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A study on the effect of fulfilling hegemonic masculine norms on men's health across regions

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A STUDY ON THE EFFECT OF FULFILLING HEGEMONIC MASCULINE NORMS
ON MEN'S HEALTH ACROSS REGIONS

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BY

Deborah M. Philbrick

Abstract

The purpose of this study is to investigate the effect that fulfillment of traditional masculine gender norms has on men's health (self-rated health) across different regions of the world. Regions include Western Europe, Eastern Europe, Africa, Asia, Latin America, the Middle East, and English speaking countries (United States, Australia, New Zealand, Canada, Great Britain).The masculine constructs used are derived from Mahalik's (2005) Conformity to Masculine Norms Inventory and include risk-taking, dominance, disdain for homosexuality, power over women, pursuit of status, and self-reliance. These concepts were then applied to questions asked in the World Values Survey (n=32,183) and a scale for adherence to each norm was calculated for every individual. Binary logistic regression analysis was conducted for each region to explore if higher adherence to each constructs resulted in a higher self-rated health score. Results show that adherence to constructs are associated with better health in some regions and worse health in others. Furthermore, not every construct was statistically significant in each region or to the same degree. While previous research suggests that fulfilling norms such as risk-taking and dominance will always decrease men's health, this study found that in some cases, health increased. This suggests a much more nuanced picture of gender norms and health that is influenced greatly by geography.

Acknowledgements

This thesis is truly the culmination of many passionate people imparting me with their knowledge, values, and an instinct to question.

Thank you to my parents, Dorothy and Richard, my siblings, John and Tina, and my partner, Robin.

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I am a better researcher because of all of you.

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Introduction

Men are not born "masculine." Their gender identity must be constructed through behaviors, confirmed by society, and then internalized by the individual (Connell, 1995). The notion that masculinity is something that must be attained and pursued deliberately is evident by our willingness to demand that individuals "become men" and are called feminine names if they do not reach society's ideals (Nock, 1998). The construction of masculinity as an active process can also be seen in many societies' demand that the man demonstrate his competence and nurture through breadwinning activities (Hanlon, 2012: 110)

While the study of masculinity construction is a worthy subject of study on its own, I am interested in how masculinity interplays with men's health. Men have different health outcomes than women; they die earlier and are more often killed by cancers for which they have lower prevalence (White, 2006). However, while these differences are well documented (Courtenay, 2011, Chou et al, 2005), there is less that explore how masculinity might affect health and vice versa. Within this body of existing literature there are two primary threads. The first considers whether the health behaviors that men engage in help them to establish their masculine identity. Research shows that some men in the United States and Australia engage in risky health behaviors, such as refusing to apply sunscreen or having unprotected sex as a means to establish a facet of their masculinity (Mahalik et al., 2003; Courtenay, 2000). The second considers that while men tend to engage in risky behavior, the specific masculinity-enforcing behavior chosen is based on the norms for men in their age group and geography. This stream of literature leads to my

specific interest and topic of this project. If engaging in specific health behavior can help construct masculinity, it is only natural that when a man feels that his masculinity is threatened that his health subsequently be affected. This forms a potentially damaging progression if men engage in risky health behavior, feel their masculinity threatened as a product of engaging with society, and then further engage in risky behavior as a means to prove their masculinity. However, masculinity is comprised of various traits and it is unlikely that men will display an even distribution of all such characteristics. The purpose of this research is to explore how the health of men across the world is affected by the fulfillment of specific masculinity indicators. I will take a well-established set of masculinity indicators, Conformity to Masculine Norms Inventory (CMNI), and overlay them onto the World Values Survey. The CMNI was constructed to "assess the extent that an individual male conforms or does not form to the actions, thoughts, and feelings that reflect masculinity norms in the dominant U.S. society (Mahalik et al, 2003:5)." The construction of the inventory included an extensive literature review, focus groups of men and women, and went through multiple test pilots. The final iteration included 11 distinct factors: Winning, Emotional Control, Risk-Taking, Violence, Dominance, Playboy, Self-Reliance, Primacy of Work, Power over Women, Disdain for Homosexuals, and Pursuit of Status. Further explanation of the Inventory can be found in the Methods section.

The intention of this study is not to focus on specific regional differences, but to identify how the relationship between masculinity and health vary by region. Note that throughout this paper, my framework of traditional masculinity reflects that of USA norms. However, to create systems where men's health is protected across all nations, it is vital that we

more fully understand what factors influence their health. Some of the indicators in the inventory evoke strong emotional reactions, such as Power Over Women or Disdain for Homosexuality. Hypothetically, scoring high on some these indicators might correlate with better health. Any relationships found may not equate to causation but the connection between gender and health needs to be quantified if practitioners want to increase the quality of men's health. Quantification of this relationship will allow for masculine-specific pro-health campaigns that could lead to men making healthier choices.

Literature Review

The study of masculinity and its effect on men's health first grew as a response to the feminist movement in the 1970s. It was primarily studied through a biological lens where men's risky health behaviors and aggression were seen as a necessary means to dominate other men and prove themselves to women (Creighton, 2010). From this binary view, sex-role socialization theories started to enter the field and in his seminal work, Harrison (1978) discusses the psychosocial effects of a society that encourages men to have poor health. The progression of the field started in psychology and then started to migrate into sociology and health research (Lee & Owens, 2002; Emslie & Hunt 2009; INR, 1999). Much attention has been afforded to masculinities' effects on men's mental well-being and help seeking behavior (Galdas, 2005). Furthermore, it cannot be stressed enough that gender identities are a direct consequence of a interacting with society, as described by social construction theory (Kimmel, 1995; Connell, 1995). Even before men orient themselves within layers of masculinity, the world that they are born into expects them to be stronger, less fragile, punished for seeking help, and encouraged to take risks.

Hegemonic Masculinity

Hegemonic, or traditional masculinity, is a term referring to the dominant form of masculinity at a geographical place in time; it was first proposed in the 1980s in Australia as a critique of the male "sex role" and in an attempt to propose a system of multiple masculinities (Connell, 1995). In sex role gender theory, gender roles are defined by your sex in a dichotomous fashion (Stoller, 1968). In this sense, it is ironic that hegemonic masculinity is most often criticized for being a narrow minded view of masculinity when it was born as a backlash to the monolithic view of sex role theory and a desire for a

pluralistic conversation. The hegemony that the term originally referred to was the hierarchical classes of Australian society and not a superior gender role as it is now associated with. While we might think of hegemonic masculinity as traditional male displays of aggression and dominance, it is by no means "normal" as in statistically common, but it is normative in the sense that all other types of masculinity tend to orient itself toward it (Connell & Messerschmidt, 2005). Therefore, hegemonic masculinity is relative to time, geography, and community. Hegemonic masculinity is "defined as the configuration of gender practice which embodies the currently accepted answer to the problem of the legitimacy of patriarchy, which guarantees (or is taken to guarantee) the dominant position of men and the subordination of women (Connell, 1995:77)." She goes on to say that "it is the successful claim to authority, more than direct violence that is the mark of hegemony."

An example of the characterization of hegemonic masculinity as influenced by society is found in the often-cited work *The Forty-Nine Percent Majority: The Male Sex Role* (David & Brannon, 1976) where they separate masculinity into four sections. "No Sissy Stuff" emphasized the rejection of femininity such as vulnerability and emotional expression that men must reject and the "Big Wheel" represents men's need desire for success and status. The chapter on the "Sturdy Oak" discusses the role of toughness, confidence, and self-reliance; Give "Em Hell" explores the tendency towards violence and daring behavior. David and Brannon touch on the social construction of gender and society's ability to help form what boys think they should become through interviews with school-aged boys. In response to being asked what is expected of boys, the interviewees

respond that grown-ups expect them "to be naughty; to be 'outside' more than girls are; not to be crybabies; not to be 'softies' (David & Brannon, 1976:238)." Brannon took this work and developed a 110-item *Brannon Masculinity Scale* (BMS: Brannon & Juni, 1984). This early work was the first step to the design of quantitative scales such as the *Male Role Norms Scale* (Thompson & Pleck, 1986), which measured masculinity on a 58-item survey and identified three indicators through a factor analysis, status, toughness, and antifemininity. Risk-taking did not emerge as significant indicator through the factor analysis. Over the years the BMS also influenced the *Male Roles Attitudes Scale* (Pleck, Sonenstein, & Ku, 1993) and promiscuity and attitudes towards women were added. The *Male Role Norms Inventory* (MRNI: Levant, Hirsch, Celentano & Cozza, 1992) expanded the BMS to include Avoidance of Femininity, Homophobia, Self-reliance, Aggression, Achievement/Status, Attitudes toward Sex, and Restrictive Emotionality. While the MRNS and others mentioned so far "assess *endorsement* of masculine ideology, the CMNI also measures the degree to which participants *adhere* to these norms (Chrisler and McClearly, 2010: 138). The CMNI expands upon the MRNS to include the eleven separate areas of masculinity noted earlier: Winning, Emotional Control, Risk-Taking, Violence, Dominance, Playboy, Self-Reliance, Primacy of Work, Power over Women, Disdain for Homosexuals, and Pursuit of Status. The CMNI is used in two forms: the original 94 item test and the CMNI-46, a condensed test by Parent and Moradi that contains 9 instead of 11 constructs.

Mahalik says that "conformity to Winning should relate to wanting to be admired and respected, successful/powerful/competitive, performing competently, and being physically

adequate. Conformity to Emotional Control should relate to other measures of emotional restriction. Risk-Taking should relate to measures of toughness and adventure. Violence should relate to measures of toughness and violence. Power over Women should relate to antifemininity and subordinating women. Dominance should relate to wanting to be admired and respected, tough, successful/powerful/competitive, and subordinating women. Playboy should relate to adventure, antifemininity, concealing emotions, and subordinating women. Self-Reliance should relate to disconnection from others, and in terms of disconnection as measured by the other masculinity scales, this should relate to emotional disconnection. Primacy of Work should be related to being a breadwinner, enduring work like a machine, pursuing success, and experiencing conflict between work and family/school obligations. Disdain for Homosexuals should relate to antifemininity and restricting one's affectionate behavior with other men. Finally, Pursuit of Status should be related to being a breadwinner, admired and respected, successful/powerful/competitive, and performing well." Throughout the research that uses the CMNI, investigators switch between thinking that the "disdain for homosexuality" indicator is a true negative opinion of homosexuals or if it more accurately measures a man's desire to present himself as heterosexual. For the purpose of this research, I use Mahalik's original wording although when discussing other's studies, I use "heterosexual self-presentation" if the authors used that wording.

Criticisms of Hegemonic Masculinity

While Connell's theory of hegemonic masculinity is widely respected and has greatly furthered gender studies (Hanlon, 2012; Chrisler and McCreary, 2010, Vol 2), there are critics. Moller (2007) is highly critical of researcher's tendency to go searching for

individuals that fit within the hegemonic masculinity paradigm as opposed to being open-minded to the plurality of masculinities. He fears that by looking for examples of hegemony that researchers fail to see the nuanced aspects of masculinity. Furthermore, Moller suggests that looking for the power plays and sometimes negative attributes of masculinity allows the author to exert their own privilege into their analysis. I find this last criticism particularly weak because I believe it is naïve to believe that a researcher can ever completely remove themselves from their experience and privilege.

The growing study of "global masculinities" further illuminates academic's issue with the concept of a hegemonic masculinity. Jackson and Balaji (2011) state the binary of the ideal (hegemonic), man and woman, were created by European philosophers who blatantly ignore non-white masculinities. One example given is that of returning soldiers, both non-native people and native people, in the USA. Roberts discusses that youth and virility is often exalted as a western ideal, and thus the pre-mature aging that can happen as a result of war can be viewed by civilians as an unfortunate sacrifice. However, in native communities, aging is associated with acquisition of wisdom and this increase in knowledge elevates you as a man more so than the acts of war. Lindsay and Meischer (2003) present a regional specific criticism of hegemonic masculinity,   the juxtaposition of masculinities resulting from colonialism. They note that "colonial racism denigrated African men, but it did not present assertions of powerful masculinity outside of its gaze" and claim that the "back-and-forth between the relative importance and insignificance of European regimes…undermines the idea of hegemonic masculinity (2003:21)." The authors caution against ranking masculinities even in the midst of multiplicity.

Effeminacy

Effeminacy and its variations is the gender construct that works in tandem with the hegemonic. In Western civilizations, some would consider men and boys who choose to participate in traditionally female activities such as cooking or playing with dolls as a subordinate. Similarly, in other cultures, if an individual engaged in activities that that go against those that help define hegemonic masculinity, they will be labeled non-traditional. It is true that hegemonic men can only stay so long as there are non-traditional men, but it is also important to remember that masculinity is a fluid concept that might look very different in 100 years than it does today.

Regardless of whether an individual orients himself towards one type of masculinity or another, their gender identity is continually contested. This battle extends from the sandbox to the soccer pitch to the bar to the workplace. This is not to say that a man must display all of the characteristics of traditional masculinity to the fullest degree to feel confident. However, our society does expect you to prove your masculinity (or femininity) from a young age and demands that you do whatever it takes to maintain your gender throughout a lifetime. Connell and Messerschmidt (2005) described masculinity "in an aspect of institutions." It is this aspect of society- actively demanding certain behaviors such as "acting tough", and people's willingness to comply, that so very often results in influenced health outcomes. This is most often seen in risk-taking behaviors such as avoiding preventative care (Courtenay, 2001).

It is true that gender construction is only one construct in a system that influences how an individual relates to the world. A person's race, ethnicity, and class will all impact how they engage with society and construct their gender. This instersectionality complicates a multi-region analysis and is one of the weaknesses of this study. A man does not attain his gender identity and then feel fulfilled for a lifetime, but instead he is constantly challenged to prove his maleness. This supports the idea that "gender is not simply an aspect of what one is but, more fundamentally, it is something that one *does,* and does recurrently, in action with others (West & Zimmerman, 1987: 140)." An example of the importance of considering a variety of influence is found in collaboration between the International Center for Research on Women and the United Nations Population Fund, Nanda et al. (2013). They found that men embodied a more rigid form of masculinity, preference for sons and a history of intimate partner violence, when they had experienced economic stress and came from more rural homes.

Health and Masculinity

This section discusses the intersection of masculinity with physical health, health behavior, and mental health. Self-rated health is a measure of health and not of behavior or mental health, but the two later are still thought to be considered when someone thinks and reports their SRH so it is important to consider them.

Health Behavior

The link from masculinity to health has been studied in a variety of different populations. The CMNI has been used to explore the degree to which a man adhered to traditional masculinity primarily in the United States (Mahalik et al, 2006), but also in Kenya and

Australia (*ibid 2006*; 2007). Mahalik et al (2006) studied college men in the USA as well as in Kenya and found that in both countries, a high compounded score on the CMNI were more likely to drink alcohol to relieve stress, get into physical fights when angry, and have had two or more sex partners during the same period. Differences between the two populations were that Kenyan men seemed to believe that their health and longevity was likely up to fate or luck, while men in the USA scored high on the CMNI were more likely to have been told their drinking was a problem and remained emotionally isolated by refusing to talk to family member or close friend about their problem. The authors noted that one reason they felt like the CMNI could be used in Kenya was because Kenyan men, like their US counterparts had a higher rate of health risk behaviors than women. In the first study to look at the CMNI and Asian-American men Liu & Iwamoto (2007) found that the CMNI subscales of Winning, Heterosexual Presentation, Playboy, and Violence predicted marijuana use; Power Over Women predicted binge drinking. The multiple regression analysis revealed that Emotional Control and Risk-taking significantly predicted alcohol consumption. Not all research on masculinity and health uses the CMNI index. For example, a study of South African men found that traditional masculinity was associated having multiple partners and not using health care facilities (Sedumedi & Hague, 2006).

Another study looked specifically at men who have sex with men explored the positive health behavior of being tested for HIV. Parent et al (2012) hypothesized that men who scored high on the hetero self-presentation subscale would have a lower chance of getting tested for HIV in the last year because getting the test would show that they felt vulnerable

and would result in a subordinated masculinity. Controlling for number of partners, none of the CMNI-46 subscales were significant predictors of HIV testing except for hetero self-presentation. For each unit increase, there was twofold decrease of having been tested. The authors note that others had success with "brochures for depression treatment that added language more appealing to men and removed language that may associate depression with weakness (Hammer & Vogel, 2010), or framing psychotherapy as coaching (McKelley & Rochlen, 2010)." This study is especially important on a practical level because it demonstrates that men who traditionally might be viewed as anti-hegemonic, men who have sex with men, still very much display negative health behaviors when they score high for a subscale associated with traditional masculine gender norms. Despite the fact that homosexuality has become a more accepted practice in contemporary American society, it is by no means the norm and is not the "ideal" behavior that other men aspire to.

Mental Health and Men

Within the health behaviors field, there is also a large amount of literature that discusses men's aversion to help seeking behavior. Help seeking behavior ranges from engaging medical professionals to counseling services. Men in the United States are more likely than women to have gone at least two years without seeing a general practitioner and have higher rates of substance abuse and suicide- behaviors that generally improve from help oriented actions (Courtenay, 2011: 251). Also, men are slower to recognize the symptoms of illness (Gisber van wijk et al, 1999) and are less likely than women to seek psychological services for themselves despite the fact that boys are more likely than girls to be taken to a shrink by their parents. Addis and Mihalik (2003) posit that the degree to

which a man ascribes to hegemonic masculinity may influence how normative that

individual finds a mental health concern such as depression. Because individuals tend to

perceive "non-normative" issue as more detrimental to their self-esteem (Nadler, 1990;

Nadler & Mayseless, 1983), the authors hypothesize that men who score high on

hegemonic masculinity would also avoid help-seeking behavior.

Hypothesis 1(a): In all regions men's health will be negatively affected by at least one of the CMNI indicators.

Hypothesis 1(b): Risk-taking will correlate more negatively with self-reported health than

the other CMNI subscales.

Springer and Mouzon (2011) remind us that while hegemonic masculinity may be the

"ideological normative, it is a not a statistical norm" and that that while men may aspire to

the hegemonic idea, most men cannot attain each individual component. This suggests that

each indicator may not negatively affect men's health as some men might focus on one

more than another.

There is one indicator that is consistently represented in the literature as a negative

influence on men's health across the world, risk taking. Specifically, accidental injuries

represent a significant public health issue because it is "a leading cause of death and

disability throughout the world" (Lee & Owens, 2002: 31). Another researcher found that

men with diabetes in a wheelchair would often skip lunch, a potentially coma inducing

action, rather that ask someone for help with coordinating his lunch tray at the cafeteria

(Charmaz, 1995). I expect that Disdain for Homosexuality will correlate strongly

negatively with self-rated health due to the study by McKelley and Rochelen. Power over

Women should also correlate strongly with SRH in the negative direction. I believe that Dominance and Pursuit for Status will both correlate negatively, but perhaps not as strongly as the other independent variables. This is because there has been less research testing these specific indicators. They have been primarily used in aggregated CMNI score.

Hypothesis 2: The CMNI will predict negative health behaviors most strongly in the US, less so in other developed Western countries, and least of all in poor and non-Western countries.

I believe that masculinity indicators will result in the most robust findings in the United States because an American designed the indicators with US social norms in mind. After all, African American men in the USA die, on average, 6 years earlier than European Men (Courtenay, 2011: 161). Differences in mortality vary for a variety of reasons such as class and race (Barr, 2008) and result in a disproportionate number of black individuals in the United States diagnosed with hypertension and diabetes; there is no reason to believe that another layered variable, such as masculinity, won't further complicate the picture. With such great differences within one country, there will likely be even more between regions. Furthermore, what is considered the hegemonic norm is likely to vary from region to region as social norms vary. This is not only expected from a social constructionist theory, but also from the field of global masculinities that rejects hegemonic masculinity. If there are less significant masculinity indicators for non-western regions, it could indicate that the CMNI is not a good fit for other areas based on differing tenants of masculinity or

because there are too many other confounding variables that affect health such as access to preventative care.

The social construction of Connell's hegemonic masculinity provides an appealing application for researchers and practitioners- "if masculinities are malleable, at least to some extent, then it becomes less necessary to live with those articulations (or manifestations) of masculinity that are damaging" (Moller 2007: 264). This implies that men should be able to escape from health harming behaviors that are used to communicate their masculinity.

Methodology

Survey

This research uses the World Values Survey (WVS), a repeated cross sectional survey, which is primarily used as means for social scientists to gather information about what people around the world value and what they believe. There are currently five completed waves of data that start in 1981 and end in 2008. Currently, there is a sixth wave being collected that represents years 2010-2012. Since its debut, the WVS has surveyed 257,000 people in 80 countries that contain almost 90 percent of the world's population. The survey is conducted in face-to-face interviewers by a local organization in the respondent's home; the interviews are overseen by an academic researcher and conducted in the local language. Random probability samples are aimed for where possible. There are at least 1000 individuals surveyed in each country and they are weighted to represent each country's population. This comprehensive study asks questions ranging from religious beliefs to opinions on government control and what kind of neighbors they

would like to have. Because the study is repeated cross sector, academics, NGOs, and governments are able to use WVS data to understand the changing values of the world's population in regards to the issues directly applicable to their interests. Some of the topics explored by past researchers are the relationship between religiousness, gender, and risk preference (Freese, 2004); income inequality and health (Jen et al, 2009; Mansyur et al 2009; Babones, 2010); and self-expression and health (Welzel and Inglehart, 2009). Despite all of the rich research conducted with the WVS data, there has been surprisingly little around men's health and masculinity.

Variables

The dependent variable, self-rated health, is asked to all respondents and they can respond on a five point Likert scale from very poor to very good. While self-rated health (SRH) is not the same as an actual measurement of health, it is accepted as an adequate substitution because self-rated health correlates with mortality (Mossey and Shapiro, 1982). A metastudy by Idler and Benyamini (1997) found that SRH was a significant predictor of mortality in 23 out of 27 studies. They hypothesized that one reason SRH measures are so accurate is because individuals have the ability to synthesize the health outcomes of their family history and also because self-perception often has an impact on future behavior. It is not completely understood what factors go into an individual's evaluation of their own health but it seems to include biological, psychological and social aspects unlikely to be grasped by external observers (Miilunpalno et al., 1997). Related to the biological factors, Jillaa (2006) found that participants' SRH scores correlated with many biological markers and then even when socio-demographic variables were controlled for, there was still a strong relationship to mortality. The relationship of a lower or worsening SRH with high

mortality risk holds across populations including Brazilian young adults (Guimaraes et al., 2012). However, some researchers warn that SRH should be used with caution (Crossley and Kennedy, 2001; Sen, 2002; De Maio, 2007). Crossley and Kennedy (2001) conducted repeat SRH questions in Australia and found that twenty-eight percent of the sample changed that health rank when asked again after answering a number of more in-depth health questions, although only three percent of those change their ranking by more than one level: excellent, very good, good, fair, poor. Interestingly, out of the twenty-eight percent that changed answers, about half ranked themselves higher and lower. Older individuals were less likely to change their rank and individuals in the lowest two income quintiles were more likely to change their response than those in the highest two quintiles. Sen (2002) and De Maio's (2007) concern lies in the fact that in their study populations, India and Argentina respectively, individuals with lower socio-economic status scored themselves with high health despite the fact that they relatively little access to care. Sen argues that this dissonance can occur when an individual does not have a truly healthy person to compare themselves to. For this study's methodology, I collapse SRH into two categories, from very good and good into "good" and fair, poor, and very poor into "poor". While many other researchers do this for ease of analysis, Manor et al (2000) found that the reduction in categories loses some of the robustness of the findings when compared to an uncollapsed analysis. For this study, I am collapsing SRH into a dichotomous variable to allow for logistic regression modeling.

To quantify masculinity, I took the concepts from the Conformity to Masculine Norm Inventory (CMNI), developed by Mahalik (2003) and found questions from the fifth wave of the WVS that were relevant to the CMNI indicators.

Using the CMNI allows me to do two things. First, I am able to identify patterns of the most common masculine themes within regions, socioeconomic statuses, and other defining variables. More importantly, I am able to test which of the 11 themes impacts health status the most. This will provide useful insight for practitioners who develop holistic programs targeting men's health specific issues.

One of the strengths of this analysis is the opportunity to evaluate not only individuals, but also regions. As mentioned above, there is a need for studies outside of the USA By identifying which of the 11 indicators of masculinity affect health in each region, more effective policy can be created. Traditionally, the CMNI asks questions in the first person such as "I work hard to win" on a four-point Likert scale. Some of the questions in the WVS are written in this format, but others are written in different formats such as, "Do you agree or disagree with the following statement: I would mind if I had homosexuals as neighbors." I first combed through the survey questionnaire and pulled questions that had been asked in all three waves that pertained to the CMNI. I then went back and matched the subset of questions with the CMNI categories. To determine that the WVS questions were statistically grouped, I performed a factor analysis and omitted any questions that did not group. Table 1 shows which questions were matched to each of the CMNI indicators. I will use education (X025R) and income (X047) as control variables and stratify the

analysis by seven regions: Western Europe, Eastern Europe, Asia, Africa, Latin America, and USA/Can/UK/Aust/NZ (English Speaking).

Post-factor analysis, six CMNI indicators remained that are measured by nine WVS questions. The primary independent variable, **Risk-taking**, was measured by individuals ranking how important it is for them to take risks. **Dominance** was measured by whether or not an individual thought obedience is an important quality in children. **Disdain for homosexuality** was a combined measure from two questions. The first asked if the individual would mind if they neighbors were homosexual and the other was ranked question that asked if homosexuality was justifiable. The most complex construct, **power over women**, was created by a mean of three questions that inquired whether men had more of a right to education, holding political office, and jobs than women. Originally, this construct also included a question about if it's justifiable for a man to beat his wife. This question did not map onto any of the factors, which I believe is rooted in the violent nature of that question versus the more societal and economical subjugation of women in the three questions that did map. To measure **self-reliance** I used a question regarding how important it was for a child to be independent. People often want to pass on the traits that they find most important to themselves to their children. **Pursuit of status** was measured with a question that ranks how important it is for the respondent to be successful. While the overlap of these questions onto the CMNI constructs was bolstered with factor-analysis, they are still largely subjective and some fit better than others. For example, I think that the measure for dominance is the weakest of the six because there are many ways to dominate someone besides just asking them to be obedient. Also, it would

have been more ideal if there was a question that represented dominance over strangers, colleagues, or friends, and not only a family member. Questions were recoded so that a higher value always indicated a greater adherence to that norm.

Table 1. WVS Question Wording and CMNI Indicator

CMNI Indicator (WVS Question Number)	Question Wording	Value Labels
Risk-taking		
A195	It is important to take risks	1-6
Dominance		
A042	Obedience is an important quality in your child.	0/1
Disdain for Homosexuality		
A124 09	Would you mind if your neighbors were homosexuals?	0/1
F118	Is homosexuality justifiable?	1-10
Power over women		
C001	When jobs scarce, men should have more right to a job than women.	1-3
D060	University is more important for a boy than a girl.	1-4
D059	Men make better political leaders than women do.	1-4
Self-reliance		
A029	Independence is an important quality in your child.	0/1
Pursuit of Status		
A194	Being successful is very important.	1-6

Analysis

Factor Analysis

Ideally, all 11 indicators of the CMNI would map onto the WVS. However, this was not possible as some indicators, violence for example, did not have a question in the WVS that would match well. The closest was a question that asked if an individual would fight for their country and this seemed a higher predictor for nationalism than a penchant for violence. After I divided 11 questions from the WVS that I thought logically matched up with a given indicator, I conducted a rotated and unrotated factor analysis. Ideally, the 12 questions would have mapped onto 8 indicators: work primacy, self-reliance, disdain for

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homosexuality, power over women, playboy, risk taking, status. In both instances, they

mapped onto four factors (Table 2). After the factor analysis, the CMNI indicators that

remained were *risk-taking, heterosexual presentation, power over women, pursuit of*

status, dominance, and self-reliance. Self-reliance and dominance mapped onto the same

factor as did *risk-taking* and *pursuit of status.* However, I decided to keep these indicators

separate due to the importance placed on them in past research.

Table 2. Rotated Factor Analysis

Variable	Factor1	Factor2	Factor3	Factor4	Uniqueness
Important in life: work					0.93
Important child qualities: independence				-0.35	0.86
Obedience				0.36	0.84
Neighbors: Homosexuals	0.43				0.68
Jobs scarce: Men should have more right to a job than women		0.54			0.63
Men make better political leaders than women do		0.63			0.54
University is more important for a boy than for a girl		0.58			0.65
Justifiable: homosexuality	0.78				0.34
Justifiable: prostitution	-0.76				0.41
Justifiable: Man to beat wife					0.79
Important to take risks			0.46		0.78
Important to be successful			0.47		0.73

Regressions

Logistic regression analysis was used to determine whether higher scores in each of the

CMNI indices predicted SRH. The regressions were performed in two steps. In Model 1,

each masculinity indicator was run as a separate regression with SRH. In Model 2, each

indicator was run with the control variables. In Model 3 all indicators were added to the

model at once without the controls, and in Model 4 the control variables age, income, and

education were added. All findings are interpreted with Odds Ratios (OR) at 95%

Confidence Intervals (CI). Analyses were conducted using Stata version 11.

Predicted Probabilities

Plots of predicted probabilities were generated using the method of Long and Freese; their

technique enables the computation of predicted values when one independent variable

varies and others are held constant. In these analyses, age (a continuous variable) was

chosen as the varying independent variable. Age was the only truly continuous variable in

the control variables. To decide which CMNI constructs to include in the model, I

included the extreme value for the construct that resulted in higher and lower SRH. For

example, if a region displayed statistically significant odds ratios greater than one for

dominance and power over women, in the more healthy model, dominance was fixed at 1

and power over women was fixed at 4. In the less healthy model, dominance was fixed at

0 and power over women at 4. CMNI constructs that were not significant were not

included. The goal of this analysis was to see what kind of difference there was between a

man in each region that conformed to the constructs that maximized the likelihood that he

rates is health as good and those engaged in constructs that showed an OR less than 1.

This allows us to see the maximum difference between individuals who adhere to the

region-specific masculinity indicators that influence their SRH the most. More plainly,

imagine we had two hypothetical men from one region and assigned one the masculinity

indicators that most protected his health (Man 1), and the other the ones that most hurt his

health (Man 2). Over the course of that man's lifetime, we can see if the best off

individuals', Man 1, SRH is decreasing at a different rate than Man 2. We can also

observe if the gap between the best off and worst off man is narrower or wider at any point of the course of their life.

Findings

Overall, 72% of the men (n=32,052) reported being in Very Good/Good health and 18% reported Fair/Poor health. Table 3 shows the countries in each region and Table 4 shows the breakout by region and the descriptive statistics for the independent variables.

Table 3. Regions

Western Europe	Eastern Europe	Africa	Asia	Middle East	Latin America	English Speaking
Andorra	Bulgaria	Ethiopia	China	Iran	Argentina	Australia
Cyprus	Georgia	Ghana	Taiwan	Turkey	Brazil	Canada
Finland	Moldova	Malawi	Hong Kong	Jordan	Guatemala	New Zealand
France	Poland	Rwanda	India		Mexico	United Kingdom
Germany	Romania	South Africa	Indonesia		Trinidad & Tobago	USA
Italy	Russia	Burkina Faso	Japan		Uruguay	
Netherlands	Slovenia	Zambia	South Korea			
Norway	Ukraine		Malaysia			
Spain	Serbia		Vietnam			
Sweden			Thailand			
Switzerland						

Table 4. Descriptive Statistics

Variable	N	Mean	Std. Dev.	Min	Max
Self-rated health (1-good/0-poor)					
Western Europe	5789	.77	.42	0	1
Eastern Europe	4767	.57	.50	0	1
Africa	5729	.70	.46	0	1
Asia	6953	.75	.44	0	1
Latin America	3491	.74	.44	0	1
Middle East	2418	.76	.43	0	1
US/Can/UK/NZ/Aust	2905	.78	.41	0	1

All regions					
Risk-taking	29756	3.40	1.56	1	6
Dominance	32183	0.40	0.49	0	1
Disdain for homosexuality	32183	6.49	3.28	1	10
Power over women	32079	2.16	0.69	1	4
Pursue status	29830	4.03	1.43	1	6
Self-reliance	32183	0.55	0.50	0	1

The results of the regression analysis are in Table 5 and the models are outlined below.

Model 1: Each masculinity indicator
Model 2: Each masculinity indicator + controls
Model 3: All masculinity indicators together
Model 4: All masculinity indicators + controls

When paired individually with SRH, each masculinity indicator was statistically significant in at least four regions. However, once the all of the indicators were added at once, in addition to the controls, significance for many of the regions was lost. This was true especially for Power over Women which showed a statistically significant effect on SRH (OR=.74-1.10) in six regions to only being significant in two regions, Africa and Latin America. Risk, the primary independent variable, was significant in all seven regions when all of the indicators were included (Model 2), but only remained significant in Eastern Europe, Asia, and Africa once the controls were added. Furthermore, in all three regions, Risk had an odds ratio greater than one. Both the Middle East and the English speaking countries had only one significant indicator with Pursuit of Status and Dominance respectively, in Model 4. The lack of significance in the may be related to the fact these two regions had the smallest sample sizes. Self-reliance was only significant in the Middle East (OR=1.18, CI=1.09-1.28). The indicator that retained its significance across regions with the addition of the other variables was Disdain for Homosexuals. Scoring high on this indicator is detrimental to SRH in Western Europe, Eastern Europe,

and Africa, but is mildly protective (OR=1.03, CI=1.01-1.06) in Asia. Asia is particularly interesting because it is the only region where all significant indicators protected SRH, although only slightly (OR=1.03-1.12). As expected, an increase in age decreased the likelihood of good health, but higher income levels and education increased it.

Region	Independent Variable	N	Model 1 OR	Model 1 CI	Model 2 OR	Model 2 CI	Model 3 OR	Model 3 CI	Model 4 OR	Model 4 CI
Western Europe	Risk	5311	1.23**	(1.18-1.29)	1.04	(.98-1.09)	1.19**	(1.14-1.25)	1.03	(0.98-1.09)
	Dominance	5787	0.82**	(0.72-0.93)	0.97	(0.83-1.12)	0.90	(0.78-1.04)	0.97	(0.82-1.13)
	Disdain for homosexuality	5787	0.91**	(0.89-0.92)	0.97**	(0.94-0.99)	0.91**	(0.89-0.93)	**0.96****	(0.94-0.99)
	Power over women	5776	0.77**	(0.7-0.83)	0.95	(0.86-1.04)	0.88**	(0.8-0.97)	0.98	(0.88-1.09)
	Pursuit of status	5308	1.09**	(1.04-1.14)	1.01	(0.96-1.07)	1.09**	(1.04-1.15)	1.02	(0.97-1.08)
	Self-reliance	5787	1.21**	(1.07-1.37)	0.93	(0.81-1.07)	1.05	(0.91-1.2)	0.90	(0.78-1.05)
	Age	-	-	-			-	-	0.96**	(0.96-0.97)
	Education	-	-	-			-	-	1.19**	(1.07-1.32)
	Income	-	-	-			-	-	1.23**	(1.18-1.27)
Eastern Europe	Risk	4671	1.30**	(1.24-1.35)	1.12**	(1.07-1.18)	1.22**	(1.17-1.28)	**1.07****	(1.02-1.12)
	Dominance	4767	0.78**	(0.69-0.88)	.86*	(0.75-0.99)	0.81**	(0.71-0.93)	0.87^	(0.75-1.01)
	Disdain for homosexuality	4767	0.94**	(0.92-0.96)	.96**	(0.94-0.98)	0.95**	(0.93-0.97)	**0.96****	(0.94-0.98)
	Power over women	4738	0.88**	(0.82-0.95)	.91*	(0.84-0.99)	0.91*	(0.84-0.98)	0.92^	(0.85-1.00)
	Pursuit of status	4653	1.23**	(1.18-1.28)	1.16**	(1.11-1.22)	1.14**	(1.09-1.19)	**1.14****	(1.09-1.2)
	Self-reliance	4767	1.39**	(1.24-1.56)	1.16*	(1.02-1.33)	1.16*	(1.02-1.31)	1.05	(0.91-1.2)
	Age	-	-	-			-	-	0.96**	(0.95-0.96)
	Education	-	-	-			-	-	1.09	(0.98-1.22)
	Income	-	-	-			-	-	1.15**	(1.12-1.19)
Africa	Risk	5552	1.13**	(1.09-1.17)	1.09**	(1.05-1.14)	1.08**	(1.04-1.12)	1.04*	(1.00-1.09)
	Dominance	5716	1.08	(0.96-1.21)	1.18**	(1.04-1.34)	1.11^	(0.98-1.25)	1.13^	(0.98-1.29)
	Disdain for homosexuality	5716	0.95**	(0.93-0.97)	.96**	(0.94-0.99)	0.95**	(0.93-0.97)	**0.96****	(0.94-0.99)
	Power over women	5706	1.16**	(1.08-1.23)	1.36**	(1.26-1.47)	1.10**	(1.03-1.18)	1.28**	(1.18-1.38)
	Pursuit of status	5610	1.18**	(1.13-1.23)	1.19**	(1.14-1.25)	1.14**	(1.09-1.19)	**1.14****	(1.08-1.19)
	Self-reliance	5716	1.3**	(1.16-1.45)	1.08	(0.96-1.23)	1.31**	(1.16-1.48)	1.11	(0.97-1.26)
	Age	-	-	-			-	-	0.98**	(0.98-0.99)

Region	Variable	N								
	Education	-	-	-			-	-	1.66**	(1.48-1.85)
	Income	-	-	-			-	-	1.18**	(1.15-1.22)
Asia	Risk	6212	1.21**	(1.17-1.26)	1.14**	(1.09-1.19)	1.20**	(1.15-1.25)	**1.12****	(1.07-1.18)
	Dominance	6949	1.11^	(0.99-1.25)	1.11^	(0.98-1.26)	0.97	(0.86-1.11)	1.00	(0.87-1.14)
	Disdain for homosexuality	6949	1.03**	(1.01-1.05)	1.03**	(1.01-1.06)	1.02**	(1-1.05)	**1.03****	(1.01-1.06)
	Power over women	6867	1.01	(0.94-1.09)	1.08^	(0.99-1.16)	0.97**	(0.9-1.06)	1.04	(0.95-1.13)
	Pursuit of status	6235	1.11**	(1.07-1.16)	1.07**	(1.02-1.12)	1.04**	(0.99-1.09)	1.02	(0.97-1.07)
	Self-reliance	6949	1.33**	(1.19-1.49)	1.22**	(1.08-1.37)	1.15**	(1.01-1.32)	1.07	(0.93-1.23)
	Age	-	-	-			-	-	0.98**	(0.97-0.98)
	Education	-	-	-			-	-	1.21**	(1.11-1.32)
	Income	-	-	-			-	-	1.12**	(1.09-1.16)
Latin America	Risk	2972	1.18**	(1.12-1.24)	1.06	(.99-1.12)	1.15**	(1.09-1.22)	1.05	(0.99-1.12)
	Dominance	3491	0.71**	(0.61-0.83)	.69	(0.58-0.83)	0.74**	(0.62-0.89)	**0.65****	(0.53-0.81)
	Disdain for homosexuality	3491	0.94**	(0.91-0.96)	.98	(0.95-1.01)	0.94**	(0.91-0.97)	0.97^	(0.94-1)
	Power over women	3478	0.73**	(0.66-0.8)	.86**	(0.77-0.97)	0.74**	(0.66-0.83)	**0.86***	(0.75-0.98)
	Pursuit of status	2970	1.06*	(1.01-1.12)	.99	(0.93-1.06)	1.03	(0.97-1.1)	1.00	(0.93-1.06)
	Self-reliance	3491	1.41**	(1.2-1.65)	1.18^	(0.98-1.41)	1.15	(0.96-1.37)	1.02	(0.83-1.25)
	Age	-	-	-			-	-	0.97**	(0.96-0.98)
	Education	-	-	-			-	-	1.42**	(1.22-1.66)
	Income	-	-	-			-	-	1.18**	(1.13-1.24)
Middle East	Risk	2372	1.12**	(1.06-1.19)	1.00	(.93-1.07)	1.08*	(1.01-1.15)	0.97	(0.9-1.04)
	Dominance	2391	1.14	(0.94-1.38)	1.06	(0.85-1.33)	1.07	(0.87-1.31)	1.07	(0.85-1.35)
	Disdain for homosexuality	2391	1.01	(0.95-1.07)	.98	(0.92-1.05)	1.00	(0.94-1.06)	0.98	(0.92-1.05)

Region		N								
	Power over women	2390	0.97	(0.85-1.1)	.89	(0.76-1.03)	0.95	(0.83-1.08)	.90	(0.77-1.05)
	Pursuit of status	2380	1.24**	(1.16-1.32)	1.18**	(1.09-1.28)	1.21**	(1.12-1.3)	**1.18****	(1.09-1.28)
	Self-reliance	2391	0.95	(0.79-1.15)	.96	(0.78-1.19)	1.01	(0.83-1.23)	1.02	(0.81-1.27)
	Age	-	-	-			-	-	0.99*	(0.98-1.00)
	Education	-	-	-			-	-	1.00	(0.86-1.17)
	Income	-	-	-			-	-	1.17**	(1.1-1.23)
US/Can/UK/ NZ/Aust	Risk	2495	1.19**	(1.11-1.27)	1.07	(.99-1.15)	1.14**	(1.06-1.22)	1.06	(0.97-1.15)
	Dominance	2884	0.67**	(0.56-0.81)	.79*	(0.65-0.97)	0.72**	(0.59-0.88)	**0.75****	(0.60-0.93)
	Disdain for homosexuality	2884	0.93**	(0.9-0.96)	1.00	(0.97-1.03)	0.96**	(0.93-0.99)	1.02	(0.98-1.06)
	Power over women	2875	0.74**	(0.64-0.85)	.94	(0.8-1.09)	0.84*	(0.72-0.98)	0.96	(0.81-1.14)
	Pursuit of status	2499	1.14**	(1.07-1.22)	1.05	(0.97-1.13)	1.10**	(1.02-1.19)	1.03	(0.95-1.12)
	Self-reliance	2884	1.12	(0.94-1.34)	.98	(0.8-1.19)	0.97	(0.8-1.18)	0.92	(0.75-1.14)
	Age	-	-	-			-	-	0.98**	(0.98-0.99)
	Education	-	-	-			-	-	1.27**	(1.08-1.48)
	Income	-	-	-			-	-	1.19**	(1.14-1.24)

**Table 5. Logistic regression analysis for each region** P-value≤.1^, .05*, .01**

An Average/Deprivation/Inequality) ADI analysis of the logistic regression model is presented in figures 1A-F. The ADI framework was originally created by United Nations Development Programme (UNDP, 2000) to analyze immunization rates in Egypt and literacy rates in India. It was then applied to chronic non-communicable diseases in Argentina (De Maio et al, 2009). The strength of this framework is that it allows for the evaluation of changing inequalities over time. Each figure plots the predicted probabilities (Pr) for the worst-case scenario (an ideal type based on the masculinity indicators deemed significant (p-value≤.05) from logistic regression models). This is contrasted with the predicted probabilities for the best-case scenario (again, defined on the basis of the results from the logistic regressions).

When examining the graphs, it is important to look at the y distance between the two lines as well as the slopes. As expected, age decreased health across all regions. This is true for those whose conformity to masculine constructs were healthier and less healthy except for those pro-health men in Africa. In this case, health started at 1 (good) and decreased to .8. Comparatively, in Western Europe, individuals started at a .9 and decreased to .4. This is not a result of men who have low income and education overestimating their SRH increases slightly as income and education also increase in Africa. Also note that for this analysis the age was mean centered. Western Europe, the Middle East, and the English speaking countries all had a relatively similar difference between their healthier and less healthy individuals and they also decreased at the same rate. As mentioned above, Africa saw a much slower decline in health in the healthier men and also had a the largest overall gap between those individuals whose conformity to

traditional male gender roles resulted in a higher SRH and those that saw a lower SRH.

Asia and Latin America show a similar decline over age, but a relatively high gap (.2) in

SRH and Eastern Europe shows a small widening in the SRH gap around the middle of

life. All of these results suggest that if a practitioner wanted to make a difference in a

region with the greatest disparities that they should focus on Easter Europe, Africa, and
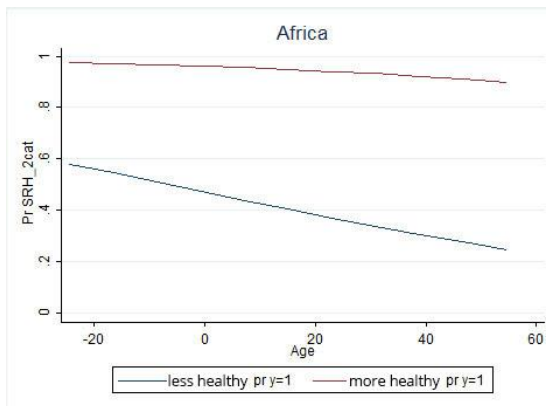
Latin America.

Figure 1A-G. Predicted Probabilities
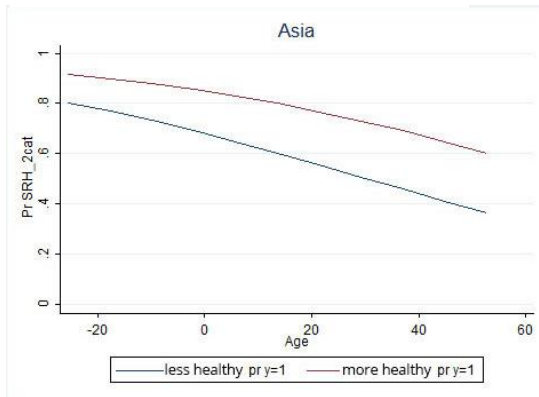
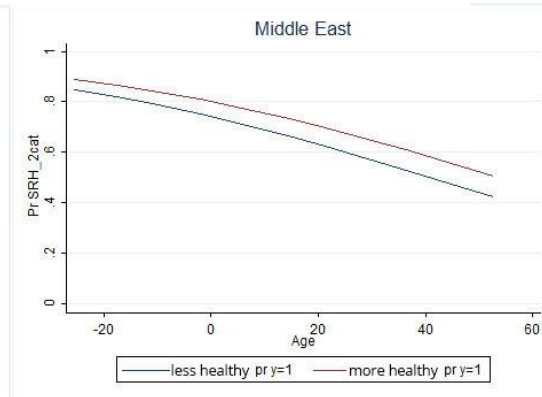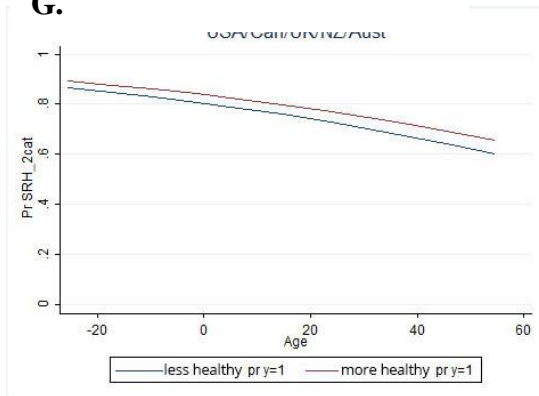**A.**
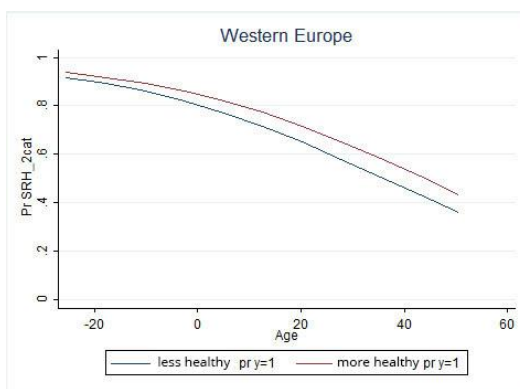
B.
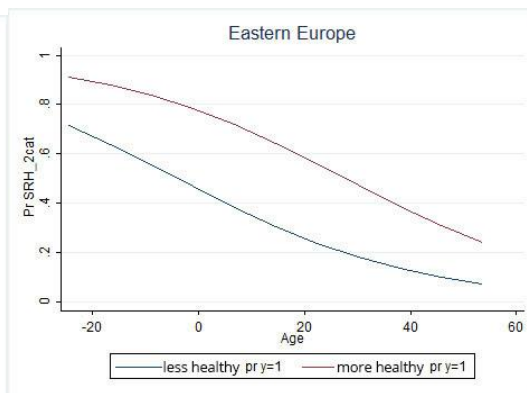
C.

D.
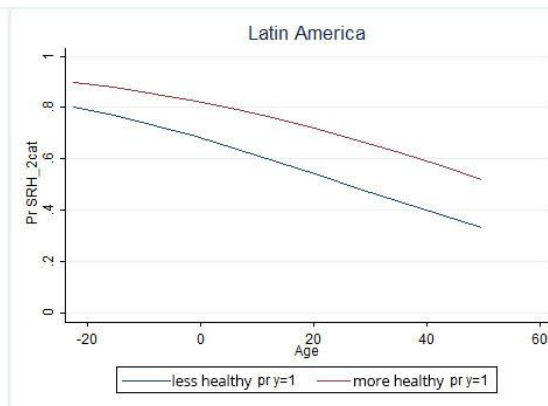
E.

F.

G.

Discussion

This research focused on the intersection of masculine gender conformity and health. Literature suggests that in order for men to create their masculine identity, they engage in behaviors that reinforce the traditional man that society expects. As a result of these behaviors, there can be negative effects on men's health. This is often of a product of risky health behaviors such as having multiple sexual partners and ignoring preventative health practices. The CMNI is an index of eleven constructs of traditional masculinity. I chose questions from the WVS that most closely aligned with these constructs to explore the effect of a high adherence of traditional male gender norms on individual's self-rated

health in seven world regions. Hypothesis 1a was that *in all regions men's health will be negatively affected by at least one of the CMNI indicators.* Asia and the Middle East did not fulfill this hypothesis. In Asia, a higher score for Risk and Disdain for Homosexuality resulted in positive OR, or greater likelihood of the respondent rating themselves in good health. The men of the Middle East had only one significant masculinity indicator, Pursuit of Status (OR=1.18 CI=1.09-1.28). This was the highest indicator above one. The only literature that explains why these results could have happened is simply that the CMNI are invalid in these regions. However, I do think it is possible that some masculinity traits could protect men in regions if it decreased their risk-taking actions. For example, the desire for status might encourage men to take care of their health so that they could continue being the breadwinners for the family. That does not explain the positive result for Risk in Asia. Liu & Iwamoto's (2007) found that a high score on Risk significantly predicted binge drinking in Asian-American college students, but that action might be a result of cultural assimilation into the USA. The regression analysis for Asia directly refutes Hypothesis 1b: *Risk-taking will correlate more negatively with self-reported health than the other CMNI subscales.* While risk-taking started off statistically significant in Model 1, it was only significant in Africa and Asia when all of the independent variables and controls were added. Moreover, starting with the first model and ending with the third, risk-taking was only ever a positive influence on health. This finding directly contradicts the current literature (Mahalik et al, 2006; Courtenay; 2000), which links risk-taking behavior to poor health outcomes. One possible explanation is that many studies looked at specific risky behaviors and not asking about a simple

affinity for risk. Risk is sometimes seemed as a positive thing when discussing business ventures with potentially large financial payoffs.

I expected that Disdain for Homosexuality will correlate strongly negatively with self-rated health due to the study by McKelley and Rochelen. This was proven true in Western Europe, Eastern Europe, Africa, and Latin America. A higher disdain for homosexuality correlated with good health in Asia. I think that the more interesting finding is the lack of significance in the English speaking countries due to my second hypothesis that *the CMNI will predict negative health behaviors most strongly in the US, less so in other developed Western countries, and least of all in poor and non-Western countries.* In fact, Africa which some would is arguably one of the least similar to Western culture had the largest number of significant indicators, five, where the English speaking countries only had one, Dominance. I predicted that Power over Women would also correlate strongly with SRH in the negative direction. In Latin America, Power over Women had a negative odds ratio (OR=.86 CI=.75-.98). However, Dominance, which I thought would have a weaker correlation even more strongly indicated poor health (OR=.65 CI=.53-.81). In Peru, for instance, when a man is younger, he is expected to create success and exert dominance over outdoor space "on the street." However, as he ages and marries, he is expected to exert dominance over his family (Fuller, 2003). The expectation is that a man will be dominant in his home, but the domestic home is often considered a feminine space. This contradiction may explain why 'power over women' and 'dominance' are both statistically significant in Latin America. The constant desire to express dominance, yet needing to do so in a feminine space might manifest itself in

lower self-rated health. If dominance is how one defines success, then an individual

wouldn't necessarily have to express a blatant desire to be successful to be fulfilled.

Limitations of the Research and Areas for Future Study

There are a number of limitations within this work. The first is a concern that using a

validated set of constructs like the CMNI might lose some of its robustness when the

concepts are being utilized in a survey that does not ask questions in the style of the

CMNI. While I tried to only choose WVS questions fit closely and were retained by the

factor analysis, there is inevitably some personal bias. Furthermore, the questions that

were chosen fit better for some variables than others. Specifically, the constructs of Self-

Reliance and Dominance were determined by questions that asked about desired traits in

a child, no the individual. In turn, these two constructs were consistently the weakest and

mapped onto the same factor as Risk-taking and Pursuit of Status. Another limitation

was discussed earlier, the constraints of using SRH as a proxy for physical health. It

would be ideal, if in future social science surveys, there was a set of SRH questions that

dove into the specificities of medical conditions in addition to a general question that

allowed for a more nuanced examination of men's health. This study was conducted on

the regional level, as opposed to the country level to preserve a large sample size.

However, there are drawbacks to a regional study lie in the necessity to draw geographic

boundaries and in having the diversity of some regions less represented than others.

Nowhere is this truer than in the Middle East, which contains Iran, Turkey, and Jordan.

These three countries display some of the cultural attributes of the Middle East, but not

all of them and the small sample size (n=2,418) means that the analysis was not as robust

as some of the other regions. If the same questions used in the fifth wave of the WVS are also used in the sixth, I suggest that this research be repeated with those observations.

The most surprising results from this analysis was the number of masculinity constructs that when adhered to a greater degree, increased the likelihood of a good SRH score. If these findings are confirmed in future research, it could signify one of two things. The first is that conforming to traditional male gender norms may be protective or damaging to one's health depending on the indicator and the region. This would be especially true if other influencing factors such as access to healthcare or religion affected health more than masculinity. The other is that the constructs currently used in the CMNI are simply not applicable across world regions. The idea that a Western hegemonic view of masculinity is not applicable across cultures is a growing body of research that deserves attention. There is a sense that the idea of hegemonic masculinity is "problematic because there is no inevitably neat fit between the means to political legitimation of male dominance as a form of rule and the actual social dominance of particular men (Elias and Beasley, 2009:428)." In other words, the everyday patriarchy that we see in many governments is not necessarily reflective of the type of masculinity that is accepted in day-to-day informal life. To more accurately understand the way that men's health and masculinity intersect, it is vital to understand what is hegemonic in that society.

Not to be overlooked is the importance of the control variables, age, education, and income in this study. In Model 3, all masculinity indicators, there were 31 indicators that were statistically significant with p-values less than or equal to .05. Once the controls

entered the model, that number dropped to 14. Much of previous research was conducted on college-age students. Future research should segment based on age because although we consider hegemonic masculinity to have remained relatively stable over the past few decades, there might be nuances between the indicators that change.

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