reliability of the study when comparing countries.

Fourth, and possibly the most significant, is what House et al. (2004) called the levels of analysis problem. House et al. stated, "Inappropriately assuming that cultural-level characterizations and relationships apply to individuals within these cultures is commonly labeled the ecological fallacy error" (p. 99), and the reverse ecological fallacy "is said to occur if one compares cultures on measures created for use at the individual level" (p. 99). Scholars need to consider these fallacy errors when constructing scales so they measure the appropriate level of culture. Although it is likely that the constructors of the WVS were aware of this fallacy, it is not specifically stated in the WVS research.

Regardless of World Value Survey data flaws, it is the only longitudinal study of such an extensive scope and the methods employed in the survey have been adequate for inclusion in several hundred studies. The results of research utilizing the WVS must be interpreted with these possible validity and reliability issues in mind.

WORK VALUES AND ECONOMIC GROWTH

The connection between work and economic growth began with Weber (1930), as discussed in the cultural primacy section of this chapter. Weber made the case that the Protestant work ethic ideology influenced economic success in Protestant societies; however, this theory draws controversy in the literature and seems to no longer be as relevant as it once was. McClelland and Winter (1969) added the idea of achievement motivation theory, suggesting those societies with a culture of strong work motivation are more likely to be economically successful. Results of a study by Inglehart (1997) showed achievement motivation was closely linked to economic growth rates. Inglehart et al. (1997) found that achievement motivation had a major impact on

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gross domestic investment and economic growth and stated, "The direct path from Achievement Motivation to growth probably reflects the effect of motivational factors on entrepreneurship and [work] effort" (pp. 233-234).

As previously discussed, modernization theory postulates that certain cultural values or cultural dimensions are predictors of economic growth (Granato, Inglehart, & Leblang, 1996; Inglehart, 1997; Inglehart et al., 2004; Nadler & Zemanek, 2006). Post-modernization theory indicates that once a society has overcome scarcity issues, cultural values shift towards quality of life aspects and economic growth rates decline, illustrating that culture has an impact on economic growth as work becomes less important (Inglehart, 1997; Inglehart et al., 2004). Researchers have shown the previously mentioned cultural dimensions to relate culture to economic growth, and two cultural dimensions have more specifically related work values to economic growth (Hofstede, 2001; House et al., 2004; Schwartz, 1994). The cultural dimensions of uncertainty avoidance and performance orientation both relate the work values of a society; however, only the cultural dimension of performance orientation related the work values to economic growth.

Vecernik (2003) suggested four reasons why human values relating to the economic behavior of individuals and work have not been studied closely:

> (1) values are taken for granted and have no standing in neoclassical economics; (2) measuring human values is rather problematic because one has to rely on subjective data; (3) there are no time series; (4) there is no research tradition…that would facilitate this type of inquiry. (p. 445)

In addition, Vecernik (2003, p. 446) pointed out that the existence of methodological problems when analyzing work values; specifically, work values (or any values in general), can be researched only by indirect means, typically through opinion surveys. These factors have made the study of work values and economic growth particularly scarce.

Significant Recent Studies of Work Values and Economic Growth

The recent studies scholars have completed concerning work values and economic growth have made some important additions to the literature. Ardichvili and Kuchinke (2009) performed a comparison of research studies conducted on work and formed two conclusions. First, in countries with new social groups emerging from economic growth, the meaning of work changes in each social group. Second, the importance or centrality of work becomes greater when economic pressures increase, and work becomes less important as these economic pressures decrease (Ardichvili & Kuchinke, 2009). This perspective was supported by a second study by Ardichvili (2009).

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Ardichvili (2009) focused on the meaning of work in Russia during socioeconomic transitions and found that when a country goes through a socioeconomic transition, the work values fluctuate. Specifically, as socioeconomic conditions improved in Russia during post-communist development in the 1990s, the importance of work decreased in favor of more time for family and leisure activities. Snir and Harpaz (2009) conducted a study of 20 countries regarding cross-cultural differences and heavy work investment. Snir and Harpaz declared, "Work investment is heavier in societies where survival values are important, as compared to societies where self-expression values are important" (p. 317). The findings supported the idea that individuals value work more when economic hardship is prevalent.

Pryor (2005) conducted a study on national values and economic growth using data from the WVS. Pryor clustered countries into five groups: Anglo-Saxon, Nordic, Western European, Southern European, and Japan. Pryor self-selected 13 economic-based values and attitudes on achievement, hard work, and success, and concluded that the values examined, when compared by country group and related to economic growth, did not yield consistently substantively significant results (Pryor, 2005). The idea of hard work and economic growth had little causal relationship, using the WVS data.

Because culture takes decades to change significantly, older research tends to remain significant. One older study by Furnham, Kirkcaldy, and Lynn, (1994) is worth exploration. The Furnham et al. results were mixed on work values support of economic growth. Furnham et al. looked at 41 first, second, and third world countries with a sample of 12,000 young people and examined seven values, including work ethic, achievement motivation, mastery, and competitiveness. The results showed that competitiveness was strongly positively associated with economic growth, but negatively associated with per capita income (Furnham et al., 1994). Further, work ethic was not found to be a predictor of economic growth or of individual wealth, although Furnham et al. (1994) noted this might have been a result of measurement error.

A study by Corneo and Jeanne (2010) examined the relationship between the symbolic value of a job and economic growth. Corneo and Jeanne developed results supporting the concept that individuals choose the careers in which they engage, which results in economic activity. Through the chosen career, an individual expresses his/her individuality; therefore, "Economic activity is a central category for defining one's identity" (Corneo & Jeanne, 2010, p. 249). The value in this finding is that the values of parents influence their children to maximize their expected utility. Society holds a value in specific jobs, typically higher-paying jobs that contain status, and the values of parents who want success for their children guide the children towards these higher-paying jobs with higher symbolic value.

As seen, the research regarding work values and economic growth has been limited and stratified among a range of areas. Early research with achievement motivation theory (Inglehart,

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1997; McClelland & Winter, 1969) and later research in modernization (Granato et al., 1996; Inglehart, 1997; Inglehart et al., 2004; Nadler & Zemanek, 2006) started the discussion on cultural motivations behind work, to some degree. Cultural dimensions (Hofstede, 2001; House et al., 2004; Schwartz, 1994) further refined these ideas and determined that uncertainty avoidance and performance orientation were positively related with economic growth, but only performance orientation positively related the connection between work values and economic growth.

More recent studies found the meaning of work changed in social groups (Ardichvili, 2009), work became less important as economic prosperity grew (Ardichvili & Kuchinke, 2009; Snir & Harpaz, 2009), and work held symbolic values (e.g., a doctor has a higher social status). Such symbolic value causes parents to push children into higher paying careers, leading to greater economic prosperity for a country (Corneo & Jeanne, 2010).

The studies reviewed above face challenges. Studying culture has particular challenges, leading researchers who give primacy to economic factors for growth to critique the findings of cultural studies. These multifaceted challenges are discussed in the next section.

Problems with Cultural Research

The study of culture is full of controversy. Studying culture poses a multifaceted problem limiting the outcomes of all research studies in the field. The problems include how scholars define culture, how they study and research culture, the limitations of current studies, correlation vs. causation of results, and cultural vs. economic primacy (determinism).

House et al. (2004) stated that social scientists had not reached consensus on a definition of culture. Fischer (2009) mentioned Kupper (1999), who stated that defining culture "has remained a formidable challenge" (p. 29). Taras et al. (2009) furthered this idea, suggesting culture can be difficult to define because of a lack of understanding about what actually defines culture. For example, several questions arise when trying to constitute what culture is: Are terms like "anxiety" universally defined or do they have different meanings within each culture? Are personality traits and value systems different between cultures? Which layers of culture are researchers actually defining: individual, organizational, or national culture? These questions, along with many others, arise when attempting to define culture.

Fischer (2009) observed, when reviewing the definitions of culture, scholars tend to focus on two areas: culture is collective, and culture is shared and learned by others within the culture. These two attributes seem to be the main ideas around which most culture definitions congregate. This is true with Hofstede (2001), the GLOBE study (House et al., 2004), and the WVS (Inglehart, 1997; Inglehart et al., 2004). Cultural definitions vary from source to source, and the definitions do little to answer the questions posed above. In order to truly understand

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culture, the before-mentioned questions should be addressed in greater depth. Specifically, what do the major studies in the field actually measure? Scholars should focus more research needs on exactly the level of culture (individual, organizational, national) in which society functions. Such a focus could offer deeper insight as to how culture affects society, which, so far, has not been well addressed in research.

Issues with Cultural Studies and Survey-Based Research

As previously discussed, neoclassical economists believed culture could not be measured because of the difficulty in designing a study with a refutable hypothesis that could accurately measure culture. Therefore, culture did not have a place in economic models (Guiso, Sapienza, & Zingales, 2006; Vecernik, 2003). This criticism of cultural surveys appears in many areas in the literature for various reasons. In addition to difficulty in study design issues, such as sample sizes, other difficult barriers exist for cultural researchers to overcome. Examples include the balance between the representativeness of the sample and cross-sample comparability, the validity of self-reporting questionnaires, generalization of theory across all cultures, survey wording, and the comparability of the value items (shared meaning system) being researched across cultures (Fischer, 2009; Fischer, Vauclair, Fontaine, & Schwartz, 2010; Hofstede, 2001; Taras et al., 2009). Scholars have found no clear solutions to address these core issues in cultural research, and as a result, such research has drawn harsh criticism from researchers outside the field.

Another core challenge questioning the validity of cultural research and survey design is isomorphism of the results of a study. Fischer (2009), along with Leung and Bond (1989), Peterson and Castro (2006), and Smith (2006), questioned "whether psychological constructs show the same measure at the individual and nation levels" (p. 26). Individual data may not take into account country-level effects and could lead to incorrect conclusions (Fischer, 2009). This leads to the question about what such studies truly measure. When individuals respond to surveys, do they respond with individual, organizational, or national cultural responses? In addition, do the surveys measure personality, values, or beliefs? Such answers can be difficult to ascertain, as the respondents themselves may not consciously realize the construct in which their responses lie (Fischer, 2009). For this reason, measuring culture from outside the culture with universally written surveys is difficult (House et al., 2004).

Limitations of the Hofstede, GLOBE, Schwartz, and World Values Studies

Every study has limitations. Hofstede, House et al., Schwartz, and the WVS studies all have been well critiqued in the literature and are not exceptions to limitations. Hofstede (2001) mentioned five common criticisms of his work:

1. Using surveys to measure differences in cultures is not appropriate;
2. Cultures should not be studied using national borders,

3. Studying just one company in many nations is not representative of the entire nation,
4. The data collected from IBM are old and obsolete; and
5. More than five dimensions are necessary to adequately represent cultural differences.

Each of the criticisms holds merit. Hofstede's study is not perfect and his results have been well debated. Dimensions are simply a way to categorize cultural differences. The number of dimensions necessary is an area of debate. Hundreds have been uncovered; however, only a handful from Hofstede, the GLOBE study, and Schwartz have been used in further studies (Taras et al., 2009).

The GLOBE study (House et al., 2004) makes little mention of criticisms of its work. It caused its own stir in the field with its methodology and findings. Fischer (2009), Dansereau and Yammarino (2006), Hanges and Dickson (2006), Hofstede (2006), Javidan, House, Dorfman, Hanges, and de Luque (2006), Peterson and Castro (2006), and Smith (2006) all pointed out that the GLOBE project created a ferocious debate about cultural studies. Hofstede (2006) was particularly critical of the GLOBE study and led the debate over the relevance of the GLOBE study. Particularly, Hofstede (2006) argued the GLOBE dimensions of culture did not share a relationship well with Hofstede's dimensions of culture, as appeared in the GLOBE study. As a result, "GLOBE items at the country level may convey hidden meanings neither intended nor understood by their designers" (Hofstede, 2006, p. 893).

Fischer (2009) agreed with Hofstede, stating, "The meaning of the GLOBE dimensions and the adequacy of their analysis remain in dispute" (p. 26). By having additional dimensions beyond what Hofstede developed, the construct becomes more difficult to interpret. Hofstede's dimensions are simply a way to measure culture, and they are not perfect. Adding cultural dimensions increases the complexity, which may harm rather than help cultural studies. Hofstede (2006) observed, "With nine dimensions of culture…the GLOBE researcher's psycho-logic has surpassed the limits of our capacity for processing information" (p. 895).

The Schwartz Value Survey represented a new approach to studying culture; however, it suffered from the same criticisms as the GLOBE study, complicating the cultural studies issue by developing entirely new constructs with which to study culture. Fontaine, Poortinga, Delbeke, and Schwartz (2008) highlighted the existence of structural deviations in Schwartz's model, which Schwartz and Sagiv (1995) themselves pointed out were the result of fluctuations in sampling. Fontaine et al. (2008) maintained such deviations could not be supported solely by sampling fluctuations, and thus could result in "meaningful structural variation across cultural groups" (p. 349), which were not supported by the model. This leads to questioning the validity of Schwartz's value dimensions and their usefulness in studying culture.

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The World Values Survey (WVS) is the only cultural survey that used longitudinal inquiries, of the four surveys discussed here. The longitudinal nature and the comparison of the WVS showed that culture changes very slowly over time, and longitudinal data, although nice to have, are not particularly necessary when comparing cultures. Inglehart (1997) discussed that funding for the WVS was attained from local sources in each country studied, with very little central control (Chen, 2001), so the quality of the field work varied from country to country and led to numerous imperfections in the data.

Inglehart (1997) reasoned that when the data appeared in the aggregate and regional country clusters were formed, the data were within "the right ballpark" (p. 350); however, the accuracy of the data remained in question. A further issue with the WVS was that the data were not within the construct of cultural dimensions (Chen, 2001). Inglehart (1997) believed the construct should be the materialist/post-materialist construct and not cultural dimensions. This viewpoint fit into Hofstede's (2006) argument that too many constructs could be a detriment to the future of cultural studies research.

Correlation vs. Causation

A primary argument of neo-classical economists and other detractors of cultural studies is the ability to show causation. Fukuyama (2001) stated, "Orthodox economists criticized that cultural factors are methodologically very difficult to measure and to disentangle from other kinds of variables" (p. 3132). Some researchers have correlated cultural dimensions to economic growth; however, showing causation is difficult, as admitted by many who have studied culture (Hofstede, 2001; House et al., 2004; Inglehart, 1997). Fukuyama (2001) illustrated the debate between those who study culture and neo-classical economists: "Many cultural explanations of economic behavior tend to turn into detailed ethnographic studies, in which causal relationships become so complex that they are not generalizable beyond the particular group being studied" (p. 3134).

Economists tend to create universal models to measure behavior, which do not account for the complexity of contextual factors of society (Fukuyama, 2001). Such simplistic universal models tend to favor linear causation instead of the more complex systematic causation (Pryor, 2007) . Studying the interplay between culture and economics should consider the large system of economics and the large system of culture in a holistic manner to uncover significant results. Pryor (2007) mentioned, "Systematic causation focuses not on the relationship of individual variables with each other, but on the grouping of characteristics into systems within the various domains" (p. 546). Studying systematic relationships creates a level of complexity so extensive that causation might be difficult to illustrate, and neo-classical economists have shied away from modeling these relationships. In an attempt to study the complex systematic economic/cultural interplay, many cultural primacists have used correlation to establish at least some type of association between cultural dimensions and economic growth.

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Guiso et al. (2006) make the case that causation can be shown in studies comparing culture and economics. Guiso et al. suggested that studying cultural dimensions passed down from generation to generation instead of voluntarily accumulated, "allows us to isolate the cultural component of beliefs and preferences" (p. 24); however, this condition may not be satisfied in many areas of study. The most likely result when economics and cultural dimension are compared is that causation is mutual, where cultural dimensions affect economic factors and economic factors affect cultural dimensions.

DATA ANALYSIS METHODS

This section contains discussion of the data analysis methods employed to analyze the previously selected questions discussed above. An introduction to the rationale for the quantitative methods selected is offered, followed by the question subsets and the specific research questions. Each question subset includes rationale for the statistical measure used for analysis.

Quantitative Methods

As was previously discussed, quantitative methods were chosen to answer the four questions. Each of the four questions included multiple independent and dependent variables, requiring a multivariate statistical approach. Multivariate statistical techniques are commonly used in the social sciences. Mertler and Vannatta (2010) maintained that the social science field cannot realistically be examined in isolation by comparing single variables. As a result, multivariate statistical methods are necessary. In addition, researchers can produce more complex research designs with multivariate statistics. Stevens (2001) offered three arguments regarding the utilization of multivariate statistics in research:

1. Investigating one variable is too limiting to understand the research problem. Generally, a problem has multiple effects.
2. Utilizing multiple measures allows a more holistic understanding of the problem.
3. Conducting multiple studies is expensive; it is much less expensive to perform one study with multiple dependent variables.

These ideas were most likely realized in the major studies from Hofstede, House, Chhokar, and Inglehart, as these studies utilized multivariate statistics. As mentioned before, causality is difficult to establish in social science research. This research design suffered from the same limitation. The research design of the present study was nonexperimental, as the independent variables were defined but not controlled; therefore, any causal relationship was, at best, limited (Mertler & Vannatta, 2010).

In multivariate statistics, several statistical methods are available for analysis. Options include bivariate correlation and regression, multiple regression, path analysis, *t* test, one-way analysis of variance (ANOVA), one-way analysis of covariance (ANCOVA), one-way

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multivariate analysis of variance (MANOVA), one-way multivariate analysis of covariance (MANCOVA), factorial multivariate analysis of variance (factorial MANOVA), factorial multivariate analysis of covariance (factorial MANCOVA), discriminate analysis, and logistic regression (Mertler & Vannatta, 2010; Tabachnick & Fidell, 2007). Each statistical method has a specific application, dependent on (a) whether the study requires categorical dependent variable analysis or quantitative dependent variable analysis, (b) the number of dependent variables studied (one or several), (c) categorical independent variable analysis or quantitative independent variable analysis, and (d) the number of independent variables studied (one or several).

Sub-questions

To study the questions referred to at the beginning of this section and listed below more effectively, the questions were investigated in three parts, with multiple specific research question that were statistically evaluated. The focus of the study is in the research question below:

Are work values a predictor of economic growth?

The question set described below associated with this research question investigated whether economic growth could predict the evolution of work values.

Question Set. Questions 1-4 asked if work ethics, work and authority, and work priorities served as substantively significant predictors of GNI per capita and GDP per capita in the 1990, 1995, 2000, and 2005 WVS waves. For questions 1-4, the dependent variables were the same, GNI per capita and GDP per capita. The three independent variables for questions 1-4 were the same: work ethic, work and authority, and work priorities.

Question 1: For countries participating in the 1990 WVS, do work ethics, work and authority, and work priorities serve as substantively significant predictors of GNI per capita and GDP per capita?

$H8_0$: Work ethic, work and authority, and work priorities have no substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 1990.

$H8_a$: Work ethic, work and authority, and work priorities have substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 1990.

***Question 2*:** For countries participating in the 1995 WVS, do work ethics, work and authority, and work priorities serve as substantively significant predictors of GNI per capita and GDP per capita?

$H9_0$: Work ethic, work and authority, and work priorities have no substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 1995.

$H9_a$: Work ethic, work and authority, and work priorities have substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 1995.

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***Question 3*:** For countries participating in the 2000 WVS, do work ethics, work and authority, and work priorities serve as substantively significant predictors of GNI per capita and GDP per capita?

$H10_0$: Work ethic, work and authority, and work priorities have no substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 2000.

$H10_a$: Work ethic, work and authority, and work priorities have substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 2000.

Question 4: For countries participating in the 2005 WVS, do work ethics, work and authority, and work priorities serve as substantively significant predictors of GNI per capita and GDP per capita?

$H11_0$: Work ethic, work and authority, and work priorities have no substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 2005.

$H11_a$: Work ethic, work and authority, and work priorities have substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 2005.

Question Set: Data analysis. Each question in the question set was substantively tested with one quantitative dependent variable and multiple quantitative independent variables. This necessitated the use of multiple regression statistical testing. Mertler and Vannatta (2010) stated, "Multiple regression identifies the best combination of predictors (IVs) [independent variables] of one dependent variable" (p. 14). The analysis took place by selecting each independent variable individually and determining its variance on the dependent variable. When the comparisons of each independent variable to the dependent variable were complete, the relationship of the independent variables and dependent variable was reexamined.

For the question set, multiple regression was the test used to investigate the dependent variable of GNI per capita and GDP per capita, and work ethic, work and authority, and work priorities individually (DV). Once the comparisons were completed, the results were reassessed to determine the relationship of work ethic, work and authority, and work priorities on GNI per capita and GDP per capita. This process took place four times, one for each question in Question Set C, comparing 1990, 1995, 2000, and 2005 WVS waves.

The methodology that was selected to conduct the analysis for the question set cannot definitely assume one-directional causality. Further analysis would need to be conducted to determine causality.

DATA ANALYSIS

Questions 1-4 ask whether work ethics, work and authority, and work priorities serve as substantively significant predictors of GNI per capita and GDP per capita in the 1990, 1995, 2000, and 2005 WVS waves. For questions 1-4, the dependent variables were the same, GNI per

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capita and GDP per capita. The three independent variables for questions 1-4 were the same: work ethic (WE), work and authority (WA), and work priorities (WP). Multiple linear regression was used to answer questions 1-4. All analysis was conducted on an individual basis for the question set.

Research question 1: For countries participating in the 1990 WVS, are WA and WE predictors of GNI per capita or GDP per capita?

$H8_0$: Work ethic, work and authority, and work priorities have no substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 1990.

$H8_a$: Work ethic, work and authority, and work priorities have substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 1990.

WA and WE were the independent predictor variables and GNI per capita or GDP per capita served as the dependent or predicted variable. There were no WP data for 1990. Multiple regression was used to test the hypothesis with a probability level of $p = .05$ for accepting or rejecting the null hypothesis. Multicollinearity was not a problem in the analysis and the tolerances and variance inflation factors were well within limits. The regression results indicated there was a substantively significant model for GNI per capita, $R = .768$, $R^2 = .590$, $R^2_{adj} = .515$, F (2, 11) = 10.780, $p = .007$. The null hypothesis was rejected and the alternate hypothesis was accepted. The WE score was a substantively significant predictor and accounted for 59.0% of the variance in GNI per capita. Table 2 shows the regression coefficients for this analysis.

Table 2: *Regression Coefficients for GNI per Capita 1990 Wave*

	B	*b*	*t*	*p*	*Correlation*	*Partial*
Work Authority	14694.289	.337	1.741	.110	.465	.336
Work Ethic	67515.921	.676	3.499	.005	.726	.676

Multiple regression was also used to determine whether there were substantively significant predictors of GDP per capita using WA and WE as predictors. Findings indicated there was a significant model predicting GDP per capita using WA and WE, $R = .768$, $R^2 = .590$, $R^2_{adj} = .535$, F (2, 15) = 7.903, $p = .001$; hence, the null hypothesis was rejected, and the alternate hypothesis was accepted. WE was a substantively significant predictor variable and accounted for 59.0% of the variance in GNI per capita. Table 3 shows the regression coefficients for GDP per capita.

Table 3:*Regression Coefficients for GDP per Capita 1990 Wave*

	B	*b*	*t*	*p.*	*Correlation*	*Partial*
Work Authority	12691.492	.339	2.043	.059	.467	.338
Work Ethic	53155.066	.720	4.335	.001	.746	.717

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Research question 2: For countries participating in the 1995 WVS, do work ethics, work and authority, and work priorities serve as substantively significant predictors of GNI per capita and GDP per capita?

$H9_0$: Work ethic, work and authority, and work priorities have no substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 1995.

$H9_a$: Work ethic, work and authority, and work priorities have substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 1995.

WA, WE, and WP were the independent variables and GNI per capita or GDP per capita served as the dependent or predicted variable. Multicollinearity was not a concern in the analysis and the tolerances and variance inflation factors were well within limits. The regression results indicated there was a substantively significant model for GDP per capita, R = .811, R^2 = .658, R^2_{adj} = .636, F (3, 46) = 29.554, p =< .001, the null hypothesis was rejected, and the alternative hypothesis was accepted. WE and WP scores were substantively significant and accounted for 65.8% of the variance in GDP per capita. WA was not a significant predictor of GDP per capita. Table 4 shows the regression coefficients for this analysis.

Table 4: *Regression Coefficients for GDP per Capita 1995 Wave*

	B	*b*	*t*	*p.*	*Correlation*	*Partial*
Work Authority	295.622	.005	.054	.958	.008	.005
Work Ethic	40750.375	.472	4.424	<.001	.546	.381
Work Priorities	53767.554	.451	4.397	<.001	.544	.379

Multiple regression was also used to determine whether there were substantively significant predictors of the 1995 GNI per capita using WA, WE, and WP as predictors. Findings indicated there was a significant model predicting GNI per capita using WE, and WP, R = .801, R^2 = .642, R^2_{adj} = .619, F (3, 46) = 27.512, p =< .001, the null hypothesis was rejected and the alternative hypothesis was accepted. WE and WP scores were significant predictor variables and accounted for 64.2 % of the variance in GNI per capita. WA was not a substantively significant predictor of GNI per capita. Table 5 shows the regression coefficients for GNI per capita.

Table 5: *Regression Coefficients for GNI per Capita 1995 Wave*

	B	*b*	*t*	*p*	*Correlation*	*Partial*
Work Authority	885.982	.015	.158	.875	.023	.014
Work Ethic	40167.148	.468	4.281	<.001	.534	.378
Work Priorities	52240.662	.440	4.194	<.001	.526	.370

Research question 3: For countries participating in the 2000 WVS, do work ethics, work and authority, and work priorities serve as substantively significant predictors of GNI per capita and GDP per capita?

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$H10_0$: Work ethic, work and authority, and work priorities have no substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 2000.

$H10_a$: Work ethic, work and authority, and work priorities have substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 2000.

WA, WE, and WP were the independent variables and GNI per capita or GDP per capita served as the dependent or predicted variable. Multicollinearity was not a concern in the analysis and the tolerances and variance inflation factors were well within limits. The regression results indicated there was a substantively significant model for the 2000 GDP per capita, R = .837, R^2 = .700, R^2_{adj} = .663, F (3, 24) = 18.689, p =< .001, the null hypothesis was rejected, and the alternate hypothesis was accepted. WE and WP scores accounted for 70.0% of the variance in GDP per capita. WA was not a substantively significant predictor of GDP per capita. Table 6 shows the regression coefficients for this analysis.

Table 6: R*egression Coefficients for GDP per Capita 2000 Wave*

	B	*b*	*t*	*p.*	*Correlation*	*Partial*
Work Authority	11045.705	.197	1.744	.094	.335	.195
Work Ethic	24741.108	.317	2.305	.030	.426	.258
Work Priorities	62549.217	.614	4.469	<.001	.674	.499

Multiple regression was also used to determine whether there were substantively significant predictors of 2000 GNI per capita using WA, WE, and WP as predictors. Findings indicated there was a significant model predicting GNI per capita using WA and WE, R = .806, R^2 = .650, R^2_{adj} = .608, F *(3, 25) = 15.491*, p =< .001; hence, the null hypothesis was rejected, and the alternate hypothesis was accepted. WE and WP scores accounted for 65.0% of the variance in GNI per capita. WA was not a substantively significant predictor of GNI per capita. Table 7 shows the regression coefficients for GNI per capita.

Table 7: *Regression Coefficients for GNI per Capita 2000 Wave*

	B	*b*	*t*	*p*	*Correlation*	*Partial*
Work Authority	5659.307	.099	.832	.413	.164	.098
Work Ethic	28144.989	.340	2.350	.027	.425	.278
Work Priorities	60037.822	.565	3.925	.001	.618	.464

Research question 4: For countries participating in the 2005 WVS, do work ethics, work and authority, and work priorities serve as substantively significant predictors of GNI per capita and GDP per capita?

$H11_0$: Work ethic, work and authority, and work priorities have no substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 2005.

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$H11_a$: Work ethic, work and authority, and work priorities have substantively significant predicting ability concerning GNI per capita and GDP per capita for WVS 2005.

WA, WE, and WP were the independent variables and GNI per capita or GDP per capita served as the dependent or predicted variable. Multicollinearity was not a concern in the analysis and tolerance and variance inflation factor were well within limits. The regression results indicated there was a substantively significant model for GDP per capita, R = .828, R^2 = .686, R^2_{adj} = .663, F (3, 42) = 30.574, p =< .001, the null hypothesis was rejected, and the alternate hypothesis was accepted. WE, WA, and WP scores accounted for 68.6% of the variance in GDP per capita. Table 8 shows the regression coefficients for this analysis.

Table 8: *Regression Coefficients for GDP per Capita 2005 Wave*

	B	*b*	*t*	*p.*	*Correlation*	*Partial*
Work Authority	9289.257	.207	2.236	.031	.326	.193
Work Ethic	59116.581	.444	3.585	.001	.484	.310
Work Priorities	51643.097	.347	2.801	.008	.397	.242

Multiple regression was used to determine whether there were substantively significant predictors of GNI per capita using WA, WE, and WP as predictors. Findings indicated there was a significant model predicting GNI per capita using WA and WE, R = .819, R^2 = .671, R^2_{adj} = .647, F (3, 42) = 28.491, p =< .001, hence, the null hypothesis was rejected, and the alternate hypothesis was accepted. WE and WP accounted for 67.1% of the variance in GNI per capita. WA was not a substantively significant predictor of GNI. Table 9 shows the regression coefficients for GNI per capita.

Table 9: *Regression Coefficients for GNI per Capita 2005 Wave*

	B	*b*	*t*	*p*	*Correlation*	*Partial*
Work Authority	8215.244	.179	1.896	.065	.281	.168
Work Ethic	61956.375	.457	3.602	.001	.486	.319
Work Priorities	51515.983	.340	2.678	.011	.382	.237

RESEARCH FINDINGS

The results from this study indicated substantively significant findings that economic growth is influenced by work values. The question set results indicated that work values were substantively significant predictors of GNI per capita and GDP per capita. However, only WE and WP were found substantively significant. WA did not show a substantively significant result. After the data analysis was conducted, the data were not found to be as robust as needed to make predictive assertions, hence this research can only state that the question set found that WE and WP contribute to not predict GNI/GDP per capita.

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Discussion

Do work values predict economic growth? Work values items were chosen from the World Values Surveys from the past four waves available, the 1990, 1995, 2000, and 2005 waves. Work values were categorized into three groups, work authority, work ethic, and work priorities. This question is answered in a question set. The question set, questions 1-4, ask if work ethics, work and authority, and work priorities serve as substantively significant predictors of GNI per capita and GDP per capita in the 1990, 1995, 2000, and 2005 World Values Survey waves.

Findings

The findings indicated substantively significant results for the question set were found between World Bank income categories for work ethics, and work priorities for all waves, however not for work authority in all waves. These results indicated that for work ethic, wealthier work grows as countries' priorities change from having higher motivation to work in poorer economies, to having lower motivation to work in wealthier economies. Work priorities shifted from working for material security/necessity in poorer economies to working for intrinsic needs in wealthier countries. The second finding indicated that work ethic and work priorities are substantive contributors of GNI per capita and GDP per capita.

This study supported aspects of modernization theory, cultural determinism (primacy), and that culture, specifically work values, do have a substantively significant effect on GNI per capita and GDP per capita. The ideas of achievement motivation theory and that cultural values only change generationally were challenged.

The findings of this study have meaningful application to the field of cultural studies. The questions posed for this study were, "Do work values change with economic growth?" Specifically, "Do the WVS questions for work have a relationship with GDP per capita and GNI per capita?" Second, "Can work growth predict economic growth?" Results of the analysis found substantively significant evidence of a relationship between work value and economic growth. There was also substantively significant evidence to support the hypothesis that work values contribute to economic growth, with the caveat that we cannot definitely assume one-directional causality with the methodology that was employed.

This section contains discussion of the implications of each question set and explanations of how they supported the two primary questions posed in this study. The question set reviews how WA, WE, and WP are related to GNI per capita and GDP per capita. WA, WE, and WP categories were useful to show how work cultures adapted as countries grew economically. Each applicable question set showed how culture moved in WA (autocracy to autonomy), WE (high work motivation to low work motivation), and WP (material security/necessity to intrinsic needs) categories.

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Each section discusses the significance of the results, including the contribution of each question set to the literature: specifically, to the ideas of modernization theory, achievement motivation theory, and the relationship between cultural values on economic growth. The section discussions include how work values are subject to more than just generational change and that cultural primacy has a place in the inputs to GNI per capita and GDP per capita. This section challenges the assertions of Pryor (2005) and Furnham et al. (1994) concerning the connection between work values and economic growth.

Country-level data: To investigate the initial findings further, two more analyses were completed. First, mean scores were averaged by country to reduce the sample size and each item used in the study was tested individually. Results indicated significant differences by World Bank category for WE and WP across all of the waves. WA was not substantively significant for all waves; specifically, 1995 and 2000. This confirmed the suspicion that the *p* values were affected by the large sample size for work authority.

Question Set Summary: The question set investigated whether the cultural values of WE, WA, and WP were substantively significant predictors of GNI per capita or GDP per capita for the 1990, 1995, 2000, and 2005 WVS waves. Questions 1-4 looked at the 1990, 1995, 2000, and 2005 WVS waves respectively. Table 10 illustrates the results for both GNI per capita and GDP per capita over the four waves. The regression for GNI per capita over the four waves showed a substantively significant model for each wave. After the data analysis was conducted, the data were not found to be as robust as needed to make predictive assertions, hence this research can only state that the question set found that WE and WP contribute to not predict GNI/GDP per capita. In addition, the data presented in this study cannot predict whether the reverse association of GNI per capita or GDP per capita might have been substantively significant predictors of WE, WA, and WP. Absent a more robust lagged time-series analysis, the direction of the association cannot be determined.

In the 1990 WVS, WE accounted for 59.0% of the variance in GNI per capita. WE accounted for 59.0% of the variance in GDP per capita. In the 1995 WVS, WE and WP were substantively significant contributors, accounting for 64.2% of GNI per capita. WE and WP were also substantively significant contributors of GDP per capita and accounted for 65.8% of the variance in GDP per capita. WE and WP were significant contributors of the 2000 GNI per capita, accounting for 65.0% of the variance, and WE and WP were contributors of the 2000 GDP per capita, accounting for 70.0 % of the variance. In the 2005 WVS survey data, WE and WP were substantively significant contributors of GNI per capita in the 2005 WVS data and accounted for 67.1% of the variance. WA, WE, and WP were substantively significant contributors of 2005 GDP per capita, accounting for 68.6% of the variance in GDP per capita.

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The relationship of cultural values as contributors of economic growth can be expected, according to Inglehart (1997) and Inkeles and Smith (1974), who suggested varying economic and cultural values could be contributors of GDP per capita growth. This result also supported findings of Inglehart et al. (2004) that cultural values may be related to economic growth. The subset of work values and the relationship to economic growth was unknown. The significance of WE and WP work values accounting for an average of 65.9% of GDP per capita was a significant finding. The relationship of work values on GNI per capita was neither known nor predicted by the literature; however, it is not surprising that WE and WP work values accounted for an average of 63.8% of GNI per capita, because GNI per capita and GDP per capita statistics are closely related. These findings give credence to cultural primacy theorists. Culture has a significant impact on GDP per capita and GNI per capita growth. To what degree is still in question, although the notion that culture does not have an impact or has little impact on economic growth from economic primacy theorists is not accurate.

The substantive significance for WA was mixed. WA for GDP per capita was significant only in 2005 (p = . 031) and not for the 1990, 1995, and 2000 WVS waves. WA for GNI per capita was not substantively significant for any of the 1990, 1995, 2000, and 2005 WVS waves. This supported the conclusion that WA is not a sound contributor of GDP per capita or GNI per capita growth and should be removed from future work values and economic growth studies.

WE and WP relationships to GNI per capita and GDP per capita were all substantively significant throughout all 1990, 1995, 2000, and 2005 WVS waves. WE and WP are correlated to GNI/GDP per capita, however causation cannot be determined. This also supported the conclusions of Question Set A. Both WE and WP showed a substantive significance, demonstrating a relationship to economic growth. In addition, the WE and WP values shifted according to the predictions of Inglehart et al. (2004), further adding support to the argument of a relationship between work values and economic growth. Overall, despite WA not relating well to GNI per capita and GDP per capita growth, the null hypotheses were rejected for questions 1, 2, 3, and 4, and the alternative hypotheses were accepted, due to the relationships for work ethics and work priorities.

Table 10: *R^2 Value for GDP Per Capita and GNI Per Capita 1990-2005*

	1990	1995	2000	2005
GNI per capita	0.535 (p = .001)	0.658 (p =< .001)	0.700 (p =< .001)	0.686 (p =< .001)
GDP per capita	0.515 (p = .007)	0.642 (p =< .001)	0.650 (p =< .001)	0.671 (p =< .001)

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Table 11: *p Value for GDP Per Capita by Work Values Category and Year*

	1990	1995	2000	2005
Work Authority	0.059	0.958	0.094	0.031
Work Ethic	0.001	<.001	0.03	0.001
Work Priorities	N/A	<.001	<.001	0.008

Table 12: *p Value Scores for GNI Per Capita by Work Values Category and Year*

	1990	1995	2000	2005
Work Authority	0.11	0.875	0.413	0.065
Work Ethic	0.005	<.001	0.027	0.001
Work Priorities	N/A	<.001	0.001	0.011

The theories and studies presented in the literature review have been upheld in some instances by the findings of this study. However, others have been brought into question.

CONCLUSION

Certain ideas presented in the literature review were brought into question by this study, however. To some extent, parents may influence their children to maximize their expected utility, based on the value society holds in specific, higher paying, and higher status jobs. Achievement motivation theory (McClelland & Winter, 1969) was brought into question by the findings. Although certainly at low income levels, work ethic and work priorities are needed for growth, work values declined as a society increased in wealth, as was shown. This finding was consistent with Ardichivili and Kuchinke (2009), who found that the importance of work became greater when economic pressures increased, and work became less important as economic pressures decreased.

The earlier critique in the literature review of Pryor (2005) was upheld by the findings in this study. Pryor's conclusion that the World Values Survey evidence was not promising was most likely inaccurate. He was correct that the values he examined were not necessarily relevant to economic growth. Specifically, Pryor's conclusion that work ethic was not a predictor of economic growth has been disputed by the findings in the current study.

In addition, the Furnham et al. (1994) conclusion that work ethic was not a predictor of economic growth was brought into question with the results of the current study. Work ethic does have a relatively evident relationship to economic growth. Specific WVS values do relate to economic growth. Further investigation as to which WVS values are relevant would be prudent.

LIMITATIONS

As with all research, certain limitations need to be acknowledged. Few studies are completely inclusive. This study is no exception. Certain limitations to major studies such as the IBM study

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(Hofstede, 2001), the GLOBE study, Fischer (2009), Dansereau and Yammarino (2006), Hanges and Dickson (2006), Hofstede (2006), Javidan et al. (2006), Peterson and Castro (2006), and Smith (2006) apply here as well. Using survey data to measure culture can be a particular challenge when compared to other types of observational research, and studies with national borders do not necessarily encompass all cultural groups. However, the WVS included some subcultures. In brief, survey research might not be the best tool a researcher has to study culture, but surveys are the most efficient and least expensive tools. Pitfalls plague the research conducted from survey tools; however, all the current data from major studies are available only in this medium.

A second limitation to the study was the data sources themselves. This study only took into account GNI per capita and GDP per capita data from the World Bank and cultural data from only the WVS. A more comprehensive study might include GNI per capita and GDP per capita data from multiple sources for each WVS wave to ensure the most unbiased GNI per capita and GDP per capita statistics. Combining work values from other studies, such as conducting a primary study of work values and comparing the results to the WVS data, would be prudent. However, this type of investigation is beyond the means of most researchers.

Third, the extent to which work authority, work ethic, and work priorities contribute to GNI per capita and GDP per capita is unknown. Work authority's relationship to GDP per capita and GNI per capita is limited but a relationship does exist. The R^2 values from the current study showed relationships between work ethic, work priorities, and GNI per capita and GDP per capita data. Many other inputs could be considered in this relationship, which, when taken in aggregate, could reduce the R^2 value of work ethic and work priorities.

Results of the current study do not pronounce that the relationships are causal. The shift in work values from low income (values of autocratic, high work motivation, material security/necessity) to high income (values of autonomous, low work motivation, and satisfying intrinsic needs) are not causal. Likewise, the relationship between authority, work ethic, and work priorities in contributing to GNI per capita and GDP per capita are not causal. Several studies would be necessary to measure and confirm the relationship between work valves and GNI per capita/GDP per capita, as found in this study, to attempt to produce a causal relationship.

Fourth, the large sample size included in this study tends to show substantively significant relationships. With large sample sizes, lower *p* values can be expected. This is particularly an issue for the question set. The question set may need to be further analyzed in alternate ways to substantiate findings further.

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Fifth, to further investigate the relationship between work values and GDP/GNI per capita, a lagged time-series model might help uncover a more substantive statistical relationship to determine the direction of the GDP/GNI per capita relationship to WA, WE, and WP.

Sixth, the WVS did not utilize all items in all WVS waves and did not include the same countries in all WVS waves. WA, WE, and WP groups were compared as a result. Each wave included only the items that were surveyed for a particular wave for each WA, WE, and WP category. This could produce inconsistent results for each wave.

Finally, GNI per capita and GDP per capita can mask inequality. Countries with vast income disparities and countries with a large middle class may have similar GNI/GDP per capita figures; however, they may also have very different wealth distributions. To further investigate the results presented in this study, each individual country should be scrutinized by income level and countries with large income disparities may need to be removed from the study.

IMPLICATIONS FOR PRACTICE

Findings in the current research showed that work values are related to GNI per capita/GDP per capita growth. Investigating whether GNI per capita and GDP per capita growth can be affected by changing work values might show valuable results. If this is the case, a non-governmental organizations or governments attempting to grow GNI per capita/GDP per capita might begin to influence how workers perceive their own work values. As workers seek to fulfill personal edification, might GNI per capita/GDP per capita grow as a result? This might be another way to effectively stimulate economic growth.

Implications from this research both support and challenge established theory. Given the results of the findings in this study, further research on cultural values and economic growth is justified to further develop cultural theories, economic theories, and new ways to apply them to practice in meaningful ways. This research has confirmed that culture, specifically work values, have relationship to economic growth, adding support to some existing theory. Other findings suggested some established theory might not be as sound as once thought. Further investigation into how culture develops, and specifically, the application of achievement motivation theory to culture would be prudent.

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REFERENCES

Ardichvili, A. (2009). The relationship between meaning of working and socioeconomic transformations: The case of post-communist Russia. *Advances in Developing Human Resources, 11,* 218-234. doi:10.1177/1523422309332244

Ardichvili, A., & Kuchinke, K. P. (2009). International perspectives on the meanings of work and working: Current research and theory. *Advances in Developing Human Resources, 11*, 155-166. doi:10.1177/1523422309333494

Chen, C. (2007). Social capital and national system of innovation. *The Business Review, Cambridge*, *9*(1), 10. Retrieved from http://www.jaabc.com

Chen, J. (2001). Political culture and the reliability of survey data: What do the World Values Surveys tell us? (Doctoral dissertation). *Dissertation Abstracts International-A,* 62/07, p. 2548.

Chhokar, J. S., Brodbeck, F. C., & House, R. J. (Eds.). (2007). *Culture and leadership across the world*. Mahwah, NJ: Erlbaum.

Corneo, G., & Jeanne, O. (2010). Symbolic values, occupational choice, and economic development. *European Economic Review, 54*, 237-251. doi:10.1016/j.euroecorev.2009.04.006

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five traditions* (2nd ed.). Thousand Oaks, CA: Sage.

Dansereau, F. Y., & Yammarino, F. J. (2006). Is more discussion about levels of analysis really necessary? When is such discussion sufficient? *Leadership Quarterly, 17*, 537-552. doi:10.1016/j.leaqua.2006.07.002

Dickson, M. W., BeShears, R. S., & Gupta, V. (Eds.). (2004). *The impact of societal culture and industry on organizational culture*. Thousand Oaks, CA: Sage.

Fischer, R. (2009). Where is culture in cross-cultural research? An outline of multilevel research process for measuring culture as a shared meaning system. *International Journal of Cross Cultural Management*, *9*(1), 25-49. doi:10.1177/1470595808101154

Fischer, R., Vauclair, C. M., Fontaine, J. R. J., & Schwartz, S. H. (2010). Are individual-level and country-level value structures different? Testing Hofstede's legacy with the Schwartz value survey. *Journal of Cross-Cultural Psychology, 41*, 135-151. doi:10.1177/0022022109354377

Fontaine, J. R., Poortinga, Y. H., Delbeke, L., & Schwartz, S. H. (2008). Structural equivalence of the values domain across cultures: Distinguishing sampling fluctuations from meaningful variation. *Journal of Cross-Cultural Psychology, 39*, 345-364. doi:10.1177/0022022108318112

Received: 10 Feb 2019/ Accepted: 23 Jun 2019

Fukuyama, F. (2001). *Culture and economic development: Cultural concerns*. Retrieved from http://www.sais-jhu.edu/faculty/fukuyama/index.html

Furnham, A., Kirkcaldy, B. D., & Lynn, R. (1994). National attitudes to competitiveness, money, and work among young people: First, second, and third world differences. *Human Relations, 47*, 119-132. doi:10.1177/001872679404700106

Granato, J., Inglehart, R., & Leblang, D. (1996). The effect of cultural values on economic development: Theory, hypotheses, and some empirical tests. *American Journal of Political Science, 40*, 607-631. doi:10.2307/2111786

Guiso, L., Sapienza, P., & Zingales, L. (2006). Does culture affect economic outcomes? *Journal of Economic Perspectives, 20*(2), 23-48. doi:10.1257/jep.20.2.23

Hanges, P. J., & Dickson, M. W. (2006). Agitation over aggregation: Clarifying the development of and the nature of the GLOBE scales. *Leadership Quarterly, 17*, 522-535. doi:10.1016/j.leaqua.2006.06.004

Hofstede, G. (2001). *Culture's consequences*. Thousand Oaks, CA: Sage.

Hofstede, G. (2006). What did the GLOBE study really measure? Researchers' minds versus respondents' minds. *Journal of International Business Studies, 37*, 882-895. doi:10.1057/palgrave.jibs.8400233

Hofstede, G., & Hofstede, G. J. (2005). *Cultures and organizations* (2nd ed.). New York, NY: McGraw-Hill.

House, R. J., Hanges, P. J. Javidan, M. Dorfman, P. W., & Gupta, V. (Eds.). (2004). *Culture, leadership, and organizations*. Thousand Oaks, CA: Sage. Retrieved from http://elib.tu-darmstadt.de/tocs/188761179.pdf

Inglehart, R. (1997). *Modernization and postmodernization*. Princeton, NJ: Princeton University Press.

Inglehart, R., & Baker, W. E. (2000). Modernization, cultural change, and the persistence of traditional values. *American Sociological Review, 61*(1), 19–51. doi:10.2307/2657288

Inglehart, R., Basanez, M., Diez-Medrano, J., Halman, L., & Luijkx, R. (2004). *Human beliefs and values*. In L. Halman & O. Riis (Eds.), *Religion in secularizing society: The Europeans' religion at the end of the 20th century*. Leiden, The Netherlands: Brill.

Inkeles, A., & Smith, D. H. (1974). *Becoming modern*. New York, NY: Harvard University Press.

Javidan, M., House, R. J., Dorfman, P. W., Hanges, P. J., & de Luque, M. S. (2006). Conceptualizing and measuring cultures and their consequences: A comparative review of GLOBE's and Hofstede's approaches. *Journal of International Business Studies, 37*, 897-913. doi:10.1057/palgrave.jibs.8400234

Received: 10 Feb 2019/ Accepted: 23 Jun 2019

Kupper, A. (1999). *Culture: The anthropologists' account*. London, England: Harvard University Press.

Leung, K., & Bond, M. H. (1989). On the empirical identification for cross-cultural comparisons. *Journal of Cross-Cultural Psychology, 20*, 133-150. doi:10.1177/0022022189202002

McClelland, D. C., & Winter, D. G. (1969). *Motivating economic achievement*. New York, NY: The Free Press.

Mertler, C. A., & Vannatta, R. A. (2010). *Advanced and multivariate statistical methods*. Glendale, AZ: Pyrczak.

Nadler, S., & Zemanek, J. (2006). Cultural differences and economic development of 31 countries. *Psychological Reports, 99*, 274-276. doi:10.2466/pr0.99.1.274-276

Parboteeah, P. K., Bronson, J. W., & Cullen, J. B. (2005). Does national culture affect willingness to justify ethically suspect behaviors? A focus on the GLOBE national culture scheme. *Journal of Cross Cultural Management, 5*, 123-135. doi:10.1177/1470595805054489

Peterson, M. F., & Castro, S. L. (2006). Measurement metrics of aggregate levels of analysis: Implications for organization culture research and the GLOBE project. *Leadership Quarterly, 17*, 506-520. doi:10.1016/j.leaqua.2006.07.001

Pryor, F. L. (2005). National values and economic growth. *American Journal of Economics and Sociology*. Retrieved from http://findarticles.com/p/articles/mi_m0254/is_2_64/ai_n13779522/?tag=content;col1

Schwartz, S. H. (Ed.). (1992). *Universals in the content and structure of values: Theoretical advances and empirical tests in twenty countries.* San Diego, CA: Academic Press.

Schwartz, S. H. (Ed.). (1994). *Beyond individualism/collectivism: New cultural dimensions of values*. Thousand Oaks, CA: Sage.

Schwartz, S. H. (1999). A theory of cultural values and some implications for work. *Applied Psychology, 48*(1), 23. doi:10.1111/j.1464-0597.1999.tb00047.x

Schwartz, S. H., & Sagiv, L. (1995). Identifying culture-specifics in the content and structure of values. *Journal of Cross-Cultural Psychology, 26*, 92-116. doi:10.1177/0022022195261007

Smith, P. B. (2006). When elephants fight, the grass gets trampled: The GLOBE and Hofstede projects. *Journal of International Business Studies, 37*, 915-920. doi:10.1057/palgrave.jibs.8400235

Snir, R., & Harpaz, I. (2009). Cross-cultural differences concerning heavy work investment. *Cross-Cultural Research, 43*(4), 309-328. doi:10.1177/1069397109336988

Received: 10 Feb 2019/ Accepted: 23 Jun 2019

Snoep, L. (2007). Religiousness and happiness in three nations: A research note. *Journal of Happiness Studies*, *9*, 207-211. doi:10.1007/s10902-007-9045-6

Stevens, J. (2001). *Applied multivariate statistics for the social sciences* (4th ed.). Hillsdale, NJ: Erlbaum.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Pearson.

Taras, V., Rowney, J., & Steel, P. (2009). Half a century of measuring culture: Review of approaches, challenges, and limitations based on the analysis of 121 instruments for qualifying culture. *Journal of International Management, 15*, 357-373. doi:10.1016/j.intman.2008.08.005

Torgler, B. (2008). Trust in international organizations: An empirical investigation focusing on the United Nations. *Review of International Organizations, 3,* 65-92. doi:10.1007/s11558-007-9022-1

Vecernik, J. (2003). Skating on thin ice: A comparison of work values and job satisfaction in CEE and EU countries. *International Journal of Comparative Sociology*, *44*, 444-471. doi:10.1177/002071520304400502

Weber, M. (1930). *The protestant work ethic and the spirit of capitalism*. London, England: Allen & Unwin.

Welzel, C., Inglehart, R., & Deutsch, F. (2005). Commentary on Widmalm: A rebuttal. *Journal of Civil Society, 1*(3), 287-290. doi:10.1080/17448680500484616

Widmalm, S. (2005). Comments on Welzel, Inglehart, and Deutsch. *Journal of Civil Society, 1*;283-286. doi:10.1080/17448680500484624

Received: 10 Feb 2019/ Accepted: 23 Jun 2019