HHS Public Access

Author manuscript

Behav Med. Author manuscript; available in PMC 2017 July 01.

Published in final edited form as:

Behav Med. 2016 ; 42(3): 143–149. doi:10.1080/08964289.2016.1154003.

Using the Bem and Klein Grid Scores to Predict Health Services Usage by Men

Grace L. Reynolds, D.P.A.[1,2], **Dennis G. Fisher, Ph.D.**[1,3], **Melissa Dyo, R.N., Ph.D.**[4], and **Loucine M. Huckabay, Ph.D.**[4]

[1]Center for Behavioral Research & Services, California State University, Long Beach

[2]Health Care Administration Department, California State University, Long Beach

[3]Psychology Department, California State University, Long Beach

[4]School of Nursing, California State University, Long Beach

Abstract

We examined the association between scores on the Bem Sex Roles Inventory (BSRI), Klein Sexual Orientation Grid (KSOG) and utilization of hospital inpatient services, emergency departments, and outpatient clinic visits in the past 12 months among 53 men (mean age 39 years). The femininity subscale score on the BSRI, ever having had gonorrhea and age were the three variables identified in a multivariate linear regression significantly predicting use of total health services. This supports the hypothesis that sex roles can assist our understanding of men's use of health services.

Keywords

masculinity; health services utilization; Bem Sex Roles Inventory; Klein Sexual Orientation Grid

INTRODUCTION

Men and women utilize the health care system in different ways. Men, in general, are reluctant to seek health care and this tendency is more pronounced the more men subscribe to traditional beliefs about masculinity.[1–6] Men access health services at lower rates than women, however older men use emergency rooms for severe health episodes more frequently than women.[7] Some men perceived women to be frequent users of health care for trivial concerns, whereas men perceived themselves to be legitimate users because they used health care only for serious illnesses.[4]

Men in a national U.S. sample were significantly less likely to seek preventive health screenings (blood pressure, cholesterol, colonoscopy/sigmoidoscopy, annual flu shots, and dental check-ups) compared to women.[8] Gender differences in healthcare utilization clearly exist, yet some authors suggest that research needs to move beyond documenting the mere

Corresponding author: Grace L. Reynolds, D.P.A., Associate Professor, Health Care Administration Department, California State University, Long Beach, 1250 Bellflower Blvd., Long Beach, CA 90840 Grace.Reynolds@csulb.edu.

existence of such differences to providing a clearer understanding of how gender and gender identity influence health care behaviors.[9]

Understanding gender differences in men's use of health services requires a broader discussion of masculinity. Beliefs regarding one's manhood are heavily influenced by socio-cultural norms, such as power and vulnerability.[2] In the masculine paradigm, power and invincibility diminish the importance of health and safety.[10] To engage in positive health practices, a man with this gendered perspective would need to abandon deeply rooted beliefs regarding his own masculinity.[10]

Research has established a relationship between gender identity and health practices. Houle et al.[11] found that men who self-reported lower income and educational levels tended to have higher masculinity norms. Restrictive emotionality, the traditionally masculine behavior of hiding one's feelings, was negatively associated with behaviors that promote health.[11] Some studies found a positive correlation between gender identity and health behaviors. In one study of men seeking help for cardiac chest pain, higher help-seeking behaviors were exhibited by men for whom masculinity includes responsibility for family, thus placing value on men's health in their role as providers.[12,13] Current literature also suggests that there is an impact of disease on the "psychological gender" of male patients.[14] In a study of men with systolic heart failure that used the Bem Sex Roles Inventory[14], researchers found that diagnosed men were more likely to identify as "unspecific" or "androgynous" compared to healthy peers, who were more likely to present as masculine psychological gender. Middle-aged men may find value in their work and in masculine behaviors such as stoicism, while older men may find that their ability to sustain masculine ideals becomes increasingly difficult.[15]

A paradoxical finding was reported in a study of masculinity, education and income in that men with higher incomes and education, but higher stereotypical notions of masculinity, were less likely to access health services, thus supporting the role of masculinity in health-seeking behaviors.[16] These men had higher levels of resources with which to obtain health care, yet did not benefit from higher education or income levels.

Qualitative research has affirmed the negative influence of traditional masculinity concepts on health behaviors. Seeking health care for some men indicated a loss of control and some believed that admitting to pain or illness would be a form of weakness.[17] One participant summed up this prevalent belief by stating, "*If you have cancer, you are less of a man*".[18] Beliefs stemming from a sense of masculinity can have a profound influence on the decision to access health care. A study in Los Angeles that explored the use of health services among individuals receiving county-funded HIV-prevention services found that men were significantly less likely to report use of health care services unless they were also either living in a drug treatment center or halfway house, or had received HIV counseling and testing.[19]

Ethnic differences in health seeking behaviors of men may or may not be attributable to higher levels of perceived masculinity. Hammond et al.[16] reported that, contrary to expectations, African American men were more likely to receive blood pressure screening

and cholesterol screenings when they reported higher levels of traditional masculinity. This study found that the determining factor in health care seeking behavior was not masculinity or masculine role identification, but mistrust of the medical system and medical providers.[20]

Limited studies have been conducted to explore the relationship of sexual orientation to preventive care.[21] Bisexual men were significantly less likely than heterosexual men to have health insurance and to receive preventive prostate cancer screening. Hoyt D'Anna, et al.[22] found that use of health services in Los Angeles County varied by sexual orientation and this finding is also consistent with other research documenting higher utilization of certain types of health services (mental health, substance abuse treatment, and emergency department services)[23,24], but lower use of other routine, preventive services by various groups who identify as lesbian-gay-bisexual (LGB).[25] Including sexual orientation as a part of routine demographic assessment is important to understand and target health disparities.[26]

The Gelberg-Andersen behavioral model proposed factors specific to vulnerable populations (such as minority, low-income, substance using) to predict medical service use.[27,28] The model includes the predisposing characteristics specific to vulnerable populations such as social support indicated by living arrangements and housing stability, attitudinal factors that include beliefs about the efficacy of health care services, and behavioral variables that include alcohol and drug use, and risky sexual practices. Lower access to medical services was associated with lower level of education, younger age, and racial/ ethnic minority status[29–32]. These characteristics have been associated with less outpatient care because of lower access to resources and competing needs including work and family responsibilities. Men with these characteristics may mistrust and experience greater prejudice from health care providers. Only a few studies reported that those predisposing factors of race and gender did not affect medical service use, but the enabling factor of insurance status was the major contributor for medical service use.[33,34]

The Bem Sex Roles Inventory (BSRI) and Klein Sexual Orientation Grid (KSOG) are two reliable and valid instruments that have been used in previous studies to assess the extent to which an individual identifies with traditional sex roles (BSRI) or, alternatively, measures sexual orientation along a continuum (KSOG). The purpose of this study was to examine the contribution of masculine and feminine norms as measured by scores on the BSRI or KSOG to the use of health services by men (e.g., emergency departments, in-patient hospitalizations, and outpatient clinic visits). We hypothesized that men who endorsed more traditional masculine norms would be less likely to access health services, while those endorsing feminine norms would be more likely to use health services.

METHODS

Instruments

The BSRI[35] treats masculinity and femininity as two independent dimensions. Highly sex-typed scores reflect a specific tendency to describe oneself with sex-typed standards of desirable behavior for men and women. The BSRI consists of 60 items comprising three scales: masculine, feminine, and a social desirability scale that is neutral with respect to sex. Participants rate themselves on a 7-point scale as to how well each item describes

themselves (1=never or almost never true to 7=always or almost always true). Representative items include: reliable, analytical, warm, childlike, acts as a leader. The BSRI has exhibited good reliability and validity.[36,37]

The KSOG[38] allows individuals to rate themselves on seven variables of sexual orientation (sexual attraction, sexual behavior, sexual fantasies, emotional preference, social preference, self-identification, hetero/gay lifestyle) across past, present, and ideal behavior. The KSOG conceptualizes sexual orientation as a continuous rather than as a discrete/categorical construct. Each item-time dimension pair is rated on a 1-to-7 scale ranging from 1=other sex only to 7=same sex only (midpoint 4=both sexes equally). For example, on the item related to sexual attraction, respondents can respond: other sex only, other sex mostly, other sex somewhat more, both sexes equally, same sex somewhat more, same sex mostly, or same sex only; the respondent then indicates whether this is for past, present and ideal behavior. The KSOG has demonstrated good reliability and validity[39,40] with a caution concerning use in clinical samples.

The Health Services and Insurance Questionnaire (HSIQ) elicits information on emergency room, inpatient hospital, and outpatient clinic visits in the past 3 and 12 months. Questions about use of health services included the number of times the respondent had outpatient clinic visits, inpatient hospital stays, and visits to the emergency room in the past 12 months. It also includes a knowledge question about the Patient Protection and Affordable Care Act (PPACA) as well as intentions to seek personal health insurance or Medi-Cal eligibility.

The Risk Behavior Assessment (RBA) was designed by grantees of the National Institute on Drug Abuse, and measures Human Immunodeficiency Virus (HIV) risk factors such as sexual behavior (oral, vaginal, anal; and whether a condom or other barrier was used), gender of sexual partners, and sexual preference/identification of the participant; drug use in the 30 days prior to interview, and time spent in jail; as well as other HIV risks. The reliability and validity of the RBA has been extensively studied[41–44].

Participants

The majority of the analyses reported here used data only from the men ($n = 53$), however, the original sample consisted of both men and women ($N = 95$) who participated in a structured interview session and received testing for HIV and sexually transmitted infections (STIs). All participants were recruited through the testing programs at the Center for Behavioral Research and Services (CBRS) in Long Beach, California, following a protocol approved by the California State University, Long Beach (CSULB) Institutional Review Board (IRB). All participants were at least 18 years of age at the time of the interview and signed informed consent forms approved by the CSULB IRB. All interviews were conducted face-to-face with trained interviewers.

Participants could not be under the influence of alcohol or narcotics in order to provide informed consent. The study used a sample of participants who came to CBRS who wished to be tested for HIV, hepatitis B, hepatitis C, and/or syphilis; all testing was provided free of charge and participants received a $5 non-cash fast food gift card for participation in the data collection questionnaires. The sample consisted of participants recruited on a walk-in basis,

and all study procedures were approved by the Institutional Review Board at California State University, Long Beach, including an informed consent form which all participants signed prior to interview.

Data Analysis

Bivariate Pearson correlations were used to assess the relationships between the number of times respondents reported the various types of health services and the subscales of the Bem Sex Roles Inventory (BSRI) and Klein Sexual Orientation Grid (KSOG). *T*-tests were used to determine differences in mean number of visits to the three health care venues (emergency department, inpatient hospital, outpatient clinic) between participants with and without any type of health insurance. Stepwise regression was used to identify variables associated with predicting the total number of health services respondents reported using in the past 12 months. The outcome for the regression analysis was constructed by summing the total number of visits reported for each of the three types of health services (emergency department, inpatient, outpatient clinic visits) because this study was interested in the impact of masculine and feminine roles on overall use of health services. In a stepwise multiple regression if a variable no longer contributes significantly to prediction, it is eliminated from the equation. The variables that were entered were done using a significance level of $p = .15$. The variable that was entered first was the one with the highest correlation with the criterion (dependent) variable. The next variable entered was the one with the next highest correlation, once the common variance with the variable already entered is removed, and so on, until all the variables that significantly add to the prediction are accounted for in the equation. All analyses were conducted using SAS software version 9.03.

RESULTS

The majority (32/53=60%) of the sample were African American men and had a mean age of 39 years (*SD*=13.97). About a third of the sample (32%) reported a high school education. Seventy-three percent reported monthly incomes of $1000 or less. The majority of the men (70%) were single and 41% self-reported homelessness (see Table 1).

Sixty-seven percent of the sample reported some type of health insurance, with Medicaid (Medi-Cal) being the most frequently reported type of insurance. The means, range and mode of each type of health service can be found in Table 2. Overall, there was little use of emergency rooms and inpatient hospital services however the mean number of visits to an outpatient clinic was 3.1 for the 12 months prior to interview. The mean for the total of all visits combined was 4.15. Looking at the mean number of outpatient clinic visits by insurance status, participants who reported any insurance had a higher mean number of visits to an outpatient clinic ($M = 4.68$, $SD = 7.76$) compared to those with no health insurance ($M = 0.29$, $SD = 0.98$), $t(50) = 2.31$, $p=.025$. There were no significant differences between ethnicity, sexual preference or homelessness on whether respondents reported having insurance; heterosexual men reported a higher mean number of outpatient clinic visits compared to gay or bisexual men, but the difference was not significant. Of the men who reported they did not have health insurance, 78% reported they were not trying to get it.

Table 3 provides the complete correlation matrix for the health services variables, the scores for the BSRI subscales and the KSOG subscales. The results of the regression are reported in Table 4. In the regression model predicting total number of health services visits in the past 12 months, the strongest predictor was ever having been told by a health care provider that you had gonorrhea (R-Square = .32) which was significant at $p = .01$, followed by the Feminine subscale of the BSRI (R-Square = .25), which was significant at $p = .0073$. Age had an R-Square = .06, $p = .12$. Table 4 provides the results of the Analysis of Variance for the model. Finally, the regression coefficients are calculated for each step and their significance are also given in Table 4. The unstandardized coefficients are used (B) to produce the regression equation.

DISCUSSION

The purpose of this study was to explore the relationship between sex roles in men and use of three types of health care: emergency rooms, hospital in-patient services, and outpatient-clinic services. Masculine sex-role score as captured by the BSRI was positively correlated with the number of outpatient clinic visits (but not emergency department or hospital visits) in this community-based sample of men. This finding is contrary to hypothesized relationships indicating that masculine sex roles act as an inhibitor to men seeking health care services[3], although it should be pointed out that not all studies have found that men with high scores on traditional masculinity measures use fewer health services. Hammond et al.[20] found, in a sample of predominantly African American men, that mistrust of medical providers was a stronger predictor of failure to seek health services than higher traditional masculinity. However, in the regression model which used the total number of visits to any health services provider as the dependent variable, the feminine subscale of the BSRI significant, which is consistent with our hypothesis. It is possible that it is more important that ***any type of health service*** is being accessed by men, rather than a particular type.

Because our sample also consisted of a high proportion of African American men, it is possible that our sample experienced less mistrust of medical providers. Sixty-seven percent of our sample also reported some type of health insurance, which has been found to be an enabling characteristic for health services utilization[45]. This high level of insurance in a low-income sample probably reflects macro-level changes reflective of California's policies to expand the state Medicaid program in response to federal changes, as well as the outreach efforts being undertaken by the state to facilitate purchase of individual insurance policies through the state health exchanges.

The positive correlation between inpatient stays and masculinity, while not significant, is in the expected direction as inpatient stays are generally for acute and/or life-threatening illnesses and sex role identification may not mediate the necessity to receive inpatient care. Previous research has noted that it is the prolonged experience of chronic disease which may result in men shifting from a masculine to a more neutral sex role, not the experience of an acute episode that is successfully treated.[14] For men with chronic diseases, researchers have suggested a masculinity perspective for Black men living with diabetes as a way to understand how "being male" impacts both gender-based risk factors as well as treatment adherence and patient education.[46]

It has been noted[47] that STI clinics, which serve a population that is largely male, are the "new" safety net providers; the current study did not ask about the nature of the clinic, only total clinic visits and it is possible that respondents reported visits to STI clinics differently, depending on their sexual preference. Heterosexual men reported a higher mean number of outpatient clinic visits compared to gay or bisexual men, but it is possible that the heterosexual men were including visits to STI clinics, while gay and bisexual men were not. Additional questionnaire items should be deployed in future research to understand how men classify visits to STI and HIV testing providers, especially when they occur at venues that are not traditional health care settings (i.e., mobile clinics, clinics housed in gay and lesbian centers). It is possible that there is a differentiation in how care received in these venues is viewed and reported. Because gay and bisexual men may be more likely to access STI and HIV testing in non-traditional venues, but reported fewer mean visits compared to heterosexual men in our study, differential reporting (or non-reporting) of these visits in the category of outpatient clinic visits is possible.

Limitations

This study has a number of limitations that should be noted. First, there was a small sample size. There was a lack of detail on specific diagnoses or reasons for seeking health services, as well as a lack of detail on the reasons for inpatient stays.

CONCLUSIONS

Scores on the BSRI may play a useful role in assessing how sex roles impact men's use of health services and further research is needed to determine how sex roles may influence treatment adherence once a chronic condition has been diagnosed. The KSOG did not contribute to this study's understanding of sex roles and health services usage but it may be an important tool for use with sexual minority men seeking health services.

Acknowledgments

FUNDING

The project described was supported in part by Award Numbers R01DA030234 from the National Institute on Drug Abuse, P20MD003942 from the National Institute of Minority Health and Health Disparities, and ID10-CSULB-008 from the California HIV Research Program. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute on Drug Abuse, the National Institute of Minority Health and Health Disparities, the National Institutes of Health, or the California HIV Research Program. NIDA, NIMHD, or CHRP had no role in the study design, collection, analysis or interpretation of the data, writing the manuscript, or the decision to submit the paper for publication.

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Table 1

Sample Demographics for Men ($N = 53$)

Variable	*n* (%)	Mean (*SD*)
Ethnicity		
Black	32 (60)	
Hispanic	14 (26)	
White	4 (8)	
Other/mixed	3 (6)	
Education		
Less than high school	14 (26)	
High school	17 (32)	
Trade/technical	1 (2)	
Some college	11 (21)	
College graduate	10 (19)	
Current living place		
Own house, apartment	12 (23)	
Other house, apartment	17 (32)	
On the streets	9 (17)	
Shelter, welfare housing	5 (10)	
Halfway house	1 (2)	
Hotel or motel	3 (6)	
Other place	6 (11)	
Self-reported homeless	22 (41)	
Income, past month		
Less than $500	26 (50)	
$501–$999	12 (23)	
$1000–$1999	8 (15)	
$2000–$3999	4 (8)	
$4000–$5999	2 (4)	
Marital status		
Single	37 (70)	
Married	1 (2)	
Same sex partner	1 (2)	
Opposite sex partner	3 (6)	
Separated	1 (2)	
Divorced	7 (13)	
Widowed	2 (4)	
Other	1 (2)	
Sexual preference		
Heterosexual	34 (64)	
Gay	11 (21)	
Bisexual	8 (15)	

Variable	*n* (%)	Mean (*SD*)
Currently has health insurance	35 (67)	
Medicaid (Medi-Cal)	20 (37)	
Medicare	5 (9)	
Veteran's Administration	1 (2)	
Employer-based	1 (2)	
State health exchange	9 (17)	
Ever been told by health care provider you have sexually transmitted infection		
Hepatitis B	2 (4)	
Gonorrhea	8 (15)	
Syphilis	0 (0)	
Genital warts	5 (9)	
Chlamydia	5 (9)	
Genital herpes	1 (2)	
Sex trading		
Traded sex for money	15 (28)	
Traded sex for drugs	14 (26)	
Gave drugs to get sex	16 (30)	
Ever in methadone detoxification	2 (4)	
Ever in methadone maintenance	1 (2)	
Ever in outpatient drug free	11 (21)	
Ever in residential treatment	17 (32)	
Ever in prison/jail treatment	5 (10)	
Drugs used, days in the past month		
Alcohol		7.09 (*9.65*)
Marijuana		4.76 (*8.80*)
Amphetamine		0.64 (*2.47*)
Crack		1.69 (*4.42*)
Heroin		0.06 (*0.41*)
Other opiates		0.11 (*0.57*)
Cocaine (powdered)		.21 (*1.37*)
Sexual partners, past month		4.39 (*7.56*)
Time spent in jail/prison, days lifetime		1245.75 (*1781.66*)
Klein Sexual Orientation Grid Subscale Scores		
Klein_total		41.04 (*30.13*)
Klein_lifestyle		6.62 (*6.06*)
Klein_selfid		6.11 (*5.58*)
Bem Sex Roles Inventory Subscale Scores		
Bem masculine		111.45 (*14.55*)
Bem Feminine		106.82 (*17.09*)
Bem neutral		90.32 (*16.50*)

Table 2

Mean, mode and range for health services used in the past 12 months

Health Service	Mode	Mean (*SD*)	Range
Emergency department	0	0.75 (*1.41*)	0–8 times
Inpatient hospital	0	0.22 (*0.60*)	0–3 times
Outpatient clinic	0	3.1 (*6.64*)	0–30 times
All services	0	4.15 (*7.39*)	0–38 times

Table 3

Correlation Matrix Bem Sex Role Inventory, Klein Sexual Orientation Grid scores and health services items

	ER	Hosp	Clinic	Klein_tot	Klein lifestyle	Klein self ID	Bem M	Bem F	Bem N	Total Visits
ER	1									
Hosp	.07	1								
Clinic	**.40** *	.07	1							
Klein_tot	.06	−.04	−.14	1						
Klein lifestyle	.04	−.03	−.16	**.85** **	1					
Klein self ID	.05	−.01	−.15	**.81** **	**.98** **	1				
Bem M	.08	.21	**.46** *	.14	.14	.13	1			
Bem F	.14	.26	.27	−.09	−.03	.01	**.67** **	1		
Bem N	.03	−.16	−.14	.28	.21	.21	.27	.11	1	
Total Visits	**.55** **	.16	**.98** **	−.12	−.13	−.13	**.45** **	.29	−.11	1

* *P*<.01,

** *P*<.0001.

Note. ER = emergency room; Hosp = Hospital inpatient; Klein_tot = Total score on Klein Sexual Orientation Grid; Klein_lifestyle = subscale score on Klein Sexual Orientation Grid; Klein_selfID = subscale score on Klein Sexual Orientation Grid; Bem_M = Bem Sex Roles Inventory Masculinity subscale score; Bem_F = Bem Sex Roles Inventory Femininity subscale score; Bem_N = Bem Sex Roles Inventory Neutral subscale score.

Table 4

Regression results predicting total number of any health services in the past 12 month

Variable	B	Standard Error	Partial R^2	Model R^2	*p*
Intercept	−31.81	9.72			.0052
Times had Gonorrhea	18.21	4.87	.32	.32	.0020
Feminine[a]	.27	.08	.25	.57	.0058
Age	.18	.11	.06	.64	.1257

Note. No other variables entered the model at $p = .15$.

[a]Feminine subscale of Bem Sex Role Inventory.