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The Impact of Economic Growth on Work Values: A Global Perspective

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Abstract: *- The findings in this study attempt to answer the question; do work values change with economic growth? The results, leveraging World Bank income categories indicated substantively significant results were found between World Bank income categories for work ethics, and work priorities except for 'work authority'. 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.*

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

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 for decades. As the field has progressed, research investigating both cultural and economic factors for economic growth has become more widely accepted.

A better understanding of how work values are related to economic growth could offer a small piece of the cultural puzzle in the literature on the impacts of culture and economic growth. One important reason for studying the effects of culture is to try to determine the impacts of economic growth on culture. A comparison between work values taken from the World Values Survey and economic growth utilizing World Bank economic measures of gross national income per capita (GNI per capita) and gross domestic product per capita (GDP per capita) across World Bank income categories was useful to investigate whether work culture changes as a country grows economically. The authors posit that as a country gains wealth, the work values go from subsistence living (get a job for practical reasons, mainly to provide food, shelter, medical care, etc.) to more self-edification reasons (enjoying what one does as a job, time off, higher income to afford luxury goods, etc.).

Inglehart, Basanez, Diez-Medrano, Halman, and Luijkx (2004) seemed to agree that culture follows some type of change rationale as a country grows economically. The question, however, remained as to whether the finding would remain consistent when compared solely to work values. The intent of this study is to explore whether economic growth has any impact on work values.

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 are categorized by GNI per capita and GDP per capita, as compared to work and authority, work ethic, and work priorities. The investigation determined which specific work values shifted as countries gained wealth.

Economic and Cultural Primacy

Several key ideas contribute to work values and economic growth. The evolution of the relationship started with theorists who gave primacy to economic factors for economic growth (economic determinists) and theorists who gave primacy to both cultural and economic factors for economic growth (cultural determinists). The literature more commonly refers to economic primacy and cultural primacy as economic determinism and cultural determinism. However, as research has progressed, a clear distinction between the two groups has diminished, and hence, the term primacy might be better for use as a descriptor between these two schools of thought.

Bell (1973) asserted that as incomes rise in a society, the disposable income increases, and the wants of society change from necessities, such as food, to items like health and education. As societies grow in gross domestic product (GDP), basic needs are met and society's members seek higher levels of edification. Allen, Ng, and Leiser (2004) continued this notion by summarizing Bell, stating, "As the work force shifts from agriculture to industry and then services, it alters society's view of nature, social roles, and broader cultural values" (p. 249). Once industrialization begins and agriculture no longer holds the primary role in the economy, society as a whole gains wealth, which changes the behavior of consumers in society.

Economic Growth and Modernization

Modernization has become the general term for linking economic growth with predictable changes in cultural values, industrialization, social, cultural, and political changes (Allen et al., 2004; Bell, 1973; Inglehart, 1997; Weber, 1930). Inglehart (1997) stated, "Modernization is, above all, a process that increases the economic and political capabilities of a society: it increases economic capabilities through industrialization, and political capabilities through bureaucratization" (p. 5). The popularity of modernization stems from its claim to the ability to predict future societal changes, including cultural and economic development.

The result of modernization has wide-reaching socioeconomic implications. Individuals in society now have increased material, cognitive, and social resources at their disposal that spur "growing mass emphasis on self-expression values, which in turn lead to growing public demands for civil political liberties, gender equality, and responsive government, helping to establish and sustain the institutions best suited to maximize human choice" (Inglehart & Welzel, 2005, p. 2).

The interest in modernization lies in cultural change and economics. Primarily, the study of modernization addresses how cultures shift as they modernize and how that shift relates to economic growth and the idea of progress. According to Inglehart and Welzel (2005), modernization theory revolves around the concept of human progress. The term modern means many things to different scholars; however, when used in the context of country growth, one way of classifying modern is "Those personal qualities which are likely to be inculcated by participation in large-scale modern productive enterprises…to operate efficiently and effectively" (Inkeles & Smith, 1974, p. 19).

Post-modernization and Economic Growth

Inglehart (1997, p. 33) suggested post-modernization theory maintains two core complementary hypotheses for value change: (a) scarcity hypothesis: those things in short supply are more sought after, and (b) socialization hypothesis: a person's values are largely developed in childhood; therefore, the influence of value priorities and the socioeconomic environment have substantial time lags between them. Modernization theory had economic growth as its core goal to attain the basic needs of society. Post-modernization theory no longer focused solely on growth but added maximizing personal well-being.

As society develops and the struggle for basic needs such as food and shelter subsides, other values take precedence, such as quality of life and emancipative values, which are based on human self-expression (Granato, Inglehart & Leblang, 1996; Inglehart, et al., 2004). Replacement of the modernization phase of society by post-modernization occurs at the point of diminishing marginal utility. Diminishing marginal utility occurs when a culture goes from an economic position of scarcity of food, shelter, and

similar necessities to one of security, where basic needs are continually met (Inglehart, 1997).

Dimensions of Culture

Hofstede (G. 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 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 interest of the current dissertation is on the first question, the economic impact of cultural values on society. 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. 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). For the current study, economic prosperity and the comparison to cultural dimensions were the areas explored.

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 (see Table 1). 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. Descriptions of the elements can be obtained from the study websites. 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.

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

The World Values Survey

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 et al., 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. Inglehart et al. (2004) stated, "One rarely finds such striking and consistent correspondence between an objective independent variable such as GNP per capita and subjective values and attitudes" (p. 13), as found in this comparison.

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).

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).

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.

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).

Methods

Quantitative methods were chosen to answer the seven questions. Each of the seven 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 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 question below more effectively, multiple specific research questions were statistically evaluated.

Do work values change with economic growth?

Question Set A and Question Set B investigated whether work values changed as economic growth increased.

Question Set A

Research questions 1-4 asked if there were differences for each wave on WA, WE, and WP by World Bank category.

Research question 1. For countries participating in the 1990 Work Values Study are there differences in WA, WE, and WP compared by World Bank income categories of low, lower-middle, upper-middle, and high levels?

H10: There is no difference in work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels for the 1990 WVS.

H1a: There is a difference in work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels for the 1990 WVS.

Question 1 tested whether there were substantively significant differences in work values categorized by work ethic (WE), work authority (WA), and work priorities (WP) when compared by World Bank income categories of low, lower-middle, upper-middle, and high income using one-way ANOVA for each WVS wave. ANOVA procedures tested for the differences between work values and World Bank income categories for each wave. The probability level of $p = .05$ was used for accepting or rejecting the null hypothesis, and the assumptions of ANOVA were assessed prior to analysis. Mean survey scores (see Appendix B for scores) for WA, WE, and WP were calculated and used in further analysis. Scores for WA were 1 = autocracy, 2 = neutral, and 3 = autonomy. Scores for WE were 1 = high work motivation, 2 = neutral, and 3 = low work motivation. Scores for WP were 1 = material security/necessity, 2 = neutral, and 3 = intrinsic needs.

1990 individual level data. No data were available for the WP scale, as the data were not collected for this wave. Table 2 shows the data for the analysis of WA and WE for the 1990 wave. There were substantively significant differences between the World Bank income categories for WA, $F (3, 24531) = 241.666$, $p = <.001$, and WE, $F (3, 24550) =$

49,983, p =< .001. The null hypothesis was rejected for WA and WE for the 1990 wave. As seen in Table 2, upper-middle had the highest mean score for WA and high income had the highest mean score for WE. The scores on average tended to be towards the midpoint; however, upper-middle was above 2.0 on the WA scale.

Table 2 . World Bank Category for 1990 Wave, Individual Level Data

	Work Authority				Work Ethic			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	4497	18.3	1.881	.445	4501	18.3	1.573	.306
Lower-middle	13873	56.5	1.811	.450	13883	56.5	1.635	.331
Upper-middle	2252	9.2	2.074	.456	2252	9.2	1.689	.356
High	3913	15.9	1.931	.541	3918	16.0	1.824	.360

1990 country-level data. Due to the high number of individuals in the first analysis, a second data analysis was conducted using only the aggregate means of each country, as opposed to the individual-level means of each survey, thereby reducing the sample size. Table 3 shows the data for the analysis of WA and WE for the 1990 wave. There were substantively significant differences between the World Bank income categories for WA, F (3, 10) = 1.110, p = <.390, and WE F (3, 10) = 3.255, p < .068. The null hypothesis was not rejected for WA and WE for the 1990 wave and the alternative hypothesis was rejected. As seen in Table 3, lower-middle income had the highest mean score for both WA and WE. The scores on average tended to be towards the midpoint; however, upper-middle was above 2.0 on the WA scale.

Table 3. World Bank Category for 1990 Wave, Country-Level Data

	Work Authority				Work Ethic			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	3	21.4	1.89	.259	3	21.4	1.55	.050
Lower-middle	6	42.9	1.76	.107	6	42.9	1.69	.058
Upper-middle	2	14.3	1.99	.427	2	14.3	1.74	.111
High	3	21.4	2.03	.285	3	21.4	1.75	.135

1990 individual Work Authority (WA) items. To further break down the WA and WE categories in the first analysis, a third data analysis was conducted, breaking out the items for both WA and WE. Table 4 shows the data for the analysis of WA for the 1990 wave. There were substantively significant differences between the World Bank income categories for C034, F (3,16460) = 72.820, p =< .001; C060, F (3,22502) = 101.423, p =< .001; C061, F (3,18874) = 17.438, p =< .001; and E018, F (3, 24025) = 946.640, p =< .001. The null hypothesis was rejected and the alternate hypothesis was accepted for questions C034, C060, C061, E018 for the 1990 wave. As seen in Table 4, high income had the highest mean score for C034, lower-middle income had the highest mean score for C060, and upper middle income had the highest mean score for both C061 and E018. The scores for C060 and E018 tended to be towards the midpoint; however, upper-middle was above 2.0 on the E018 scale. For C034 and C061 the scores tended to be above 2.0, particularly for C034.

Table 4. World Bank Category for 1990 Wave, Individual Work Authority (WA) Items

	Item C034				Item C060			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	2849	17.3	2.357	.752	4137	18.4	1.749	.718
Lower-middle	9633	58.5	2.328	.790	12975	57.7	1.880	.778
Upper-middle	1549	9.4	2.536	.702	2118	9.4	1.829	.615
High	2433	14.8	2.539	.690	3276	14.6	1.650	.627
	Item C061				Item E018			
Low	4335	23.0	1.968	.715	4464	18.6	1.657	.813
Lower-middle	9964	52.8	2.000	.714	13583	56.5	1.347	.641
Upper-middle	2220	11.8	2.103	.708	2227	9.3	2.039	.899
High	2339	12.4	2.011	.803	3755	15.6	1.882	.870

1990 individual Work Ethic (WE) items. Table 5 shows the data for the analysis of WE for the 1990 wave. There were substantively significant differences between the World Bank income categories for C006, F (3,24203) = 323.530, p =< .001; C059, F (3,19785) = 68.915, p =< .001; E035, F (3,22211) = 132.345, p =< .001; and E040, F (3,22366) = 115.169, p =< .001. Item A005 was omitted as no variance was found in the groups. The null hypothesis was rejected for items C006, C059, E035, and E040 for the 1990 wave and the alternative hypothesis was accepted. As seen in Table 5, high income had the highest mean score for C006, C059, E035, and E040. The scores tended to be towards the midpoint for items C059, E035, and E040; however, for C006 the scores tended to be above 2.0.

Table 5. World Bank Category for 1990 Wave, Individual Work Ethic (WE) Items

	Item C006				Item C059			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	4456	18.4	2.299	.716	4346	22.0	1.354	.764
Lower-middle	13734	56.7	2.100	.778	9697	49.0	1.459	.841
Upper-middle	2223	9.2	2.181	.738	2192	11.1	1.450	.835
High	3794	15.7	2.506	.640	3554	18.0	1.626	.928
	Item E035				Item E040			
Low	4352	19.6	1.558	.759	4369	19.5	1.628	.773
Lower-middle	13381	60.2	1.672	.832	13556	60.6	1.809	.852
Upper-middle	2206	9.9	1.782	.863	2168	9.7	1.675	.806
High	2276	10.2	1.960	.781	2277	10.2	1.990	.795

Research question 2. For countries participating in the 1995 Work Values Study, what are the differences in work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels?

H20: There is no difference in work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels for the 1995 WVS.

H2a: There is a difference in work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels for the 1995 WVS.

Question 2 tested whether there were substantively significant differences in work values categorized by work ethic (WE), work authority (WA), and work priorities (WP) when compared by World Bank income categories of low, lower-middle, upper-middle, and high income using one-way ANOVA for the 1995 WVS wave.

1995 individual-level data. The initial data analysis was conducted using the means of all surveys. Table 6 shows the data for the analysis of WA, WE, and WP for the 1995 wave. There were substantively significant differences between the World Bank income categories for WA, F (3, 78783) = 289.117, p = <001; WE, F (3, 82824) = 3007.713, p =< .001; and WP, F (3, 75718) = 816.180, p =< .001. The null hypothesis was rejected for WA, WE, and WP for the 1995 wave and the alternate hypothesis was accepted. As seen in Table 6, upper-middle had the highest mean score for WA and high income had the highest mean score for WE, and WP. The scores on average tended to be towards the midpoint for WA, WE, and WP.

Table 6 . World Bank Category for 1995 Wave, Individual Level Data

	Work Authority				Work Ethic			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	19041	24.2	1.710	.480	19485	23.6	1.526	.301
Lower-middle	26025	33.0	1.701	.482	29120	35.3	1.535	.341
Upper-middle	12823	16.3	1.836	.505	12887	15.6	1.682	.304
High	20898	26.5	1.787	.537	20976	25.4	1.782	.360
	Work Priorities							
Low	18739	24.7	1.329	.324				

Lower-middle	25782	34.0	1.346	.317				
Upper-middle	11644	15.4	1.397	.315				
High	19557	25.8	1.473	.329				

1995 country-level data. Table 7 shows the data for the analysis of WA and WE, and WP for the 1995 wave. There were substantively significant differences between the World Bank income categories for WE, F (3, 49) = 17.429, p =< .001 and WP, F (3, 46) = 13.520, p =< .001. The null hypothesis was rejected for WE, and WP for the 1995 wave and the alternate hypothesis was accepted. There were no substantively significant differences for WA, F (3, 48) = .758, p < .523 and the null hypothesis was not rejected. The alternate hypothesis was rejected. As seen in Table 7, high income had the highest mean score for WA, WE, and WP. The scores on average tended to be towards the midpoint for WA, WE, and WP.

Table 7 . World Bank Category for 1995 Wave, Country-Level Data

	Work Authority				Work Ethic			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	10	19.2	1.721	.137	11	20.8	1.512	.069
Lower-middle	19	36.5	1.723	.181	19	35.8	1.577	.101
Upper-middle	12	23.1	1.780	.265	12	22.6	1.706	.107
High	11	21.2	1.826	.206	11	20.8	1.777	.112
	Work Priorities							
Low	10	20.0	1.322	.049				
Lower-middle	19	38.0	1.338	.081				
Upper-middle	10	20.0	1.392	.056				
High	11	22.0	1.492	.082				

1995 individual Work Authority (WA) items. Table 8 shows the data for the analysis of WA for the 1995 wave. There were substantively significant differences between the World Bank income categories for C060, F (3,70697) = 53.107, p =< .001; C061, F (3,70205) = 41.454, p =< .001; and E018, F (3, 76174) = 725.332, p =< .001. The null hypothesis was rejected for item C060, C061, and E018 for the 1995 wave and the alternate was accepted. As seen in Table 8, high income had the highest mean score for E018 and upper-middle income had the highest mean score for C060 and C061. The scores for C060 and E018 tended to be towards the midpoint; however, for item C061, the scores tended to be above 2.0.

Table 8 . World Bank Category for 1995 Wave, Individual Work Authority (WA) Items

	Item C060				Item C061			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	15819	22.4	1.669	.756	18048	25.7	2.043	.8526
Lower-middle	24353	34.5	1.701	.723	22241	31.7	2.041	.8275
Upper-middle	12030	17.0	1.773	.699	11537	16.4	2.143	.8471
High	18481	26.1	1.689	.661	18383	26.2	2.064	.9115
	Item E018							
Low	18259	24.0	1.418	.578				
Lower-middle	25083	32.9	1.435	.651				
Upper-middle	12466	16.4	1.638	.743				
High	20370	26.7	1.675	.781				

1995 individual Work Ethic (WE) items. Table 9 shows the data for the analysis of WE for the 1995 wave. There were substantively significant differences between the World Bank income categories for A005, F (3,80790) = 54.287, p =< .001; C006, F (3,77865) = 1355.468, p =< .001; C008, F (3,74668) = 1323.762, p =< .001; C059, F (3,71860) = 62.899, p =< .001; E035, F (3,77079) = 210.134, p =< .001; and E040, F (3,73454) = 313.239, p =< .001. The null hypothesis was rejected for item A005, C006, C008, C059, E035, and E040 for the 1995 wave and the alternative hypothesis was accepted. As seen in Table 9, high income had the highest mean score for item A005, C006, C008, C059, and E035 whereas upper-middle income had the highest mean score for E040. The

scores tended to be towards the midpoint for item A005, C008, C059, E035, and E040 although the items did range between 1.0 and 1.9. For question C006, the scores tended to be above 2.0.

Table 9 . World Bank Category for 1995 Wave, Individual Work Ethic (WE) Items

	Item A005				Item C006			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	19581	24.2	1.101	.376	19432	25.0	1.880	.795
Lower-middle	28755	35.6	1.080	.330	25901	33.3	1.986	.810
Upper-middle	12794	15.8	1.087	.339	12792	16.4	2.098	.752
High	19664	24.3	1.121	.403	19744	25.4	2.349	.710
	Item C008				Item C059			
Low	18435	24.7	1.533	.702	17955	25.0	1.256	.668
Lower-middle	25339	33.9	1.560	.700	24787	34.5	1.392	.794
Upper-middle	11538	15.5	1.692	.705	10151	14.1	1.357	.766
High	19360	25.9	1.936	.750	18971	26.4	1.481	.855
	Item E035				Item E040			
Low	18644	24.2	1.710	.824	1950	3.5	1.678	.811
Lower-middle	25341	32.9	1.795	.818	22419	39.8	1.762	.817
Upper-middle	12654	16.4	1.847	.843	12655	22.5	1.954	.834
High	20444	26.5	1.913	.806	19324	34.3	1.825	.794

1995 Individual Work Priorities (WP) Items. Table 10 shows the data for the analysis of WP for the 1995 wave. There were substantively significant differences between the World Bank income categories for C009, F (3,75175) = 686.886, p =< .001, and C010, F (3,72423) = 146.933, p =< .001. The null hypothesis was rejected for item C009 and C010 and the alternate hypothesis was accepted for the 1995 wave. As seen in Table 10, high income had the highest mean score for both C009 and C010. The scores tended to be towards the midpoint for both items C009 and C010.

Table 10 . World Bank Category for 1995 Wave, Individual Work Priorities (WP) Items

	Item C009				Item C010			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	18684	24.9	1.262	.440	17004	23.5	1.403	.491
Lower-middle	25385	33.8	1.273	.445	24642	34.0	1.420	.494
Upper-middle	11624	15.5	1.334	.472	11508	15.9	1.460	.498
High	19486	25.9	1.448	.497	19273	26.6	1.501	.500

Research question 3. For countries participating in the 2000 Work Values Study, what are the differences in work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels?

H30: There is no difference in work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels for the 2000 WVS.

H3a: There is a difference in work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels for the 2000 WVS.

Question 3 tested whether there were substantively significant differences in work values categorized by work ethic (WE), work authority (WA), and work priorities (WP) when compared by World Bank income categories of low, lower-middle, upper-middle, and high income using one-way ANOVA for the 2000 WVS wave. The ANOVA procedure tests for the differences between work values and World Bank income categories for each wave. Prior to testing the null hypothesis, mean scores for WA, WE, and WP were calculated and used in further analysis.

2000 individual level data. The initial data analysis was conducted using the means of all surveys. Table 11 shows the data for the analysis of WA, WE, and WP for the 2000 wave. There were substantively significant differences between the World Bank

income categories for WA, F (3, 57277) = 123.448, p <. 001; WE, F (3, 59987) = 689.630, p =< .001; and WP, F (3, 37052 = 655.832, p =< .001. The null hypothesis was rejected for WA, WE, and WP for the 2000 wave and the alternate hypothesis was accepted. As seen in Table 11, high income had the highest mean score for WA, WE, and WP. The scores on average tended to be towards the midpoint for WA, WE, and WP.

Table 11 . World Bank Category for 2000 Wave, Individual-Level Data

	Work Authority				Work Ethic			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	15695	27.4	1.643	.510	18220	30.4	1.509	.323
Lower-middle	21502	37.5	1.701	.489	21603	36.0	1.502	.318
Upper-middle	8579	15.0	1.699	.499	8637	14.4	1.594	.305
High	11505	20.1	1.764	.557	11531	19.2	1.650	.329
	Work Priorities							
Low	10499	28.3	1.272	.303				
Lower-middle	9091	24.5	1.299	.295				
Upper-middle	7048	19.0	1.351	.303				
High	10418	28.1	1.448	.326				

2000 country-level data. Table 12 shows the data for the analysis of WA and WE, and WP for the 2000 wave. There were substantively significant differences between the World Bank income categories for WE, F (3, 35) = 9.288, p =< .001 and WP, F (3, 25) = 8.831, p =< .001. The null hypothesis was rejected for WE and WP for the 2000 wave and the alternate hypothesis was accepted. Substantively significant differences for WA, F (3, 34) = .115, p < .951 were not found; hence, the null hypothesis was not rejected and the alternate hypothesis was rejected. As seen in Table 12, high income had the highest mean score for WA, WE, and WP. The scores on average tended to be towards the midpoint for WA, WE, and WP.

Table 12 . World Bank Category for 2000 Wave, Country Level Data

	Work Authority				Work Ethic			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	12	31.6	1.706	.198	12	30.8	1.468	.092
Lower-middle	12	31.6	1.734	.134	12	30.8	1.496	.124
Upper-middle	7	18.4	1.694	.190	7	17.9	1.594	.069
High	7	18.4	1.739	.232	8	20.5	1.684	.084
	Work Priorities							
Low	10	34.5	1.290	.079				
Lower-middle	7	24.1	1.290	.068				
Upper-middle	6	20.7	1.360	.057				
High	6	20.7	1.470	.075				

2000 individual Work Authority (WA) items. Table 13 shows the data for the analysis of WA for the 2000 wave. There were substantively significant differences between the World Bank income categories for C060, F (3,48861 = 68.238, p =< .001; C061, F (3,52505) = 78.060, p =< .001; and E018, F (3, 55734) = 717.005, p =< .001. The null hypothesis was rejected for items C060, C061, and E018 for the 2000 wave and the alternative hypothesis was accepted. As seen in Table 13, high income had the highest mean score for E018 and upper-middle income had the highest mean score for C060. Lower-middle income had the highest mean score for item C061. The scores on for C060 and E018 tended to be towards the midpoint; however, for item C061 the scores tended to be near or above 2.0.

Table 13 . World Bank Category for 2000 Wave Question Breakdown, Individual Work Authority (WA) Items

	Item C060				Item C061			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	12502	25.6	1.540	.662	13199	25.1	2.051	.936
Lower-middle	19613	40.1	1.617	.698	20896	39.8	2.117	.923
Upper-middle	8069	16.5	1.673	.651	8353	15.9	1.982	.953
High	8681	17.8	1.614	.668	10061	19.2	1.967	.881
	Item E018							
Low	15366	27.6	1.399	.640				
Lower-middle	20857	37.4	1.354	.596				
Upper-middle	8265	14.8	1.453	.710				
High	11250	20.2	1.704	.784				

2000 individual Work Ethic (WE) items. Table 14 shows the data for the analysis of WE for the 2000 wave. There were substantively significant differences between the World Bank income categories for A005, F (3,58128) = 137.173, p =< .001; C006, F (3,56992) = 869.167, p =< .001; C008, F (3,51921) = 991.062, p =< .001; C036, F (3,36455) = 168.510, p =< .001; C037A, F (3,36780) = 250.948, p =< .001; C038A, F (3,36864) = 119.255, p =< .001; C039A, F (3,36466) = 327.952, p =< .001; C059, F (3,51069) = 143.320, p =< .001; and E035, F (3,56283) = 189.603, p =< .001. The null hypothesis was rejected for items A005, C006, C008, C036, C037A, C038A C039A C059, and E035 for the 2000 wave and the alternative hypothesis was accepted. As seen in Table 14, high income had the highest mean score for item A005, C008, C0036, C037A, C038A, C039A, and E035, whereas upper-middle income had the highest mean score for C006 and C059. The scores tended to be towards the midpoint for items A005, C008, C036, C037A, C038A, C039A, C059, and E035. For item C006, the mean scores tended to be above 2.0.

Table 14 . World Bank Category for 2000 Wave, Individual Work Ethic (WE) Items

	Item A005				Item C006			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	17956	30.9	1.054	.271	17774	31.2	2.000	.773
Lower-middle	21420	36.8	1.105	.389	21512	37.7	1.979	.780
Upper-middle	8559	14.7	1.071	.311	8536	15.0	2.347	.733
High	10197	17.5	1.133	.422	9174	16.1	2.335	.730
	Item C008				Item C036			
Low	13440	25.9	1.378	.667	10343	28.4	1.290	.656
Lower-middle	19724	38.8	1.496	.703	8922	24.5	1.390	.718
Upper-middle	8455	16.3	1.478	.687	5829	16.0	1.410	.757
High	10306	19.8	1.861	.773	11365	31.2	1.512	.781
	Item C037A				Item C038A			
Low	10571	28.7	1.460	.795	10591	28.7	1.418	.756
Lower-middle	9027	24.5	1.498	.775	9041	24.5	1.408	.727
Upper-middle	5812	15.8	1.612	.843	5831	15.8	1.364	.714
High	11374	30.9	1.737	.843	11405	30.9	1.560	.809

	Item C039A				Item C059			
Low	10417	28.6	1.233	.565	13170	25.8	1.456	.839
Lower-middle	8932	24.5	1.394	.688	20856	40.8	1.343	.753
Upper-middle	5755	15.8	1.407	.722	7177	14.1	1.533	.885
High	11366	31.2	1.525	.769	9870	19.3	1.342	.753
	Item E035							
Low	16864	30.0	1.792	.848				
Lower-middle	20720	36.8	1.677	.817				
Upper-middle	8432	15.0	1.855	.856				
High	10271	18.2	1.890	.810				

2000 individual Work Priorities (WP) items. Table 15 shows the data for the analysis of WP for the 2000 wave. There were substantively significant differences between the World Bank income categories for C009, F (3,36981) = 563.522, p =< .001, and C010, F (3,36475) = 121.290, p =< .001. The null hypothesis was rejected for items C009 and C010 for the 2000 wave and the alternative hypothesis was accepted. As seen in Table 15, high income had the highest mean score for both C009 and C010. The scores tended to be towards the midpoint for both items C009 and C010.

Table 15. World Bank Category for 2000 Wave, Individual Work Priorities (WP) Items

	Item C009				Item C010			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	10474	28.3	1.202	.401	10330	28.3	1.341	.474
Lower-middle	9089	24.6	1.212	.409	8879	24.3	1.392	.488
Upper-middle	7030	19.0	1.307	.461	6964	19.1	1.400	.489
High	10392	28.1	1.426	.495	10306	28.3	1.470	.499

Research question 4. For countries participating in the 2005 Work Values Study, what are the differences in work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels?

H40: There is no difference in work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels for the 2005 WVS.

H4a: There is a difference in work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels for the 2005 WVS.

Question 4 tested whether there were substantively significant differences in work values categorized by work ethic (WE), work authority (WA), and work priorities (WP) when compared by World Bank income categories of low, lower-middle, upper-middle, and high income using one-way ANOVA for the 2005 WVS wave. The ANOVA procedure tests for the differences between work values and World Bank income categories for each wave. Prior to testing the null hypothesis, mean scores for WA, WE, and WP were calculated and used in further analysis.

2005 individual level data. The initial data analysis was conducted using the means of all surveys. Table 16 shows the data for the analysis of WA, WE, and WP for the 2005 wave. There were substantively significant differences between the World Bank income categories for WA, F (3, 62805) = 1033.397, p = <001; WE, F (3, 67248) = 2713.343, p =< .001; and WP, F (3, 65900) = 1402.493, p =< .001. The null hypothesis was rejected for WA, WE, and WP for the 2005 wave and the alternate hypothesis was accepted. As seen in Table 16, high income had the highest mean score for WA, WE, and WP. The scores on average tended to be towards the midpoint for WA, WE, and WP.

Table 16 . World Bank Category for 2005 Wave, Individual-Level Data

	Work Authority				Work Ethic			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	12119	19.3	1.380	.622	12603	18.7	1.460	.275
Lower-middle	18398	29.3	1.483	.703	20043	29.8	1.470	.278
Upper-middle	13014	20.7	1.362	.572	13598	20.2	1.581	.283
High	19188	30.6	1.739	.806	21008	31.2	1.700	.324
	Work Priorities							
Low	12214	18.5	1.272	.298				
Lower-middle	19504	29.6	1.275	.300				
Upper-middle	13382	20.3	1.314	.333				
High	20804	31.6	1.454	.330				

2005 country-level data. Table 17 shows the data for the analysis of WA and WE, and WP for the 2005 wave. There were substantively significant differences between the World Bank income categories for WA, F (3, 42) = 2.881, p < .047; WE F (3, 43) = 19.810, p =< .001; and WP, F (3, 43) =

10.693, p =< .001. The null hypothesis was rejected for WA, WE, and WP for the 2005 wave and the alternate hypothesis was accepted. As seen in Table 17, high income had the highest mean score for WA, WE, and WP. The scores on average tended to be towards the midpoint for WA, WE, and WP.

Table 17 . World Bank Category for 2005 Wave, Country-Level Data

	Work Authority				Work Ethic			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	8	17.4	1.366	.250	8	17.0	1.459	.096
Lower-middle	13	28.3	1.465	.394	13	27.7	1.490	.088
Upper-middle	10	21.7	1.404	.168	10	21.3	1.580	.065
High	15	32.6	1.744	.453	16	34.0	1.703	.097
	Work Priorities							
Low	8	17.0	1.272	.066				
Lower-middle	13	27.7	1.29	.071				
Upper-middle	10	21.3	1.325	.070				
High	16	34.0	1.458	.132				

2005 individual Work Authority (WA) items. Table 18 shows the data for the analysis of WA for the 2005 wave. There were substantively significant differences between the World Bank income categories for E018, F (3,62805) = 1033.397, p =< .001. The null hypothesis was rejected for items E018 for the 2005 wave and the alternative hypothesis was accepted. As seen in Table 18, high income had the highest mean score for E018. The scores for E018 tended to be towards the midpoint.

Table 18 . World Bank Category for 2005 Wave Question Breakdown–Individual Work Authority (WA) Items

	Item C018			
Income	*N*	*%*	*M*	*SD*
Low	12119	19.3	1.380	.622
Lower-middle	18398	29.3	1.483	.703
Upper-middle	13104	20.9	1.362	.572
High	19188	30.5	1.739	.806

2005 individual Work Ethic (WE) items. Table 19 shows the data for the analysis of WE for the 2005 wave. There were substantively significant differences between the World Bank income categories for, A005, F (3,62270) = 211.280, p =< .001; C006, F (3,66349) = 971.915, p =< .001; C036, F (3,64459) = 617.311, p =< .001; C037A, F (3,64686) = 646.653, p =< .001; C038A, F (3,64809) = 679.626, p =< .001; C039A, F (3,64190) = 572.921, p =< .001; C059, F (3,63794) = 421.599, p =< .001; E035, F (3,64858) = 336.655, p =< .001; E040, F (3,64305) = 90.086, p =< .001. The null hypothesis was rejected for items A005, C006, C036, C037A, C038A, C039A, C059, E035, and E040 for the 2005 wave and the alternate was accepted. As seen in Table 19, high income had the highest mean score for item A005, C006, C036, C037A, C038A, and C039A, whereas upper-middle income had the highest mean score for C059, E035, and E040. The scores tended to be towards the midpoint for items A005, C006, C036, C037A, C038A, C039A, C059, E035, and E040, although the items ranged between 1.0 and 1.9. For item C006, the scores were above 2.0.

Table 19. World Bank Category for 2005 Wave, Individual Work Ethic (WE) Items

	Item A005				Item C006			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	12416	18.7	1.045	.239	12304	18.5	2.057	.750
Lower-middle	19790	29.9	1.119	.389	19783	29.8	2.094	.773
Upper-middle	13438	20.3	1.099	.378	13469	20.3	2.277	.757
High	20630	31.1	1.153	.454	20797	31.3	2.429	.686
	Item C036				Item C037A			
Low	12277	19.0	1.288	.640	12405	19.2	1.518	.804
Lower-middle	19263	29.9	1.315	.653	19463	30.1	1.508	.783
Upper-middle	13363	20.7	1.326	.680	13331	20.6	1.579	.819

High	19560	30.3	1.570	.807	19491	30.1	1.835	.861
	Item C038A					Item C039A		
Low	12429	19.2	1.289	.631	12173	19.0	1.169	.476
Lower-middle	19597	30.2	1.306	.648	19193	29.9	1.337	.654
Upper-middle	13329	20.6	1.416	.740	13333	20.8	1.335	.657
High	19458	30.0	1.5940	.820	19495	30.4	1.481	.745
Income	Item C059				Item E035			
Low	11739	18.4	1.559	.897	11897	18.3	1.642	.804
Lower-middle	18975	29.7	1.338	.750	19106	29.5	1.624	.788
Upper-middle	12844	20.1	1.628	.928	13275	20.5	1.833	.838
High	20240	31.7	1.385	.788	20584	31.7	1.830	.802
	Item E040							
Low	12085	18.8	1.714	.807				
Lower-middle	18254	28.4	1.701	.803				
Upper-middle	13313	20.7	1.810	.822				
High	20657	32.1	1.810	.784				

2005 individual Work Priorities (WP) items. Table 20 shows the data for the analysis of WP for the 2005 wave. There were substantively significant differences between the World Bank income categories for C009, F (3,65726) = 1295.519, p =< .001, and C010, F (3,61891) = 248.493, p =< .001. The null hypothesis was rejected for items C009 and C010 for the 2005 wave and the alternate hypothesis was accepted. As seen in Table 20, high income had the highest mean score for both C009 and C010. The scores tended to be towards the midpoint for both items C009 and C010.

Table 20 . World Bank Category for 2005 Wave, Individual Work Priorities (WP) Items

	Item C009				Item C010			
Income	*N*	*%*	*M*	*SD*	*N*	*%*	*M*	*SD*
Low	12132	18.5	1.183	.387	11792	19.1	1.362	.481
Lower-middle	19461	29.6	1.208	.406	19247	31.1	1.343	.475
Upper-middle	13364	20.3	1.262	.439	10218	16.5	1.416	.493
High	20773	31.6	1.441	.497	20638	33.3	1.468	.499

Question Set B

Questions 5 to 7 test whether there are differences between the 1990, 1995, 2000, and 2005 WVS waves. Are there differences by wave on work ethic (WE), work authority (WA), and work priorities (WP) when compared by World Bank income groups of low income, lower-middle income, upper-middle income, and high income using the previous wave work authority, work ethic, and work priorities scores as covariates? The independent variable for questions 5-7 are the same: income category of low, lower-middle, upper-middle, or high. All analysis was conducted on an individual basis for Question Set B.

Research question 5. For countries participating in the 1990 and 1995 WVS survey, what are the differences in 1995 work ethic, work authority, and work priorities when compared by World Bank income categories, low, lower-middle, upper-middle, and high, using the 1990 WVS work authority, work ethic, and work priorities as covariates? The dependent variable for question 5 was the 1995 WVS wave scores for WE, WA, WP, and covariates were 1990 WVS wave of WE, and WP scores. There was no WP score for 1990.

H50: There is no difference in 1995 work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels, using the 1990 WVS work ethic, work and authority, and work priorities as covariates.

H5a: There is a difference in 1995 work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels, using the 1990 WVS work ethic, work and authority, and work priorities as covariates.

Findings indicated there were no substantively significant differences in WA when compared by WB category using the 1990 WA and WE scores as covariates, F (3, 11) = .593, p = .633; hence, the null

hypothesis was not rejected and the alternate hypothesis was rejected. The adjusted and unadjusted means are in Table 21.

Table 21 . Adjusted and Unadjusted Means for Work Authority (WA) 1995

Income	Adjusted Means	Unadjusted Means
Low	1.811	1.716
Lower-middle	1.792	1.724
Upper-middle	1.800	1.822
High	1.668	1.823

The independent variable was World Bank (WB) category (1-4), the dependent variables were 1995 WE means, and the covariates were 1990 WA and WE. Findings indicated there were no substantively significant differences in WE when compared by WB category using the 1990 WA and WE scores as covariates, F (3, 11) = .067, p = .976, the null hypothesis was not rejected and the alternate hypothesis was rejected. The adjusted and unadjusted means are in Table 22.

Table 22 . Adjusted and Unadjusted Means for Work Ethic (WE) 1995

Income	Adjusted Means	Unadjusted Means
Low	1.647	1.574
Lower-middle	1.669	1.651
Upper-middle	1.661	1.663
High	1.683	1.781

Research question 6. For countries participating in the 1995 and 2000 WVS survey, are there differences in 2000 WE, WA, and WP scores when compared by World Bank income categories of low, lower-middle, upper-middle, and high, using the 1995 WVS WA, WE, and WP as covariates? The dependent variable for question 6 was the 2000 WVS wave of work ethic, work and authority, and work priorities, and the covariate was the 1995 WVS wave of work ethic, work and authority, and work priorities.

H60: There is no difference in 2000 work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels, using the 1995 WVS work ethic, work and authority, and work priorities as covariates.

H6a: There is a difference in 2000 work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels, using the 1995 WVS work ethic, work and authority, and work priorities as covariates.

The independent variable was World Bank (WB) category (1-4), the dependent variables were 2000 WA means, and the covariates were 1995 WA, WE, and WP. Findings indicated there were no substantively significant differences in WA when compared by WB category using the 1995 WA, WE, and WP scores as covariates, F (3, 17) = .415, p = .744, the null hypothesis was not rejected, and the alternate hypothesis was rejected. . The adjusted and unadjusted means are in Table 23.

Table 23 . Adjusted and Unadjusted Means for Work Authority (WA) 2000

Income	Adjusted Means	Unadjusted Means
Low	1.729	1.714
Lower-middle	1.741	1.772
Upper-middle	1.731	1.702
High	1.806	1.815

The independent variable was World Bank (WB) category (1-4), the dependent variables were 2000 WE means, and the covariates were 1995 WA, WE, and WP. Findings indicated there were no substantively significant differences in WE when compared by WB category using the 1995 WA, WE, and WP scores as covariates, F (3, 17) = .483, p = .698; hence, the null hypothesis was not rejected and the alternate hypothesis was rejected. The adjusted and unadjusted means are in Table 24.

Table 24. Adjusted and Unadjusted Means for Work Ethic (WE) 2000

Income	Adjusted Means	Unadjusted Means
Low	1.527	1.485
Lower-middle	1.541	1.504
Upper-middle	1.552	1.589
High	1.606	1.663

A comparison was made for the WP variable. The independent variable was World Bank (WB) category (1-4), the dependent variable was 2000 WP means, and the covariates were 1995 WA, WE, and WP. Findings indicated there were no substantively significant differences in WP when compared by WB category using the 1995 WA, WE, and WP scores as covariates, F (3, 14) = .648, p = .597; hence, the null hypothesis was not rejected and the alternate hypothesis was rejected. The adjusted and unadjusted means are in Table 25.

Table 25. Adjusted and Unadjusted Means for Work Priorities (WP) 2000

Income	Adjusted Means	Unadjusted Means
Low	1.323	1.287
Lower-middle	1.347	1.285
Upper-middle	1.311	1.353
High	1.346	1.415

Research question 7. For countries participating in the 2000 and 2005 WVS survey, what are the differences in 2005 work ethic, work authority, and work priorities when compared by World Bank income categories, low, lower-middle, upper-middle, and high using the 2000 WVS work authority, work ethic, and work priorities as covariates? The dependent variable for question 7 was the 2005 WVS wave of work ethic, work and authority, and work priorities, and the covariate was the 2000 WVS wave of work ethic, work and authority, and work priorities.

H70: There is no difference in 2005 work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels, using the 2000 WVS work ethic, work and authority, and work priorities as covariates.

H7a: There is a difference in 2005 work ethic, work and authority, and work priorities when compared by World Bank income categories of low, lower-middle, upper-middle, and high levels, using the 2000 WVS work ethic, work and authority, and work priorities as covariates.

The independent variable was World Bank (WB) category (1-4), the dependent variables were 2005 WA means, and the covariates were 2000 WA, WE, and WP. Findings indicated there were no substantively significant differences in WE when compared by WB category using the 2000 WA, WE, and WP scores as covariates, F (3, 9) = .707, p = .572, the null hypothesis was not rejected, and the alternate hypothesis was rejected. The adjusted and unadjusted means are in Table 26.

Table 26 . Adjusted and Unadjusted Means for Work Authority (WA) 2005

Income	Adjusted Means	Unadjusted Means
Low	1.534	1.440
Lower-middle	1.355	1.444
Upper-middle	1.451	1.263
High	1.701	1.800

The independent variable was World Bank (WB) category (1-4), the dependent variable was 2005 WE means, and the covariates were 2000 WA, WE, and WP. Findings indicated there were no substantively significant differences in WE when compared by WB category using the 2000 WA, WE, and WP scores as covariates, F (3, 9) = 1.228, p = .355, the null hypothesis was not rejected and the alternate hypothesis was rejected. The adjusted and unadjusted means are in Table 27.

Table 27. Adjusted and Unadjusted Means for Work Ethic (WE) 2005

Income	Adjusted Means	Unadjusted Means
Low	1.547	1.449
Lower-middle	1.612	1.542
Upper-middle	1.590	1.607
High	1.582	1.677

A comparison was also made for the WP variable. The independent variable was World Bank (WB) category (1-4), the dependent variables were 2005 WP means, and the covariates were 2000 WA, WE, and WP. Findings indicated there were no substantively significant differences in WP when compared by WB category using the 2000 WA, WE, and WP scores as covariates, F (3, 9) = .360, p = .783, the null hypothesis was not rejected, and the alternate hypothesis was rejected. The adjusted and unadjusted means are in Table 28.

Table 28 . Adjusted and Unadjusted Means for Work Priorities (WP) 2005

Income	Adjusted Means	Unadjusted Means
Low	1.356	1.262
Lower-middle	1.356	1.384
Upper-middle	1.348	1.322
High	1.293	1.389

Summary

The results from this study indicated substantively significant findings that work values changed as economic growth increased. Question Set A illustrated this relationship. Questions 1-4 on the individual-level data all showed a substantive relationship between work values and economic growth for WA, WE, and WP. As this relationship was investigated further in the country-level data, WE and WP were found substantively significant; however, WA was not. On the individual item level, WA, WE and WP were found substantively significant for questions 1-4.

The results for Question Set B, questions 5-7, indicated no substantively significant differences between WA, WE, and WP when comparing the World Bank income groups in the 1990/1995, 1995/2000, and 2000/2005 World Values Survey waves. This indicates no anomalies between waves were present.

Findings

The findings indicated substantively significant results for Question Set A 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 findings of this study have meaningful application to the field of cultural studies. The question 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?"

Question Set A. The relationship between two of the three categories of work values and the World Bank income categories is what would be expected according to modernization theory (Allen et al., 2004; Bell, 1973; Inglehart, 1997; Weber, 1930). The findings support the findings of Inglehart et al. (2004), in that cultural values share a relationship with economic growth. Inglehart et al. (2004) showed that two value dimensions, survival/self-expression values and traditional/secular-rational values, were related to GDP per capita. The findings of Question Set A are also consistent with Snir and Harpaz's (2009) findings, indicating individuals work harder where survival values are important, as opposed to where self-expression values take precedence. The literature supported the finding in the current study of WE changing from high work motivation to low work motivation and the finding of WP shifting from working for material security/necessity toward intrinsic needs.

The responses to items for work authority items were recorded into three responses as 1 = autocratic, 2 = neutral, and 3 = autonomous answers. The

responses for work ethic items were recoded into three responses as 1 = high work motivation, 2 = neutral, and 3 = low work motivation. The responses for work priorities had the two categories of 1 = material security/necessity and 2 = intrinsic needs.

As economic growth increases, according to Inglehart et al. (2004), one would expect that WA values would move from (1) autocratic to (3) autonomous as workers gained the financial freedom to look for more fulfilling and less constraining jobs. As WE moved from (1) high work motivation to (3) low work motivation, the need for work shifts from an activity workers must do to survive to having free time and other types of personal edification. WP responses would be expected to move from (1) material security/necessity to (2) satisfying intrinsic needs as work becomes less important and other needs, such as time with family, take precedence. The mean scores for this analysis indicated they were in alignment with predictions. Autocratic, high work motivation, and material security/necessity were related to traditional/survival values and low-income countries. Autonomous, low work motivation, and intrinsic needs were related to secular-rational/self-expression values and high-income countries.

A shift was present in the results for Question Set A for WE and WP, but not for WA. Appendix F shows the means increasing for WE and WP over all WVS waves. The mean shift was relatively slight, which may have been due to the number of individuals in sample of the survey. Small changes in the mean scores with large sample sizes can indicate significant relationships (StatSoft, 2011). As sample sizes increase, the probability of finding substantively significant results increases. Although work authority had substantively significant results, the mean scores did not trend as expected (means getting larger as income grows) and additional investigations were conducted.

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.

Individual WA, WE, WP items. The second additional analysis investigated each item separately at the individual level of data. This analysis took place to understand the role of each individual item in the aggregate results for WA, WE, and WP.

Question 1, looked at the 1990 WVS wave, where only work authority and work ethic items were available. None of the work authority items trended as expected. The work ethic items trended somewhat as expected; however, items C060 and C061 means decreased between upper-middle and high income. Overall, the individual analysis results for Question 1 supported the relationship between work ethic and economic growth.

Question 2, using the 1995 WVS data, found work authority items did not trend as expected. Nearly all the work ethic items trended as expected, with the exception of item C059. The mean decreased between lower-middle and upper-middle income categories. All work priorities items for 1995 trended as expected. Question 2 results supported WE and WP as related to economic growth.

Question 3, investigating the 2000 WVS wave, indicated work authority did not trend as expected as with the 1990 and 1995 waves. The work ethic items provided mixed results. Although the overall aggregate trend was as expected, items C059 returned erratic trends, while items A005, C006, C008, C038A, and E035 all had at least one of the four income categories trending lower. This indicates either some items might be better indicators of the values/economic growth relationship or values change may be more pronounced between some income categories. All work priority items for 2000 trended as expected. Overall, however, question 3 results supported the relationship between work ethic and work priorities and economic growth.

Question 4, investigating the 2005 WVS wave, also indicated work authority did not trend as expected. Work ethic for question 4 provided mixed results, but less so than question 3. Again, the overall

aggregate trend was as expected. Item C059 returned erratic trends, while in items C038A and C039A, at least one of the four income categories trended lower. All work priorities items for 2005 trended as expected. Overall, question 4 results supported a relationship between work ethic and work priorities and economic growth.

Summary of Question Set A. The overall results for Question Set A showed the null hypothesis was rejected for all four hypotheses (questions 1-4) and the alternative hypotheses were not rejected. WE and WP showed a substantive significance, demonstrating a relationship between work ethic values and work priority values and economic growth. The WE and WP values were in alignment with the predictions of Inglehart et al. (2004), adding support to the argument suggesting cultural values and economic growth are related. WA was substantively significant in the individual-level data; however, when country-level data was considered, results were not consistent. The country-level means did not shift in line with predictions in any of the analyses for Question Set A. Because there was no evident direction of work authority mean, conclusions suggest work authority, although substantively significant, does not shift according to economic growth. Items selected for work authority might be removed from future work values and economic growth studies.

Question Set B

Question Set B, questions 5 to 7, tested whether there are differences between the 1990, 1995, 2000, and 2005 WVS waves. Are there differences by wave on work ethic, work authority, and work priorities when compared by World Bank income groups of low income, lower-middle income, upper-middle income, and high income, using the scores of the previous wave for work authority, work ethic, and work priorities as covariates? Question 5 investigated the relationship between the 1990 and 1995 WVS waves, question 6 investigated the relationship between the 1995 and 2000 WVS waves, and question 7 investigated the relationship between the 2000 and 2005 WVS waves.

Questions 5, 6, and 7 had findings that indicated there were no substantively significant differences by World Bank category for WA, WE, and WP using the values of the previous wave as a covariate, as illustrated in Table 29. The overall results for Question Set B indicated the null hypothesis was not rejected for questions 5, 6, and 7. Finding no substantively significant differences between WVS indicated there are no anomalies with a particular WVS wave. If a substantive difference had been found for a particular WVS wave, further investigation would have been prudent to uncover the source of the anomaly.

Table 29 . Data Set B–p Value Scores between WVS Waves

	1990/1995	*1995/2000*	*2000/2005*
Work Authority	0.633	0.744	0.572
Work Ethic	0.976	0.698	0.355
Work Priorities	N/A	0.597	0.783

Supported Theory

The research presented showed

- Work values changed as economic growth increased, as the first question in the literature review asked and as was predicted by modernization theory (Allen et al., 2004; Bell, 1973; Inglehart, 1997; Weber, 1930);
- Cultural values shifted (Inglehart et al., 2004); and
- The theory of survival values vs. self-expression values (Snir & Harpaz, 2009).

Work values shifted from high work motivation to lower work motivation and from material security/necessity to intrinsic needs as GNI per capita and GDP per capita increased for a country. Modernization theory links predictable changes in culture with economic growth. Work values have been shown to correlate with GDP/GNI per capita and may now fall within the scope of modernization theory. The theory that work investment is greater in cultures where survival values are more highly valued as opposed to societies where self-expression values are more prevalent (Snir & Harpaz, 2009) may also be upheld with the findings in this study. This study found the same correlations with WP

which compared working for material security/necessity with working for intrinsic needs. As countries grew wealthier, work values shifted in favor of intrinsic needs.

Theories and Studies in Question

Certain ideas presented in the literature review were brought into question by this study, however. The theory that values change generationally (Guiso, Sapienza, & Zingales, 2006) may be true to some extent; however, the subset of work values did not necessarily subscribe fully to this idea, as has been discussed. The study by Corneo and Jeanne (2010), who supported the idea that work values are passed on generationally, was also brought into question. 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. However, for the population as a whole, this does not seem to be the case. In fact, once a society has achieved a higher income as a whole, the value of higher paying jobs declines in favor of careers with more intrinsic value, as shown by the data presented. Economic growth had some impact on work values. Many systematic inputs need to be considered when implicating reasons for value change. The extent that generational influences impact work values needs to be explored further.

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.

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 (Hofstede, 2001), the GLOBE study, 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) 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 R2 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 R2 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 Question Set A, individual level data. Further investigation is prudent as was done for Question Set A by researching country level data.

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

The research conducted in this study has several implications for practice. The data showed that work values change with economic wealth. This offers insight on how workers perceive different work values as they gain wealth. The first implication, then, is that governments can use this information as one indicator as to how wealthy workers perceive themselves to be. This data, along with other economic data, could offer input as to policy direction for governments. As workers change their habits in favor of wealthier work values, governments may shift policy direction away from job growth to other more pressing economic issues.

Similarly, businesses might find such data useful when creating and advertising jobs at different socio-economic levels. Those in the work pool who feel more impoverished will look less to self-edification aspects of a job and more toward having a job that meets their essential needs. For higher paying jobs, more vacation and time allotment to fulfill employees' career wants may be more important.

Lastly, this data might be useful as one indicator in economic forecasting tools. A shift detected in work values may be an indication that workers are feeling more (or less) wealthy and might adjust their spending habits accordingly, thus helping to predict longer-term economic growth or decline.

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