

**JOHN HENRYISM AND HAPPINESS:
A NEW LOOK AT ASPIRATION LEVEL THEORY**

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A NEW LOOK AT ASPIRATION LEVEL THEORY**

Abstract. According to aspiration level theory, happiness is an increasing function of attainment but a decreasing function of aspiration. Using a novel approach to assessing aspiration, we tested the theory in a community-based sample of hypertensive participants (n=715) drawn from an inner-city mainly African-American safety-net hospital in Jefferson County, Alabama. Using the John Henryism Scale of Active Coping (JHAC12) to assess aspiration, bivariate analysis revealed no association between aspiration and attainment in six domains of life: marriage, children, education, employment, income, and health. However, a significant negative association between aspiration and happiness was found both in bivariate analysis ($\rho=-0.339$; $p<0.001$) and when controlling for attainment. The results validate JHAC12 a proxy for aspiration and offer supporting evidence for aspiration level theory.

1. Introduction

According to aspiration level theory, a person's happiness depends not just on her *attainment* – that is, what she succeeds in having, being and doing – but also on her *aspiration level* – that is, what she seeks to have, to be, and to do (Kahneman, 1999; Frey and Stutzer, 2002, 2005; Frey, 2004; Bruni & Stanca, 2006; Bjørnskov & al., 2008). According to this theory, all things equal, greater attainment in various domains of life leads to more happiness. Because one's attainment is evaluated in part by reference to the standard defined by one's aspiration level, all things equal, a higher aspiration level leads to less happiness. Thus, happiness is an increasing function of attainment but a decreasing function of aspiration.

Aspiration level theory plays a central role in contemporary happiness studies, because it can be used to explain a wide range of otherwise puzzling phenomena. For example, the theory can explain what has come to be known as the *Easterlin paradox*: the finding that average happiness levels have remained relatively flat over the course of the last half-century, in spite of the fact that the standard of living has increased dramatically (Easterlin 1974). The theory can also account for the *relative income hypothesis*: the proposition that happiness is a function of relative income instead of, or in addition to, absolute income (Duesenberry, 1949). Due to its role in generating a broad range of explanations, aspiration level theory is as fundamental a theory as any other theory in happiness studies.

While aspiration level theory is widely accepted, the evidence supporting it is largely indirect. Many articles offer no direct test of the predicted negative association between aspiration and happiness at all (e.g., Bjørnskov & al., 2008). The most direct test of the theory so far concerned

the specific case of income aspirations (Frey, 2004; Frey and Stutzer, 2005). Because of its central role of aspiration level theory in contemporary happiness studies, a more direct empirical assessment of the theory is highly motivated.

The present study offers a direct test of a construct that is closely related to that of aspiration – John Henryism – as a predictor of happiness. The construct is named after the African-American folk hero John Henry, “the black steeldriver who, in the face of seemingly insurmountable odds, refused to be deterred in his aspirations” (Dressler et al., 1998, p. 620). John Henryism is defined as a behavioral predisposition to cope actively with psychosocial environmental stressors, and is thought to have three main components: (1) mental and physical vigor, (2) commitment to hard work, and (3) determination to succeed (James, 1994, p. 169). The standard measure of John Henryism is the 12-item John Henryism Scale of Active Coping (JHAC12) (James, 1983). John Henryism has been found to be significantly positively correlated with blood pressure in a variety of populations (James, 1983, 1994; Duijkers & al., 1988; Dressler & al., 1998). Because blood pressure has been negatively correlated with happiness (Blanchflower & Oswald, 2008), this offers additional reason to expect a negative correlation between John Henryism and happiness.

We used a cross-sectional sample of 715 community-based adults drawn from an inner-city mainly African-American safety-net hospital in Jefferson County, Alabama, to test for an association between John Henryism and happiness, while controlling for demographic factors as well as attainment in the domains of marriage, children, education, employment, income and health. Happiness was assessed using the Subjective Happiness Scale (SHS); John Henryism was

assessed using the John Henryism Scale of Active Coping (JHAC12). Because of the conceptual affinity between aspiration and John Henryism, as well as previous empirical findings related to blood pressure, we expected an inverse association between John Henryism and happiness even when controlling for attainment.

The results confirmed the predictions of aspiration level theory. All significant variables representing attainment were positively associated with happiness. A significant negative association between aspiration and happiness was found both in bivariate analysis ($\rho=-0.339$; $p<0.001$) and when controlling for attainment. In multivariable analysis, being African-American (OR: 1.74; 95% CI: 1.16–2.61), 65 or older (OR: 3.13; 95% CI: 1.90–5.16), employed (OR: 1.63; 95% CI: 1.04–2.57), and in favorable self-reported health (OR: 2.47; 95% CI: 1.81–3.36) were associated with significantly higher odds of higher-tertile happiness; by contrast, high John Henryism was associated with significantly lower odds of higher-tertile happiness (OR: 0.33; 95% CI: 0.22–0.47). The results validate JHAC12 a proxy for aspiration levels and offer supporting evidence for aspiration level theory. Meanwhile, we uncovered no evidence to the effect that higher John Henryism scores are associated with greater attainment. While further study would be required in order to establish causality, the results have intriguing policy implications.

2. Background

The literature reporting results from systematic empirical happiness research is rapidly increasing. Often treated under the heading of “subjective well-being” – a broader term referring to any positive cognitive or affective state, including positive emotion, engagement, satisfaction, and meaning – happiness is typically assumed to be an affective, hedonic, or emotional state

(Diener & Seligman, 2004). Though conceptions of happiness differ, there is little controversy regarding how to measure it: current studies typically rely on simple first-person reports on a numerical scale. As evidence of reliability and validity of these measures has accumulated (Lyubomirsky & Lepper, 1999; Diener & Seligman, 2004), efforts are currently shifting away from validation studies and toward the building of substantive empirical theories of happiness.

Aspiration level theory says that happiness is an increasing function of attainment but a decreasing function of aspiration (Frey and Stutzer, 2002). Formally speaking, let U_i denote the happiness of individual i at time t , let $X_i^t = \langle x_{i,1}^t, x_{i,2}^t, \dots, x_{i,n}^t \rangle$ denote the vector of attainments (e.g., in different domains) of individual i at time t , and let a_i^t denote the aspiration level of individual i at time t . According to aspiration level theory, then:

$$U_i^t = f(X_i^t; a_i^t)$$

where

$$\begin{cases} \partial U_i^t / \partial x_{i,j}^t > 0 \text{ for all } j \in [1, n] \\ \partial U_i^t / \partial a_i^t < 0 \end{cases}$$

Assuming that aspiration levels rise with rising income, aspiration level theory implies that happiness levels – if they increase at all – will not be proportional to the standard of living.

Assuming that aspirations are determined in part by other people's attainment, aspiration level theory implies that relative income should be as good or better a predictor of happiness as absolute income.

While aspiration level theory is widely accepted, the evidence supporting it is largely indirect. Many articles offer no direct test of the predicted negative association between aspiration and happiness at all (e.g., Bjørnskov & al., 2008). The most direct test of the theory so far concerned the specific case of income aspirations (Frey, 2004; Frey and Stutzer, 2005). As a proxy for income aspiration, the authors used the answer to questions like the following: “What income would you indicate as good or bad in your circumstances?” and “What household income per month would you consider an absolute minimum in order to make ends meet and without running into debt even if you reduce your needs to a minimum?” (Frey 2004, p. 94), and “Whether you feel an income is good or not so good depends on your personal life circumstances and expectations. In you case—the net household income ___ DM [Deutsche Mark] is just sufficient income” (Frey & Stutzer, 2005, p. 126). These studies did find that happiness was an increasing function of aspiration level so construed. These are imperfect tests of the theory, however, since the question only concerns aspirations in one domain of life, and since the income a person considers the “absolute minimum” and/or “sufficient” is not the same thing as the income that he or she aspires to have.

The concept of John Henryism was originally developed by Sherman James (1983) in an effort to understand the causes of hypertension among African-Americans in both rural and urban settings (James, 1994). As compared to Whites, African-Americans are several times more likely to develop hypertension by age 50, to suffer strokes, and to develop end-stage kidney disease (James, 1994). To explain these phenomena, James hypothesized that “lower socioeconomic status individuals in general, and African-Americans in particular, are routinely exposed to psycho-social stressors ... that require them to use considerable energy each day to manage the

psychological stress generated by these conditions” (p. 167). James added that individuals who are exposed to these conditions and who respond to these conditions with high-effort coping behaviors would be particularly at risk for hypertension. In order to test this hypothesis, he developed the John Henryism Scale of Active Coping (JHAC12), which was named after the folk hero who refused to lower his aspirations, and which was designed to capture “prolonged, high-effort coping with difficult psycho-social environmental stressors” (p. 167).

Because of the conceptual affinities between the concept of aspiration, as used in the happiness literature, and the concept of John Henryism, as used by James (1983, 1994), we proposed that a measure of the latter (JHAC12) can be used as a proxy for the former. The use of a novel proxy for aspiration is motivated by the fact that existing literature does not offer an adequate direct measure of aspiration, and that consequently the evidence for aspiration level theory is largely indirect. Using John Henryism as a proxy for aspiration, we tested the predictions of aspiration level theory in a largely African-American sample from the Deep South. We hypothesized that subjective happiness scores would be positively associated with attainment in the various domains, yet negatively associated with John Henryism.

3. Data and methods

Our study relied on a community-based sample of hypertensive subjects (n=715) drawn from an inner-city mainly African-American safety-net hospital in Jefferson County, Alabama.

Demographic data were derived from interviews; when such data were missing, additional information was whenever possible gathered from medical charts. All were coded as binary variables. Race/ethnicity was defined as African-American or White. Sex was coded as female or

male. Age was entered as a variable indicating whether the participant was less than 65 years old or not at the time of the interview.

Interview data were used to derive six binary measures of attainment, representing the life domains of marriage, children, education, employment, income, and health. Participants were coded as married if they said that they were “married” or “living with someone in a marriage-like relationship”; they were coded as not married if they said they were “widowed,” “divorced,” “separated,” or “never married.” Participants were entered as having children if they responded affirmatively to the question: “Do you have any children or stepchildren?” Participants were said to have a High School diploma if they said they had completed at least 12th grade. They were classified as employed if they stated that they were “working full time” or “working part time,” whether or not they were currently looking for work. Participants were categorized as having adequate income if they did not unambiguously fall below the U.S. Department of Health and Human Services poverty guidelines, based on the stated number of people living in the household and the total combined family income for the last 12 months. Participants were classified as healthy if in response to the query “In general, would you say your health is...” they said “excellent,” “very good,” or “good”, and as unhealthy if they said “fair” or “poor.”

Aspiration levels were assessed using the 12-item John Henryism Scale of Active Coping (JHAC12) of James (1983, 1994) (See Appendix 1). Each item is answered on the following scale: 1 = “Completely false”; 2 = “Somewhat false”; 3 = “Don’t know”; 4 = “Somewhat true”; and 5 = “Completely true.” A summary score is computed as the sum of scores on the 12 questions, meaning that scores will range from 12 to 60. Higher numbers represent higher John

Henryism and therefore a higher level of aspiration. In our study, participants were inadvertently not offered the third option; to preserve the range, the remaining four options were scored as above. For some analyses, participants were said to have “high” John Henryism scores if they scored in the upper quartile on the JHAC12, and “normal” John Henryism otherwise.

Happiness was assessed using the four-item Subjective Happiness Scale (SHS) of Lyubomirsky & Lepper (1999) (see Appendix 2). We modified the items (originally designed as a written questionnaire) for verbal administration and adapted the reading level by eliminating the word “peer” in the second item. This version of the scale performed well in previous studies (Reference omitted). As in the original version, each item is answered on scale from 1 to 7. A summary score is computed as the average of the four answers, with the last answer reverse-scored. Higher numbers represent greater happiness. For regression analyses, we divided participants into tertiles with respect to happiness: those in the lower tertile were said to be “unhappy,” those in the upper tertile were said to be “happy,” and those in between were said to be “neither happy nor unhappy.”

Reliability was assessed using Cronbach’s alpha (α). Correlations were assessed using Spearman’s rho (ρ). We used ordinal logistic regression to model the probability of being in a higher tertile of happiness. The parallel regression assumption was tested using the Brant test.

4. Results

Properties of the analytical sample ($n=715$) are presented in Table 1. The mean age (SD) at the time of the interview was 53.5 (9.54) (range: 25-84). Participants who reported having children said that a mean (SD) of 1.7 (1.1) children lived at home (range: 1-9). Participants had completed

a mean (SD) of 13.0 (2.2) years of schooling (range: 4-21). The median family income during the last 12 months before the interview was \$5,000-\$11,999 (range: “<\$5000” to “\$75,000-\$99,999”). The median self-reported health was “fair” (range: “poor”-“excellent”).

Both John Henryism scores and happiness scores were non-normally distributed. John Henryism scores ($\alpha=0.78$) ranged from 12 to 48; the mean (SD) was 20.2 (6.0) and the median (IQR) was 20.0 (9.0) (Figure 1). We classified 148 participants as having high John Henryism because of upper-quartile (>24) John Henryism scores. Happiness scores ($\alpha=0.82$) ranged from 1 to 7; the mean (SD) was 5.10 (1.71) and the median (IQR) was 5.50 (2.75) (Figure 2). We classified 252 participants as unhappy because of lower-tertile (≤ 4.5) subjective happiness scores and 226 participants as happy because of upper-tertile (>6.25) scores.

In bivariate analysis using non-dichotomized variables, John Henryism was negatively associated at the .05 level with age ($\rho=-0.098$; $p=0.011$). For the variables representing attainment, John Henryism was uncorrelated with the number of children ($\rho=-0.074$; $p=0.066$) and with years of schooling ($\rho=0.052$; $p=0.169$) and significantly negatively correlated with income measured on an eight-point scale ($\rho=-0.092$; $p=0.017$), and with health measured on a five-point scale ($\rho=-0.113$; $p=0.003$). Using dichotomized variables (see Table 2), being white and being younger than 65 were associated with high John Henryism scores; there was no association between John Henryism scores and gender or marital status, nor with any of the dichotomized variables representing attainment (Figure 3). John Henryism was negatively correlated with happiness ($\rho=-0.339$; $p<0.001$) (Figure 4).

In bivariate regression analysis (Table 3), happiness was positively associated with being African-American and being 65 or older, but not with gender. Odds ratios for variables representing attainment in life domains were all greater than one, but not all were significant. Happiness was positively associated with education, employment, income, and health, but not with marriage or children. Hence, John Henryism was the only variable that was significantly negatively associated with happiness in bivariate analysis. There were no significant interaction effects between John Henryism and the other explanatory variables.

In multivariable analysis (Table 3), being African-American, 65 or older, employed, and in favorable self-reported health were associated with higher-tertile happiness; by contrast, high John Henryism was associated with lower-tertile happiness. The Brant test of the parallel regression assumption was non-significant for each independent variable.

5. Discussion

We tested aspiration level theory in a community-based sample of hypertensive subjects (n=715) drawn from an inner-city mainly African-American safety-net hospital in Jefferson County, Alabama, using the John Henryism Scale of Active Coping (JHAC12) as a measure of aspiration level. The John Henryism scale performed well: Cronbach's alpha, which typically falls between 0.70 and 0.80 (James 1994, n. 3), was 0.78. John Henryism scores in our sample were lower than in other studies: while we found a mean (SD) of 20.2 (6.0), Dressler & al. (1998) found a mean of 30.5 ± 3.45 in a community-based sample of African-Americans in a small Southern city; Fernander & al. (2005) found a mean (SD) of 51.4 (5.9) in a nicotine-dependent, relatively urban Midwestern African-American population. Our happiness scale also performed well: the alpha of 0.82 is close to that of 0.86 found in the U.S. adult community sample of Lyubomirsky & Lepper

(1999). Happiness scores too were lower than in other studies: while we found a mean (SD) subjective happiness score of 5.10 (1.71), Lyubomirsky & Lepper (1999) report a figure of 5.62 (0.96) in their U.S. adult community sample; in previous work using the same modified scale, the present authors found a mean (SD) of 5.7 (1.4) in a community-based sample of older adults (Reference omitted). Because our sample differs when it comes to demographic, socio-economic, and health factors, differences in John Henryism and happiness scores are not surprising.

As predicted, happiness was an increasing function of attainment in the various domains of life: in two life domains (marriage and children) the difference was not significant, but in four life domains (education, employment, income, and health) it was. Also as predicted, John Henryism was significantly negatively associated with happiness. Indeed, in bivariate analysis, the absolute value of the correlation coefficient between happiness and John Henryism (0.339) was greater than the correlation coefficient between happiness and self-reported health (0.295), which is frequently one of factors most strongly correlated with happiness. As Table 3 reveals, this relationship held up when controlling for demographic factors and attainment in multiple domains of life: the inverse of the odds ratio associated with John Henryism (3.03) was greater than the odds ratio associated with self-reported health (2.47).

Our results are consistent with the work of Sellers & Neighbors (2006), who found an inverse association between happiness, measured on a three-point scale, and *goal-striving stress*: “the discrepancy between aspirations and achievement weighted by the level of disappointment associated with failing to achieve one’s goals” (p. 469). In this study, respondents were asked to imagine a ladder with 10 rungs where 10 represents the best way of life and 1 represents the

worst way of life. Aspirations were assessed by asking respondents on which rung of the ladder they would like to be next year; achievement was assessed by asking on which rung the respondent was at the time of the interview; and the importance of the goal was assessed by asking respondents, on a four-point scale, how disappointed they would be if they could not reach the aspired rung of the ladder. The authors conclude: “Goal striving appears to be a source of chronic stress; for blacks, perhaps it is particularly pernicious because racial prejudice and discrimination systematically block opportunities to achieve life goals” (p. 472).

More surprisingly, we failed to find that higher John Henryism scores were associated with greater attainment in the six life domains. As Figure (3) shows, the attainment profile is exceptionally similar for participants with normal and high John Henryism scores. When using non-dichotomized variables representing attainment in some domains, if anything, John Henryism was associated with lower attainment. Thus, our results were inconsistent with those of Bonham et al. (2004), who found that John Henryism was positively associated at the .10 level with physical health, measured using the physical health component of the SF-12, in a population of high-socioeconomic status African-American men. Though the authors did not find significance at the .05 level, they nevertheless drew the conclusion that “among high-SES African American men, John Henryism is beneficial for health.” We found no support for this conclusion in our sample.

The study has limitations. First, its cross-sectional nature precludes causal inferences, and may obscure the operation of reverse causality and hidden variables. In particular, we cannot exclude the possibility that the negative association between John Henryism and attainment in some

domains is explained by a causal effect of low attainment on John Henryism. Second, the fact that the John Henryism scale inadvertently left out the “Don’t know” answer alternative and the fact that we adapted the happiness items for telephone administration may have introduced bias. Third, the sample is not representative of a national population as a whole. Nevertheless, cross-sectional data are adequate to test the mathematical form of aspiration level theory, there are indications (e.g., of reliability) that suggest that the measures performed well, and the population from which our sample was drawn consists of millions of people and is well worthy of attention. Fourth, the John Henryism Scale of Active Coping was not designed nor independently validated as a measure of aspiration, which limits the support for aspiration level theory provided by our results. That said, the measure has definite advantages as compared to the obviously flawed measures of aspiration that have previously been used in the literature.

From a policy perspective, our results have intriguing implications. It has been argued that happiness should be used as a goal for policy and a standard of evaluation for medical outcomes (de Haes & van Knippenberg, 1985; Kahneman & al., 2004). If indeed happiness should be the ultimate goal of individual behavior and public policy, our results would seem to suggest that we should try to reduce aspiration levels. In this case, our findings suggests the complete opposite from the advice of Bonham et al. (2004, 738), who concluded: “Our data indicate that in the context of high SES, John Henryism is a resource that African American men draw on to contribute to their positive health outcomes.” Yet, it is also possible to take a high aspiration level as a good in itself, in which case our results would imply that happiness is a poor goal for policy and standard of evaluation.

Our test of aspiration level theory using the John Henryism Scale of Active Coping as a proxy for levels of aspiration simultaneously serves to validate the use of the measure and to support the theory, thereby upholding a promise of a better understanding of the determinants and distribution of happiness in vulnerable populations.

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TABLE 1: Descriptives (n=715)

Variable	n (%)
Race/Ethnicity: African-American	596 (83.4)
Gender: Female	509 (71.2)
Age: 65 or Older	75 (10.5)
Marital Status: Married ^a	174 (24.3)
Children/Stepchildren: Yes	618 (86.4)
Education: High School Diploma	487 (68.1)
Employment Status: Employed ^b	95 (13.3)
Income: Above HHS Guidelines ^c	109 (15.2)
Self-Reported Health: Favorable ^d	295 (41.3)
John Henryism: High ^e	148 (20.7)

^a Marital status “Married” or “Living with someone in a marriage-like relationship.”

^b Employed full or part time.

^c Annual family income above the U.S. Department of Health and Human Services poverty guidelines.

^d Responded “Good,” “Very Good,” or “Excellent” to the question “In general, would you say your health is...”

^e Upper-quartile score (>24) on the John Henryism Scale of Active Coping (JHAC12) (see Appendix).

TABLE 2: Bivariate associations between John Henryism (JHAC12) scores and other explanatory variables (n=713)

Variable	Value	JHAC12 (row %)		p-value
		Normal	High	
Race/Ethnicity	White	85 (72.0)	33 (28.0)	0.035*
	African-American	480 (80.7)	115 (19.3)	
Gender	Male	165 (80.1)	41 (19.9)	0.72
	Female	400 (78.9)	107 (21.1)	
Age	<65	498 (78.1)	140 (21.9)	0.023*
	≥65	67 (89.3)	8 (10.7)	
Marital Status	Not Married	429 (79.4)	111 (20.6)	0.81
	Married ^a	136 (78.6)	37 (21.4)	
Children/Stepchildren	No	70 (23.7)	25 (26.3)	0.15
	Yes	495 (80.1)	123 (19.9)	
Education	No High School Diploma	177 (78.3)	49 (21.7)	0.68
	High School Diploma	388 (79.7)	99 (20.3)	
Employment Status	Not Employed	488 (79.0)	130 (21.0)	0.64
	Employed ^b	77 (81.1)	18 (19.0)	
Income	Inadequate	431 (78.1)	121 (21.9)	0.054
	Adequate ^c	94 (86.2)	15 (13.8)	
Self-Reported Health	Unfavorable	329 (78.7)	89 (21.3)	0.68
	Favorable ^d	236 (80.0)	59 (20.0)	

* p<0.05

^a Marital status “Married” or “Living with someone in a marriage-like relationship.”

^b Employed full or part time.

^c Annual family income above the U.S. Department of Health and Human Services poverty guidelines.

^d Responded “Good,” “Very Good,” or “Excellent” to the question “In general, would you say your health is...”

**TABLE 3: Odds Ratios (95% Confidence Intervals) from Ordinal Logistic Regression for
Happiness Measured on a Three-Point Scale**

Variable	OR (95% CI) Unadjusted	OR (95% CI) Adjusted[†]
Race/Ethnicity: African-American	1.68 (1.17–2.43)*	1.74 (1.16–2.61)*
Gender: Female	0.83 (0.61–1.11)	0.74 (0.54–1.03)
Age: 65 or Older	3.34 (2.12–5.27)*	3.13 (1.90–5.16)*
Marital Status: Married ^a	1.34 (0.98–1.83)	-
Children/Stepchildren: Yes	1.10 (0.74–1.62)	-
Education: High School Diploma	1.42 (1.06–1.91)*	1.26 (0.90–1.77)
Employment Status: Employed ^b	2.04 (1.37–3.04)*	1.63 (1.04–2.57)*
Income: Above HHS Guidelines ^c	2.10 (1.44–3.06)*	1.62 (1.08–2.42)*
Self-Reported Health: Favorable ^d	2.58 (1.95–3.41)*	2.47 (1.81–3.36)*
John Henryism: High ^e	0.33 (0.23–0.46)*	0.33 (0.22–0.47)*
		<i>n=661</i> <i>Pseudo-R²=0.091</i>

* p<0.05

[†] The Brant Test of Parallel Regression Assumption was non-significant for each independent variable.

^a Marital status “Married” or “Living with someone in a marriage-like relationship.”

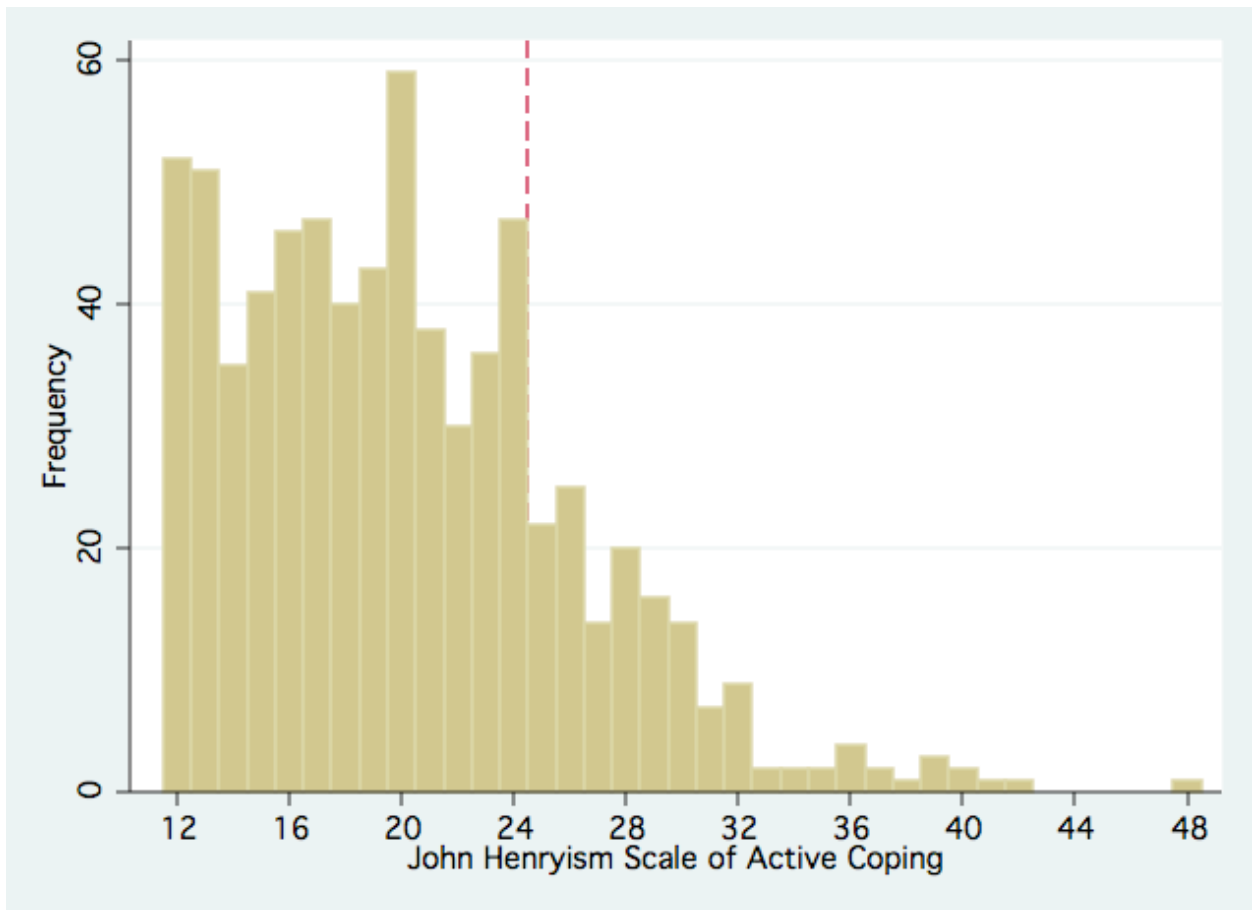
^b Employed full or part time.

^c Annual family income above the U.S. Department of Health and Human Services poverty guidelines.

^d Responded “Good,” “Very Good,” or “Excellent” to the question “In general, would you say your health is...”

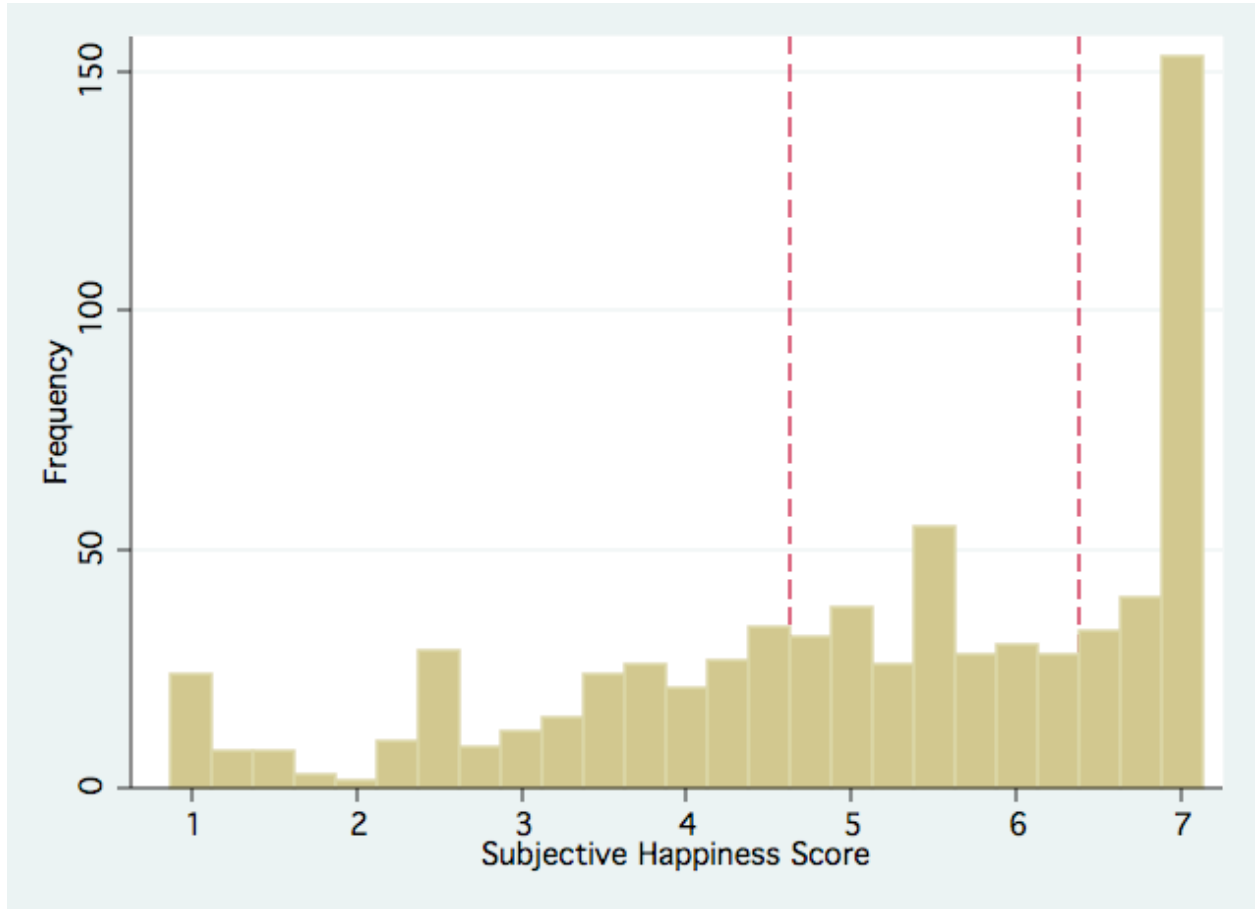
^e Upper-quartile score (>24) on the John Henryism Scale of Active Coping (JHAC12) (see Appendix 1).

FIGURE 1: Distribution of John Henryism Scores (n=713)[†]



[†] The dashed line represents the cutoff between “normal” (non-upper-quartile) and “high” (upper-quartile) John Henryism scores.

FIGURE 2: Distribution of Happiness Scores (n=715)*



* Dashed lines represent the cutoff points between tertiles.

FIGURE 3: Attainment in Domains of Marriage, Children, Education, Employment, Income, and Health by John Henryism (n=713)

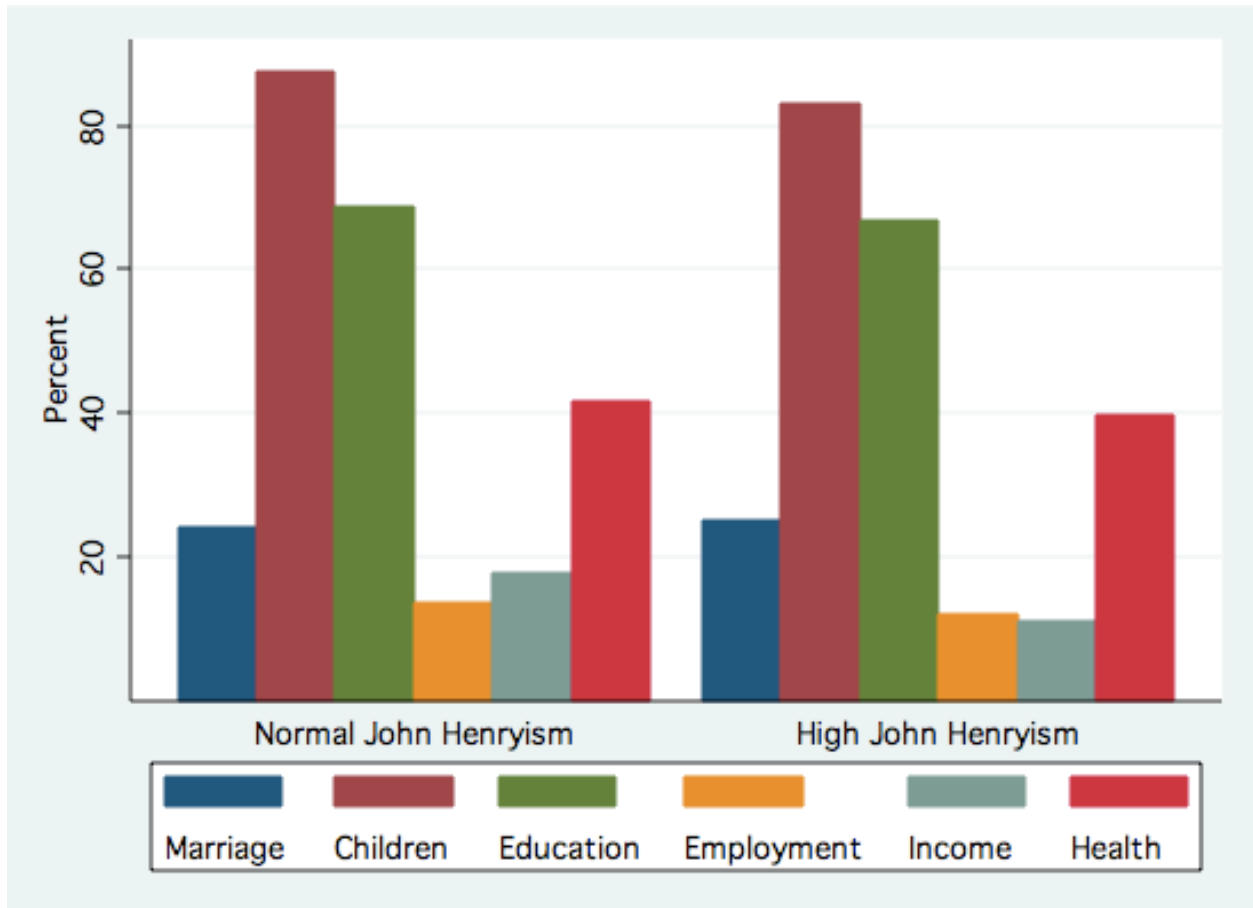
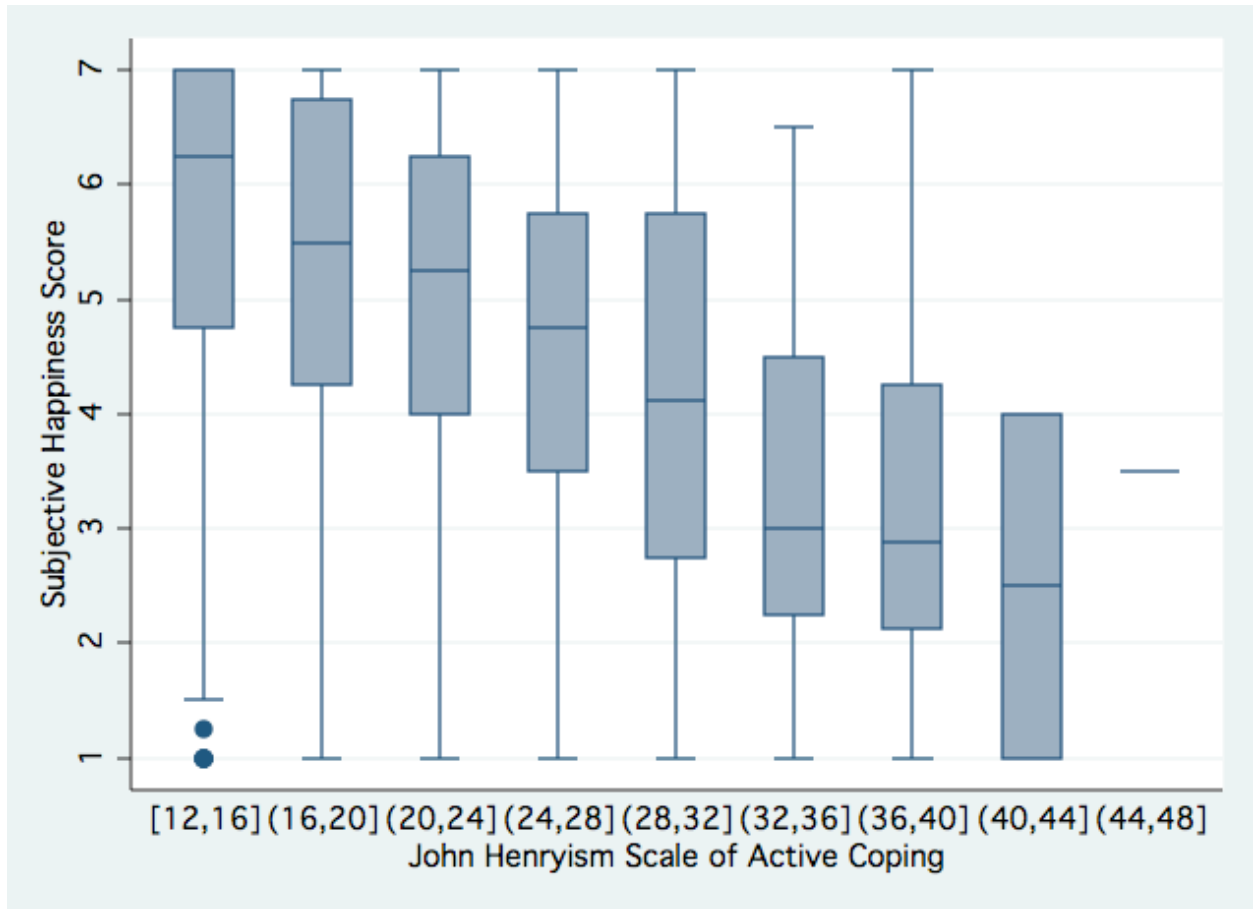


FIGURE 4: Happiness by John Henryism ($\rho=-0.339$; $p<0.001$) (n=713)[‡]



[‡] Thick horizontal lines represent medians, boxes represent interquartile ranges, and whiskers represent extreme values excluding outliers (marked by dots).

APPENDIX 1: THE JOHN HENRYISM SCALE FOR ACTIVE COPING (JHAC12)

1. I've always felt that I could make of my life pretty much what I wanted to make of it.
2. Once I make up my mind to do something, I stay with it until the job is completely done.
3. I like doing things that other people thought could not be done.
4. When things don't go the way I want them to, that just makes me work even harder.
5. Sometimes I feel that if anything is going to be done right, I have to do it myself.
6. It is not always easy, but I manage to find a way to do the things I really need to get done.
7. Very seldom have I been disappointed by the results of my hard work.
8. I feel that I am the kind of individual who stands up for what he believes in, *regardless of the consequences*.
9. In the past, even when things got *really* tough, I never lost sight of my goals.
10. It is important for me to be able to do things the way I want to do them rather than the way other people want me to do them.
11. I do not let my personal feelings get in the way of doing a job.
12. Hard work has really helped me to get ahead in life.

APPENDIX 2: THE SUBJECTIVE HAPPINESS SCALE (SHS)

1. How happy do you consider yourself to be in general? 1 means that you do not consider yourself to be a very happy person and 7 means that you consider yourself to be a happy person.

2. How do you compare your happiness to that of other people? 1 means that you are less happy than most people and 7 means that you are more happy than most people.

3. Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. How well does this describe you? 1 means that the statement does not describe you at all and 7 means that it describes you a great deal.

4. Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. How well does this describe you? 1 means that the statement does not describe you at all and 7 means that it describes you a great deal.