Factors Influencing Patient Satisfaction and Physician Trust

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Abstract

Multiple dimensions of the physician-patient relationship have been linked to improved medication adherence (Schneider, Kaplan, Greenfield, Li, & Wilson, 2004; Wroth & Pathman, 2006). This study aims to look at two specific dimensions, physician trust and patient satisfaction. Previous research has shown that physician trust can have a profoundly positive effect on patient outcomes by contributing to increased communication and more continuous care (Lee & Lin, 2009). Patient satisfaction has shown similar effects and has been identified as a strong correlate to physician trust (Safran, Taira, Rogers, Kosinski, Ware & Tarlov, 1998). There has been some evidence to suggest that physician trust and patient satisfaction differ by race, age and gender (Boulware, Cooper, Ratner, LaVeist & Powe, 2003; Cooper-Patrick et al., 1999). Surprisingly absent in previous analyses is a focus on body mass index (BMI) as a predictor of patient satisfaction and physician trust scores. This study attempts to address the lack of physician trust/patient satisfaction research that takes BMI into account. Eighty participants aged 18 and over were recruited from South Florida through the online classified network Craigslist and each participant completed an online survey of patient satisfaction, physician trust, and perceived weight satisfaction. Significant results for age, gender and race would confirm previous research and highlight the need for realistic guidelines to improve patient-physician interactions with people of the targeted demographics. Significant results for illness status, income, insurance status, and BMI would provide evidence for future research into the effects of these factors on patient satisfaction and physician trust. A full mediation of the effect of BMI would suggest that further efforts by physicians are needed to reduce the perceived weight discrimination of patients.

Keywords: healthcare, obesity, patient trust, BMI, patient satisfaction
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Multiple dimensions of the physician-patient relationship have been linked to improved medication adherence (Schneider, Kaplan, Greenfield, Li, & Wilson, 2004; Wroth & Pathman, 2006). Adherence to medical regimens is a vital aspect of patient care, with poor adherence creating a financial burden on the health system, contributing to poorer medical outcomes, and complicating experimental design (Vermeire, Hearnshaw, Van Roye, & Denekens, 2001; Becker, 1985). Two of these dimensions, physician trust and patient satisfaction, have been targeted for improvement interventions in the past, with mixed results (Grol, 2001; Thom, 2000). There is some evidence to suggest that physician trust and patient satisfaction differ by race, age and gender (Boulware, Cooper, Ratner, LaVeist & Powe, 2003; Cooper-Patrick et al., 1999). By identifying more factors that contribute to altered physician trust and patient satisfaction, it is hoped that improvement interventions can be developed.

Physician trust can have a profound positive effect on patient outcomes, with trust contributing to increased communication, more continuous care and serving as a moderating factor for a patient’s treatment adherence (Lee & Lin, 2009; Thom & Campbell, 1997; Pearson & Raeke, 2000). While there is no widely accepted exact definition for physician trust, technical competence and interpersonal skills have been identified as key components (Thom & Campbell, 1997). Little research has been done to find a causal link between physician trust and health outcomes beyond improved trust, but there is correlational evidence to suggest that increased trust would positively impact the patient-physician relationship by improving treatment adherence (Pearson & Raeke, 2000). There is also evidence to suggest that physician trust varies based on factors such as race, gender, and age (Boulware, Cooper, Ratner, LaVeist & Powe, 2003; Cooper-Patrick et al., 1999).
Patient satisfaction has been identified as a strong correlate to physician trust and adherence (Safran, Taira, Rogers, Kosinski, Ware & Tarlov, 1998). Patient satisfaction is a broad concept with multiple definitions, but six domains of satisfaction have been identified: technical quality, interpersonal manner, communication, financial aspects of care, time spent with doctor, and accessibility of care (Marshall & Hays, 1994). There is increasing interest in measurements of patient satisfaction within medical settings and differences in satisfaction scores across different demographics (Aharony & Strasser, 1993). Age and gender are two factors that have been studied the most, although conclusive results are elusive (Comstock, Hooper, Goodwin, & Goodwin, 1982; Weiss, 1988).

Despite interest in demographic factors that impact patient satisfaction and physician trust, one factor has been neglected in existing research. Body mass index (BMI) is a measure of body fat based on height and weight, and is used to denote weight status (underweight, normal weight, overweight, and obese). Research has shown that adults, children, and health care professionals discriminate against obese individuals (Carr & Friedman, 2005; Crandall & Schiffhauer, 1998; Greanberg, Eastin, Hofshire, Lachlan & Brownell, 2003; Puhl & Heuer, 2009). Recent research has demonstrated that weight discrimination is only increasing in our society across all professions (Andreyeva, Puhl, Brownell, 2008; Puhl & Brownell, 2001). It has also been shown that overweight and obese individuals are more likely to report having experienced a discriminatory event than an average or underweight person in most settings and that following weight loss surgery, obese patients report less discrimination than before the surgery (Rand & Macgregor, 1990; Carr & Friedman, 2005). Research on perceived racial discrimination has shown effects on patient care, including preference for a physician of one’s own race, but no such analysis has been done with obese and normal weight individuals who
may perceive weight discrimination (Chen, Fryer, Phillips, Wilson, & Pathman, 2005; Laveise, Nickerson, & Bowie, 2000). The need for consideration of obese individuals becomes especially salient when one considers that excess body weight, denoted by an elevated BMI, can cause serious health problems and costs by contributing to the development of illnesses such as diabetes, heart disease, and sleep apnea (Kopelman, 2000). Current estimated prevalence of obesity (a BMI of over 30) in the United States is 33.8%, a figure that has been on the rise for years (Flegal, Carroll, Ogden & Curtin, 2010).

Measures of obesity have some prevalent weaknesses. BMI is flawed and can misrepresent the true body mass of those of short stature, those who body build, and others but due to ease of administration and interpretation it is still the standard measurement tool (Garn, Leonard, & Hawthorne, 1986). Because of the nature of this study (an online survey), a self reported measure of pant size (which was then translated to waist size) was also used to attempt to increase the validity of the BMI measure.

The present study will attempt to address current weaknesses in the literature by identifying BMI as a factor of interest in physician trust and patient satisfaction research. First, we will evaluate the relationship between physician trust, patient satisfaction and three previously explored variables: race, gender, and age. Then, the association between patient satisfaction, physician trust, and BMI will be evaluated for correlations. It is hypothesized that physician trust and patient satisfaction will both be negatively correlated with BMI, such that a higher BMI will be associated with lower physician trust and patient satisfaction. Following this, waist size will be used to create a product term with BMI. This product term will then be tested against BMI alone to see if it is a better predictor of the association with patient satisfaction and
physician trust. Finally, perceived weight discrimination will be tested as a mediator for the relationship between physician trust and BMI and patient satisfaction and BMI.

**Methods**

**Participants**

A power analysis based on previous research on discrimination based on weight/appearance with both normal and obese type II/III populations revealed an effect size of .56 (Carr & Friedman, 2005). Power analysis identified an ideal sample size of 67 people.

Analyses were conducted on a sample of 89 men (29.2%) and women (70.8%) who were aged between 18 and 71 years of age ($M = 43.8; SD = 14.1$; two participants did not report their age). Of these participants, 87.5% reported being Caucasian, 6.8% Hispanic/Latino/Latina, 3.4% Black/African American/African, 1.1% Asian/Asian American, and 1.1% Other/Biracial/Multiracial (one participant did not report their race).

Participants were recruited through South Florida postings on the community message board, Craigslist.com. Postings included a link to the online survey and a description of the survey as a medical care survey. Once participants followed the link, they viewed the institutional review board approved informed consent and clicked to give consent. Once the survey was completed, participants viewed a debriefing statement that thanked them for their participation. Participants received no compensation for completing the survey.

**Materials/Measures**

**Patient Trust Scale.** The Patient Trust scale was constructed to measure trust in your physician and is based off of the Trust-in-Physician Scale (Kao, Green, Zaslavsky, Koplan & Cleary, 1998). It contains ten items (sample item: “How much do you trust your physician(s) to
put your health and well-being above keeping down the health plan’s cost?”) on a five point response scale (4 = completely, 0 = not at all). Ratings are averaged, with higher scores indicating greater trust. This scale has been used in previous samples of mixed gender with positive correlations with the Modified Picker Survey of trust (Pearson & Raeke, 2000; Kao et al, 1998). This scale has rendered high Cronbach’s alphas, with a community sample of mixed gender yielding an alpha of 0.94 (Kao et al., 1998) In the present sample, Cronbach’s Alpha was also 0.94.

**Perceived Weight Discrimination.** Originally published by Rand and Macgregor (1990) this scale was constructed to assess perceived weight discrimination and participants’ feelings regarding this discrimination. This scale was adapted from the original to only include the discrimination assessment questions (originally numbers 1-10, 13, and 16) and questions 2, 7, and 16 were adapted to include the statement “because of my weight” to make the context of the question clearer (sample question: “At work, I seem to be placed out of sight of the public because of my weight”). It is answered on a four point response scale (0 = never 3 = always). Ratings are averaged, with higher scores indicating greater discrimination. This scale has been used in samples of obese individuals and is based off of patient reports of discrimination to the researcher. In the present sample, Cronbach’s Alpha was 0.95.

**Patient Satisfaction Scale Short Form (PSQ-18).** The PSQ-18 (Marshall & Hays, 1994) is an 18 question short form with eighteen items (sample item: “I am able to get medical care whenever I need it.”) on a five point response scale (4 = Strongly Agree, 0 = Strongly Disagree) with appropriate questions being reverse scored. Ratings are averaged, with higher scores indicating greater satisfaction. All of the long form 80 item Patient Satisfaction Questionnaire subscales and the short scale subscales correlate highly. This scale has rendered
moderate Cronbach’s alphas with a sample of patients who had recently visited their physician (alpha = .69) (Cvengros, Christensen, Hillis & Rosenthal, 2007) In the present sample, Cronbach’s Alphas were 0.73 (general satisfaction), 0.77 (technical satisfaction), 0.77 (interpersonal satisfaction), 0.56 (communication satisfaction), 0.71 (Financial satisfaction), 0.88 (time satisfaction), and 0.75 (accessibility and convenience satisfaction). This survey was reprinted with permission from the RAND Corporation.

**Results**

First an assumption check was conducted to insure that responses from both participants with a chronic illness and those without a chronic illness could be used. No significant differences were found between the two groups, allowing them to be used together.

Pearson Correlations were conducted for age, and no significant correlations were found. An ANOVA for race differences in physician trust and patient satisfaction could not be conducted due to an insufficient sample of African American and Asian American participants. Independent Sample T-tests were conducted for the relationship between gender, trust, and satisfaction. No significant relationship was found after a Bonferroni adjustment for multiple t-tests.

In preparation for the mediation model, Pearson correlations for trust, BMI, satisfaction, and perceived weight discrimination were conducted. There was a significant correlation for accessibility and convenience satisfaction and BMI; significant correlations were also found for BMI and perceived weight discrimination, and accessibility and convenience satisfaction and perceived weight discrimination. There was no significant correlation between BMI and physician trust, and therefore further meditational analyses were not conducted.
Two hierarchal regressions were then conducted to see if the product term of waist size and BMI would better predict the relationship to satisfaction and trust. Neither hierarchal regression was significant, and thus the BMI only model was pursuing from this point forward.

A meditational analysis was conducted to see if perceived weight discrimination would serve as a full mediator for the BMI/accessibility and convenience satisfaction relationship. The relationship was significant and a Sobel test showed that it was a full and significant mediation.

**Discussion**

Physician trust has been shown to influence levels of treatment adherence by increasing communication and leading to more continuous care (Lee & Lin, 2009). With the obese population being a population prone to health difficulties and one that is increasing each year, increasing adherence rates within this population is an objective that health care professionals should strive to address. By addressing not the health concerns or adherence and instead focusing on the underlying concepts of adherence, this study presents a way to improve health care outcomes for obese individuals within the field of psychology.

In order to increase physician trust among obese individuals by reducing discrimination, health care settings should strive to make their facilities as accessible as possible for obese individuals. Medical equipment such as extra large blood pressure cuffs, hospital beds, and wheel chairs, scales with higher weight tolerances, and larger MRI and CAT scan machines should become commonplace in a hospital, in order to reduce feelings of discrimination among obese individuals. Also, staff members at primary, specialist, and hospital settings should undergo training for serving larger individuals, in order to ensure non-biased and competent care for obese individuals.
Hospital staff and researchers should also embrace and report waist size measurements. Given their predictive value they should become as standard as BMI measurements when assessing general health. Researchers especially should embrace waist measurements as a low-cost, high return assessment tool that can adequately identify and adjust measurements for individuals of a non-standard body size. Incorporating waist size measurements into analyses with BMI can also serve to ensure not only a complete picture of illness risks, but to health contextualize BMI measurements.

The first limitation of this study is the Perceived Weight Discrimination Scale. This scale measures the overarching discrimination felt in multiple situations, not just in health care. In order to correct this, a comprehensive scale of perceived health care discrimination would have to be devised and employed. The second limitation to this study was the method of recording participant size. Although BMI and waist measurements provide an idea of the size of the participants, a more comprehensive view of participant size, such as multiple body measurements and an opinion questionnaire about body size could shed more light both on the true size of the participant and the participant’s feelings about their size.

Future research should develop and examine the effects of interventions for decreasing perceived discrimination based on weight. Physician trust should also be evaluated and considered when looking at patient outcomes under a primary care physician. Also, a longitudinal study should be launched to see if those individuals who move to a primary care physician whom has undergone anti-discrimination training show better medical outcomes than those who stay within a discriminatory environment. Future research should also examine the effects that socioeconomic status and race/ethnicity play on physician trust and perceived discrimination, and whether belonging to multiple groups that are discriminated against (such as
being obese and of a minority group) has an increased effect on physician trust and medical outcomes. Also, a replication of this study using a scale that specifically measures discrimination within a health care setting could shed light on the effects that health care discrimination based on weight has versus multidimensional discrimination based on weight.
References


