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# Stereotypes and Patient-Provider Communication: Testing the Effects of Depression, Socioeconomic Status, and Race

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LOYOLA UNIVERSITY CHICAGO


STEREOTYPES AND PATIENT-PROVIDER COMMUNICATION:

TESTING THE EFFECTS OF DEPRESSION,

SOCIOECONOMIC STATUS, AND RACE


A DISSERTATION SUBMITTED TO

THE FACULTY OF THE GRADUATE SCHOOL

IN CANDIDACY FOR THE DEGREE OF

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BY

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ABSTRACT

The current project included a pilot and primary study with experimental designs to explore the impact that a patient's race, mental health and socioeconomic status (SES) have on impression formation, affective reactions, and communication with patients. The medical literature shows that health disparities exist for minorities and individuals with low socioeconomic statuses (Adler & Ostrove, 1999). In addition individuals with severe mental illness receive low quality care for their physical health in comparison to those presenting only a physical illness (Lawrence & Kisely, 2010).

To explore this phenomenon, pilot study participants read one of eight descriptions of a man visiting a doctor because of unexplained weight loss. The scenarios varied by race (black/white), depression diagnosis (no/yes), and SES (not low/low). Participants answered questions about their impressions of the patient, affective reactions to the patient, and basic personal demographics. I hypothesized that the scenarios describing a black man, a man with a low SES and a man with depression would elicit more stigmatizing responses than a white man, a man without a low SES and a man without depression. While no effects were found for race, results showed that a patient with low SES or depression were seen as less warm and competent than a patient with neither condition but more warm than a patient with both conditions. The findings were largely consistent with the Stereotype Content Model, which was used along with the

Behavior from Intergroup Affect and Stereotypes (BIAS) Map to formulate second study hypotheses.

Using secondary data, I analyzed physician communication with a patient whose presentation varied by SES and depression. A standardized patient, who followed a script very similar to the scenarios, played the patient. Measures of communication were based on the Roter Interactional Analysis System (RIAS) and coded from transcripts of surreptitiously recorded medical encounters. As predicted results showed low socioeconomic status patients experienced less positive communication. However, contrary to predictions, patients with depression received less stigmatizing and more patient-centered communication. Future work should explore the implications of differential reactions to stigmatizing characteristics in physician communication and how to translate these into impacts on patient care.

CHAPTER ONE

STEREOTYPES IN THE MEDICAL ENCOUNTER

Across the health care system, disparities in access, diagnoses, and treatment of

health issues exist for stigmatized populations, including people with depression, low

socioeconomic status (SES) individuals, and racial minorities.   These disparities have

been connected to decreased patient satisfaction, quality of life and negative health

outcomes, including increased comorbidity and ultimately mortality.   These

consequences likely result from a complex interaction of environment, system, and

individual level factors each affected by stigma.  While work has been done exploring

racial and socioeconomic disparities in healthcare, there has been less focus on mental

health, in particular depression, as a social identity that induces bias in physicians.   The

primary focus for people with a mental illness has been barriers to treatment and recovery

for their mental health with much less focus on physical health.  The work that has been

done on physical health care disparities for people with mental illness focuses on bipolar

disorder or schizophrenia.  The research documents disparities, systemic access issues,

and patient level barriers, such as medication side effects, smoking behavior and

symptom management, but not the physician level effects of stereotyping.

Patient-provider communication is one aspect of the medical encounter that has

been connected to healthcare quality and outcomes.  Research has found that

communication style is associated with perception of discrimination (Hausmann et al.,

2011) as well as patient satisfaction (Zachariae, Pedersen, Jensen, Ehrnrooth, Rossen, & von der Maase, 2003). One potential driver of communication differences that has gained attention recently is disparities introduced by physician bias. Research on race has shown that subtle forms of bias are more common than blatant prejudice (Dovidio & Gaertner, 2004). Instead of actively withholding care from stigmatized patients, physicians may unconsciously bias their non-verbal behavior and communication style that reflect suppressed implicit attitudes.

Additionally, little work has been done to understand the complexity introduced when a patient has multiple stigmatized identities (Kessler, Mickelson, & Williams, 1999). Without acknowledging the presence of interrelated stigmatizing identities, any interventions will inadequately and incompletely address the problem (Crenshaw, 1994). Thus the current study focused on the impact of patients with multiple stigmatized identities, specifically, race, SES and depression diagnosis, on perceptions, affective reactions and attitudes in the pilot study, and the impact of verbal and non-verbal communication between the physician and patient in the second study.

The second study used a secondary dataset composed of unique data gathered from transcriptions of audio-recorded patient-physician encounter in clinics throughout the Midwest. Paid actors, or standardized patients, were trained to portray a patient during a visit with a physician who had agreed to be a participant in the study. The physician was unaware of identity of the standardized patient, known as an unannounced standardized patient, and thus treated the patient without the influence of demand characteristics present in laboratory studies. This dataset provided a unique opportunity to study the effects of stigmatized individuals in a field setting, allowing a more valid

understanding of what occurs in the patient-provider relationship, a difficult to access situation.

Impressions of stigmatized groups tend to be negative across many situations though the extremity of the response varies based on the role and interpersonal relationship the perceiver has toward the stigmatized individual. The providers in the healthcare sector interact with a wide range of patients, often when the patient is in a vulnerable position. The relationship between patient and physician is qualitatively different than other relationships. Attitudes toward an individual who is a patient may be different than non-patient with the same characteristics. Because the data used for the study is secondary, the researcher was unable to assess the attitudes and impressions of the physician in the study directly.

To gain a better understanding of the reactions of physicians, a pilot study was conducted to explore the content of stereotypes about stigmatized patients to inform the second studies' hypotheses about communication techniques used in primary care visits. The tested variables were based on a combination of past research about cognitive and affective reactions toward stigmatized groups and on literature detailing the variables that effect physician assessment and decision-making. In addition to testing the content of the impressions and affective reactions, the pilot study looked at the effect of multiple stigmatized identities in comparison to individual presentation of each stigmatized identity. Below is a discussion of the presence of health care disparities for stigmatized individuals followed by social psychological theories of stigma that could explain the differences in healthcare and evidence of stigma in the general population.

**Evidence of Health Disparities**

People with mental illness, those with a low socioeconomic status (SES) and African Americans experience higher rates of morbidity and mortality from physical illness than the general population and at higher rates than would be expected by incidence alone (Adler & Ostrove, 1999; Boothroyd, et al., 2006; Druss & Resinger Walker, 2011; Iacovides & Siamouli, 2008; Lawrence & Kisely, 2010; Williams, 1999). A wide range of disciplines recognize the national and global burden that mental illness has and will continue to have unless changes are made at systemic and individual levels, especially within impoverished and minority communities (Kass-Bartelmes & Rutherford, 2004; Ngui, Khasakhala, Ndetei, & Weiss Roberts, 2010; Vreeland, 2007; WHO World Mental Health Survey Consortium, 2004).

The connection between race, mental health, social characteristics and physical health is complex. Over 68% of individuals with mental illness report a comorbid medical condition (Alegria, Jackson, Kessler, & Takeuchi, 2003; Kessler et al., 1999) and many more are left undiagnosed (Pope, 2011). The evidence of negative physical health effects for people with mental illness along with race is muddled with high rates of unemployment and low SES in these populations (Druss & Reisinger Walker, 2011; Gallo & Matthews, 1999; Lorant et al., 2003; Williams, 1999). Studies have shown that African Americans and people with a low SES have higher rates of depression and hopelessness (Anda et al., 1993; Barefoot et al., 1991). The presence of more health issues for people with low SES who are also depressed than for those who are not depressed compounds this effect (Boothroyd et al., 2006).

People with mental illness suffer health disparities in a wide range of conditions including, but not exclusively, diabetes, cardiovascular disease, and cancer (Druss & Resinger Walker, 2011). These findings cannot be fully explained by access or baseline health issues alone because many occur after entrance into the health system. For people with mental illness in treatment, many premature deaths are considered to have been preventable (Institute of Medicine, 2006). Individuals with diabetes are likely to report depression over 2 times more than non-diabetic adults (Egede, Zheng, & Simpson, 2002), and diabetics with a mental health condition received less quality diabetic care than those without a mental health condition (Frayne, et al., 2005). Less quality cardiovascular care after myocardial infarction has been found for individuals with mental illness (Druss, Bradford, Rosenheck, Radford, & Krumholz, 2000; Newcomer & Hennekens, 2007) and African Americans (Ayanian, Udvarhelyi, Gatsonis, Pashos, & Epstein, 1993; Wenneker & Epstein, 1989). Schulman and colleagues suggest that differences in cardiac treatment result from physician bias (1999) though other researchers argue that more evidence is needed to support this (Schwartz, Woloshin, & Welch, 1999).

The evidence for cancer care disparity for people with mental illness is mixed. Though people with serious mental illness are thought to have higher risk for cancer than the general population, research on cancer and serious mental illness, especially depression, has been limited in comparison to other health conditions (Howard et al., 2010; McGinty et al. 2012). Studies have found that preventative cancer services are not performed as often for people with mental illness (Viron & Stern, 2010). However, others have found that it leads to a higher likelihood of preventative care in some cases (Happell, Scott, & Platania-Phung, 2012). With the comparatively minimal evidence,

further research is need to explore the relationship between mental illness and cancer care.

Consistent evidence shows that as SES decreases so does physical and mental health irrespective of race or concurrent mental health issues. This is accompanied by increases in mortality (Braveman, Cubbin, Egerter, Williams, & Pamuk, 2010; Harper & Lynch, 2007; Krieger, Chen Kosheleva, & Waterman, 2012; Lantz et al., 1998). These differences are not limited to those in extreme poverty but also include those on the higher end of the low SES spectrum (Adler & Ostrove, 1999). While not all diseases show a higher rate in low SES populations, many do and these tend to be chronic, complex conditions that are difficult to treat (Adler & Ostrove, 1999). Associations are found across a wide range of chronic conditions, including osteo-arthritis, hypertension, cervical cancer (Adler et al., 1994) and cardiovascular disease (Kaplan & Keil, 1993). Disparities in cancer treatment have been linked to SES though the relationship is complex (Braveman et al., 2010). For those with cancer that is easier to catch early and responds well to treatment, SES positively relates to survival rates such that higher SES patients are more likely to go into remission (Adler & Ostrove, 1999). This pattern fades for cancers that have a poor prognosis, where medical intervention has less of an impact (MacKillop, Zhang-Salomons, Groome, Paszat, & Holowaty, 1997), and greater financial or social resources for treatment would not change the outcomes dramatically.

The differences in associations between SES and type of cancer suggest that provider detection and treatment may be driving the differential patterns in survival. Some argue that this is related to access to better technology. However, Krieger and colleagues found that the mortality of low SES patients is higher even for those diseases

that do not require advanced medical technology (2012). In addition these rates are separate from differences in incidence, which are strongly influenced by factors outside of medical consultation and treatment, such as systemic issues in health education or personal health behaviors. The cancer differences between socioeconomics statuses are found for patients who are participants in the system, which indicates that the issue goes beyond access and preventative health behavior. Therefore it is likely that elements within the medical system, such as the patient-provider relationship and quality of care, likely contribute to health disparities for low SES patients.

Much of the focus on health disparities research has been on racial differences, particularly for African Americans. The racial gap in mortality and health status is large and appears to be growing for many of the same chronic conditions as those associated with mental illness or a low SES (Kochanek, Mauer, & Rosenberg, 1994; Williams 1999). However it is difficult to isolate racial effects, because they are intimately intertwined with SES (Williams et al., 2012). Recent research provides evidence that race explains disparities less than social determinants of health outcomes such as combinations of stressful environments and unhealthy behaviors (Jackson, Knight, & Rafferty, 2010).

The problem of health care disparities for people with mental illness, individuals with low SES, and African Americans are vast and require investigating the stigmatized groups together as there is such great overlap in incidence, risk factors and health conditions. Structural issues of poor health care access (LaViest, 2003) and psychosocial stress brought on by discrimination in interpersonal interactions (Clark, Anderson, Clark, & Williams, 1999; Krieger, 1990; Meyer, 2003) contribute to differences in physical

health outcomes for individuals with depression, low SES individuals and African-Americans. However, findings of differences both in incidence and quality of care within the system indicate that disparities for stigmatized groups are influenced by activities occurring within the provider-patient relationship, possibly related to the subtle effects of stigma.

## Emotions and Attitudes about Stigmatized Groups

The tripartite model conceptualizes stigma as composed of the following components: stereotype, emotional prejudice and discriminatory behavior toward an individual identified as having a characteristic or characteristics associated with negative attributes. Stereotypes are thought to be cultural conceptions of groups generally known by society members though not necessarily endorsed, prejudice is the emotional component associated with the group, and lastly discrimination is the behavioral manifestation of negative thoughts and emotions felt toward the group. The understanding of the process underlying prejudice has changed over the years. Allport conceptualized prejudice as pathology stemming from a flawed personality (1954). Through further research the definition evolved to an understanding of prejudice stemming not from pathology but from normal processes, such as social categorization used to handle the abundance of information individuals encounter in their environment (Bodenhausen & Macrae, 1998; Brewer, 1988; Fiske & Neuberg, 1990). Building on this model of prejudice as an outgrowth of a functional process, research turned toward the subtle, complicated nature of prejudice, both implicit and explicit attitudes and their differential manifestations.

Even though individuals claim to reject prejudice and to support equality, disparities continue to exist across systems including healthcare.  Researchers have tried to understand the mechanism underlying this phenomenon in which individuals could publically disclaim prejudice but behave in a discriminatory manner.  It appears that people hold implicit attitudes of racism while proclaiming explicit attitudes of equality. Techniques, such as the Implicit Attitude Test and physiological measures, have been used to show attitude activation without the perceivers' awareness (Wegner & Bargh, 1998).  This includes nonverbal "leakage" of prejudice through eye contact, gestures and vocal tonality when interacting with a stigmatized group (Dovidio, Kawakami, & Gaertner, 2002; Dovidio, Kawakami, Johnson, & Howard, 1997). So while many individuals did not actively endorse group stereotypes or have negative attitudes towards stigmatized group members, measures of implicit attitudes showed contradictory results, especially towards groups against whom prejudice is socially unacceptable (Dovidio & Fazio, 1992).

Findings about implicit attitudes support modern theories of prejudice such as symbolic racism and aversive racism (McConahay, 1986; Sears, 1988).  According to these theories overt racism is no longer socially acceptable.  Therefore it manifests in indirect and subtle ways, such as withholding support for policies that promote equality (Dovidio & Gaertner, 1999).  These unconscious biases lead to aversive racism where individuals discriminate if they can find another reasonable explanation for their behavior (Dovidio, 2001).  In addition unconscious prejudice is more likely to turn into discrimination in ambiguous situations, such as complicated medical encounters without a clear diagnosis or treatment (Dovidio & Gaertner, 1999).

Negative behavior stemming from implicit attitudes has a negative effect on the target just as explicit attitudes do (Dovidio & Gaertner, 2000). However, some evidence suggests that implicit negative attitudes may not be the only source of discriminatory nonverbal behavior. Instead Olson and Fazio (2007) argue that what looks like behavior based on implicit attitudes is actually an indicator of discomfort brought about by dissonance between opposing feelings toward the individual and feelings toward the group. So what may look like prejudice instead could be an indicator of discomfort. While prejudice may not be driving the behavior, the cognitions brought to mind about the group and how they compare to assessments of the individual indicate social categorization plays a role.

<div style="text-align:center"><strong>Stereotype Content Model</strong></div>

Fiske and colleagues Stereotype Content Model focuses on the content of stereotypes as well as the emotional and behavioral outcomes. According to their work, stereotypes are composed of two trait dimensions, warmth and competence (2002). Research consistently supports the two dimension model of impression formation of individuals and social groups within the US and across cultures (Cuddy, Fiske, & Glick, 2004; Cuddy, Fiske, & Glick, 2007; Cuddy et al., 2009; Cuddy, Norton, & Fiske, 2005; Harris & Fiske, 2006; Russell & Fiske, 2008; Sadler, Meagor, & Kaye, 2012). The two dimensions stem from judgment of the group's overall goal and ability to successful pursue the goal. Contradicting goals between the out group and in group breed lower levels of warmth. The degree to which an out group is perceived to be able to achieve the goal determines the competency perceptions. Emotional reactions towards the out group stem from the assessment of these two dimensions. According to their research, social

groups are clustered together based on their combination of warmth and competence, which correspond to unique emotional reactions (Fiske et al., 2002). One high in warmth and low in competency evokes pity (elderly, disabled) whereas a group stereotyped as low in warmth but high in competency (rich people) engenders envy.

The Behavior from Intergroup Affect and Stereotypes (BIAS) Map predicts behavior based on the emotional reactions in the Stereotype Content Model (Cuddy et al., 2007). Behavioral tendencies conceptualized as passive or active and harmful or facilitative. The degree of competence determines passive behavioral tendencies while warmth determines active tendencies. Higher degrees of either dimension correspond with higher levels of facilitation. Active facilitation and passive harm are likely behavioral tendencies toward a group that is pitied. For example, the ambivalent emotion may lead someone to donate to a disabled person, but they distance themselves socially. An admired group, high in both warmth and competence, would prompt active and passive facilitation. Behavioral tendencies toward an envied group, low in warmth but high in competence, would include passive facilitation and active harm. Lastly contempt for groups low in both domains, such as drug addicts, likely breeds both passive and active harm.

### Evidence of Stigma

A myriad of evidence supports the existence of stereotypes and prejudice toward the three social categories that are the focus of the current study, people with mental illness, individuals with low SES and African-Americans. In general reactions toward people with any mental illness diagnosis are negative and include feelings of pity, anger and fear related to perceptions of incompetence, dangerousness and responsibility for

onset and recovery (Angermeyer & Matschinger, 2004; Corrigan, 1998; Corrigan,

Markowitz, Watson, Rowan, & Kubiak, 2003; Corrigan & Watson, 2002; Martin,

Pescosolido, & Tuch, 2000; Parcesepe & Cabassa, 2012; Pescosolido, Monahan, Link,

Stueve, & Kikuzawa, 1999; Phelan, Link, Stueve, & Pescosolido, 2000).  Research has

shown that there has been little change in feelings about people with mental illness over

the past decades (Angermeyer & Matchinger, 2004; Phelan et al., 2000).

Beliefs and attitudes about people with mental illness vary depending on their

diagnosis.  Depression invokes more pity and less fear and anger than other serious

mental illnesses (Angermeyer & Matchinger, 2004; de Toledo Piza Peluso & Luis Blay,

2009; Martin et al., 2000).  In addition, Pescosolido and colleagues found that people

labeled as having depression are viewed as less competent in treatment and financial

decision-making than someone labeled as "troubled," though more competent than the

schizophrenia label (1999).  Using the Stereotype Content Model, Sadler, Meagor and

Kaye also found that warmth and competence varied based on four stereotyped clusters

of mental illness or cognitive disability: psychotic (e.g., schizophrenia, addictions),

internal (e.g., depression, bipolar, anxiety/phobia), neuro-cognitive (e.g., Alzheimer's,

mental retardation), and anti-social (e.g., sociopathy, violent criminals; 2012).  The

internal cluster was perceived as moderately warm and competent, higher on both

dimensions than the psychotic cluster, higher on warmth than the anti-social cluster and

higher on competence than the neuro-cognitive cluster.  Groups in the internal cluster

were seen as equally competent as the anti-social cluster, but less warm than the neuro-

cognitive cluster. The vast variations in warmth and competency show the need to focus

on specific illness labels rather than assuming perceptions of mental illness are uniform.

Differences in emotions and beliefs have implications for the perceiver's reaction. Corrigan and colleagues found that fear and perceptions of dangerousness were associated with the desire to separate someone with mental illness from the general public and coerce them into treatment (2003). However, the same study found that feelings of pity were associated with the desire to help the person with mental illness while also avoiding them, which is in line with the passive harm and active facilitation prediction of the BIAS map. The desire to help someone with depression, who is thought to be incompetent, is likely to lead to patronizing behavior, also predicted by the BIAS map (Cuddy et al., 2007). The patronizing physician makes decisions and assumes to know what is best for the patient without consulting them. Studies have shown that patient engagement and shared decision making for treatments are essential in producing positive health outcomes for chronic conditions, such as depression (Clever et al., 1991). With the patronizing behavior, the physician disempowers the patient who will be less likely to engage in treatment and gain improvements in health.

As with mental illness, attitudes toward individuals that are poor tend to be ambivalent with responsibility attributions for their socioeconomics status, stereotypes such as laziness or unintelligence, and moderately positive affective reactions (Bullock, 1995; Cozzarelli, Wilkinson, & Tagler, 2001). However negative reactions appear to be amplified for homeless individuals who invoke stigmatizing reactions beyond that of poor individuals with housing and on par with individuals who have been treated in a mental hospital (Phelan, Link, Moore, & Stueve, 1997). Fiske and colleagues found that homeless and poor groups were considered the least competent and warm among 17 stigmatized groups (2002). As would be expected, the behavior generally exhibited

towards low SES individuals corresponds to the attitudes and attributions toward the group. These behaviors include a preference for distance (Lott, 2002) and less support for government assistance, especially from individuals who have a high SES (Clydesdale, 1999). Negative individual responses are compounded by subtler, systemic discrimination that limits educational opportunities, access to legal assistance and healthcare and adequate, affordable housing (Lott, 2002).

Social psychology research has focused on documenting racial prejudice to show there has been a shift in public reaction to racism. Because of lower tolerance, racism moved away from explicit forms of prejudice and discrimination to more subtle manifestations. Recent evidence suggests abatement of negative racial attitudes (Gaertner & Dovidio, 2005). However, Whites attitudes towards Blacks continue to be ambivalent, and implicit attitudes toward Blacks often do not correspond to explicit, egalitarian attitudes. In addition perceptions of racial subtypes vary. Poor Blacks are stereotyped as both low in warmth and competence while professional Blacks are seen as competent but low in warmth (Cuddy et al., 2007; Fiske et al., 2002). Further subtyping of Black professionals, including musicians and athletes, show that perceptions of competence are limited to their particular talent but not to overall intelligence (Walzer & Czopp, 2011).

As described above, the BIAS map framework, in conjunction with the Stereotype Content Model, predicts that low competence and warmth attitudes would lead to both active and passive harm, which include behaviors such as paternalism, neglect and rejection (Cuddy, et al., 2007). Tests of implicitly negative attitudes towards Blacks show behavior in line with the BIAS map such that Blacks experience less prosocial

behavior than Whites (Stepanikova, Triplett, & Simpson, 2011).  Given the roles and

constraints of physician behavior, it would be expected that Black patients would

experience paternalism in communication and decision-making, rejection through rushed

experiences, and possibly active harm through treatment with more invasive procedures

than White counterparts.

There is a paucity of research on the attitudes and behaviors of individuals with

multiple stigmatizing identities or conditions though most individuals have multiple

identities that they must balance. This is especially true for social identities associated

with depression, low SES and minority status because of their common co-occurrence.  A

salient identity may emerge as the basis for judgment and subsequent behavior.

Socioeconomic status and race may act as central cues because visual characteristics

serve as better categorizing cues than verbal information (Beckett & Park, 1995).

However introducing the individual as a patient may prime a medical categorization, such

as mental illness, assuming the patient fits the category well (Oakes, Turner, & Haslam,

1991).  In addition the utility of the categorization in meeting the immediate goal

determines the importance of the central stereotype (Fiske, 1998).  Because mental illness

is central to understanding ones overall wellness, the stereotypes associated with mental

illness may be brought to mind over visual categories, such as race and SES.  This will

also be influenced by physician-level characteristics such as accessibility of the category

(Bruner, 1957).

Rather than using central and peripheral categories, perceivers could distinguish

the individual as a subtype or a subgroup of the main category.  If an individual acts

contrary to the overall out-group schema, the perceiver may subtype the individual when

they encounter few exceptions to the overall group stereotype (Hewstone, Johnston, &

Aird, 1992; Johnston & Hewstone, 1992; Weber and Crocker, 1983). Motivated

individuals familiar with a particular out-group may also create subgroups even without

disconfirming behavior (Park & Judd, 1989), such as poor Blacks or professional Blacks.

These subtypes and subgroups are likely to activate different stereotypes as well as

affective and behavioral reactions (Cuddy et al., 2007; Fiske et al., 2002). While there is

research on individual groups and some subtypes, much of the research on stereotypes

has looked at perceptions of groups rather than individuals. In addition, there is a gap in

research on the impressions of individuals with multiple stigmatized identities within the

patient-provider relationship. Before proceeding to explore physician communication

with patients who have stigmatized labels and conditions, it was important to understand

the stereotypes elicited when individuals encountered people with a stigmatized

characteristic.

### Pilot Study Overview

To better understand the emotions and attitudes that direct behavior toward

someone with multiple stigmas, a pilot study was conducted using a case vignette

describing a patient-physician encounter. All characteristics of the case remained the

same with the exception of the patient race, SES and depression diagnosis. Participants

were presented with the vignette and asked to give their impression of the patient by

responding to a number of traits on a Likert scale. These traits were drawn from the

literature, including the Stereotype Content Model. In addition participants were asked to

share their emotional reaction to the patient, as emotions are often better predictors of

behavior than stereotypes (Zajonc, 1998). The emotions included were based on the

affective portion of the Roter Interactional Analysis Scale, which is widely used to assess

patient-physician communication.  The results were used to formulate hypotheses about

reactions of physicians to the participants in the second study.  Because the pilot study

was exploratory in nature, no apriori hypotheses were developed.

CHAPTER TWO

PILOT STUDY METHODOLOGY

**Sample Characteristics**

A total of 260 individuals participated in the study. Two-hundred and forty-seven participants out of 260 responded with their age and race/ethnicity. the mean age was 29.53 ($SD$=8.19) with a range of 18 to 49.  Asians made up 77.3% of the sample followed by white, non-Hispanic (8.8%), White, Hispanic (2.7%), Black (2.3%), American Indian/Native Alaskan (1.9%), and self-described other (1.9%).  More males (61.5%) were represented than females (33.1%) ($N$=246).  Most of the participants were either single/not cohabitating with a partner (44.6%) or married/in a legal union (42.3%). The remaining participants responded that they were either cohabitating with a partner, but not married (5.4%), or divorced, separated or widowed (1.9%) ($N$=245).

Participants were asked about their income, education, employment and perceived social status to approximate their socioeconomic status (SES).  Of the 232 (89.2%) who chose to respond, 46.5% reported an income under $15000 in 2011, 14.2% reported $15000-$25000, 10.0% reported $25000-$30000, 7.3% reported $35000-$50000, 6.9% reported $50000-$75000, 2.3% reported $75000-$100000, and 1.9% reported over $100000 in 2011.  The plurality of the responding 246 participants reported their highest level of education as a Bachelor's Degree (48.8%), followed by a Graduate or Professional Degree (19.2%), some college (11.5%), Associate's Degree (5.4%), Post College Coursework (5.0%), High School Diploma or GED (10%) and very few reported

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less than a High School Diploma or GED (.8%). When asked to report their perceived social status on a scale of 1 (lowest) to 10 (highest), participants reported an average of 6.46 (*SD*=1.83).

Participants were asked for their current employment status as well as current and previous work as a healthcare provider. Of the 247 who provided information, 35.4% of participants were employed for wages, 28.8% were self-employed, 13.1% were students, 10% were homemakers, 6.6% were out of work, and 1.2% were retired. Of those who responded, most (30.8%) indicated that they neither currently nor previously had been a healthcare provider. Current healthcare providers made up 19.6% of the sample and 28.3% responded that they had previously been a healthcare provider. The remainder chose not to answer.

**Procedure**

**Recruitment**

Participants were recruited using Amazon.com's Mechanical Turk, an online crowd-sourcing Internet marketplace made up of Requestors and Workers. The Mechanical Turk web site is a forum that allows companies and researchers to pay people small sums of money to complete "human intelligence tasks" (HITs; activities that require human attention and cannot be completed by a computer). Requestors are individuals, such as researchers, that wish to engage Workers, or participants, in an activity that requires human interaction (e.g. surveys, editing) for financial compensation. Workers are an international group of individuals who have created a free Mechanical Turk account. Past research has found that Mechanical Turk samples are more diverse and more representative of the population than typical college student samples

(Buhrmester, Kwang & Gosling, 2011).   To recruit Workers, Requestors post an HIT with a short description of the task on the Mechanical Turk interface.  Qualifications, such as a percent threshold of previously accepted activities, can be set for Workers; the default on Amazon is 95%.  After reading the small description, the participants can choose to accept HIT and are directed to the activity.   The website allows them to decline or "return" the HIT if they decide against participating without penalization.

As a Requestor, I posted a HIT describing the task as a short survey that would take approximately 10 minutes and would pay $0.35.   This rate was above the average Mechanical Turk HIT reward of $1.38/hour (Paolacci, Chandler & Ipeirotis, 2010).  The threshold for percent of previously accepted activities was set at 90% to ensure an adequate sample size, as recommended by Mason & Suri (2011).   No other qualifications were required.   Once the Worker accepted the HIT, they were given access to the web survey, hosted by Opinio.

**Web Survey**

The web survey was created using Loyola's subscription to Opinio software.  All participants who clicked the link on Mechanical Turk were forwarded to the informed consent web page and asked to either agree or disagree to participate.  If they disagreed, they were sent to a web page that thanked them for their interest.  If they agreed, participants moved forward to the next page reminding them that they should read the scenario carefully and answer the questions thoughtfully.  Then they were randomly assigned to one of 8 conditions through an automated program within Opinio created by Loyola Information Technology staff.

After reading the scenario participants were asked to complete the survey in the following order: competency-warmth scale, trait scale, overall impression item, outlook item, responsibility scale, and positive and negative affect scale (See Appendix A). Lastly they were asked to provide their demographics and read the debriefing. As is common in many research tasks on Mechanical Turk, participants were asked to create a unique 5-character code and enter it at the end of the study. They were asked to note the code so they could return to the HIT page on the Mechanical Turk website and enter it as evidence of participation. This signaled to the researcher that the individual participated and needed compensation. No questions needed to be answered to create a code for payment

Payments were be made through Amazon's financial transaction system by directly withdrawing the reward from the researcher's account and depositing it in the participants' accounts. Amazon handles all financial transactions in a way that keeps participants' identities and financial information private. The data was collected over a 3-day period and financial transactions were finalized within one week.

**Materials**

**Scenario**

Participants were asked to read a scenario describing an encounter between a primary care physician and a new patient, Mr. Garrison, who has unexplained weight loss (See Appendix B). All scenarios described the patient's background, the physician's questions, the patient's responses and the physician's suspected diagnosis and treatment decision. Eight versions of scenarios differed across 3 conditions: the man's race, presence of depression, and socio-economic status. The man's race was described as

either black or white.  The man responded positively to inquiries about negative affect

and poor sleep to indicate depression.  The man's inability to regularly afford adequate

housing and food indicated a low SES.

Table 1. Pilot study conditions.

| Condition | Cause of Weight Loss | Race |
|:---:|:---|:---:|
| A | Undetermined | Black |
| B | Undetermined | White |
| C | Depression | Black |
| D | Depression | White |
| E | Lack of Access to Food (Low SES) | Black |
| F | Lack of Access to Food (Low SES) | White |
| G | Depression & <br> Lack of Access to Food (Low SES) | Black |
| H | Depression & <br> Lack of Access to Food (Low SES) | White |

The scenarios differed by the cause of the weight loss and race of the patient as

shown in Table 1.  They were adapted from scripts used by standardized patients in

Weiner and colleagues work on contextual errors (2010).  These scripts were the basis for

the encounter between the physician and patients that comprise the database used for the

second study in the current paper.  The close mirroring of the materials for the first and

second studies strengthen the ability to predict the physician-patient communication in

the second study.  The scenarios can be found in Appendix B.

**Measures**

   **Competence-warmth questionnaire.** The competence and warmth scales measured 2 key dimensions that captured the content of stereotypes across different groups (Fiske et al., 2002). Competence provided information about how well a person generally performs; Warmth encompassed the likeability and the perceived intentions of the person. The scales consisted of 6 traits for each construct (e.g. competent, confident, warm, friendly), assessed on a 5-point Likert type scale (1=Not at all, 5=Extremely; Competence: student = .90, nonstudent =.85; Warmth: student = .82, nonstudent = .82). The questions were modified to target the individual described in the scenario (Mr. Garrison): "As viewed by society, how (TRAIT) is Mr. Garrison" instead of "…are members of the group." The scores of the competence and warmth items were averaged separately, with higher numbers indicating higher levels of perceived competence/warmth.

   **Trait scales.** The cognitive component of attitudes was measured by providing a list of 13 items drawn from the impression formation and poverty and mental illness stereotyping and stigma literature (e.g. unpredictable, immoral, vulnerable, self-pitying) (Chen & Bargh, 1997; Deaux, Reid, Mizrahi, & Ethier, 1995; Frable, 1993; LaFrance & Hecht, 1995; Sibicky & Dovidio, 1986; Towler & Scheider, 2005). For each item, the participant rated the extent the trait described the man on a 6-point Likert scale (1=Not at All, 6=Extremely).

   **Overall impression item.** The overall impression item captured the general evaluation of an individual. Participants chose a number than best reflected their overall impression of the subject on 7 point Likert scale (1= completely negative, 7= completely

positive).

**Outlook item.** The outlook scale measured the extent of negative or positive change a person forecasts for the subjects' situation via one item. The item asked the participants to choose the number that reflected the extent they see the subject's situation worsening or improving on a 7-point semantic differential scale (1=worsening, 7=improving). The item was based on one of the dimensions of evaluation for marginalized social groups identified by Frable (1993).

**Responsibility scale.** The Responsibility scale measured the degree of personal responsibility for their situation that participant placed on the subject. The 3-item scale was a modified version of the personal responsibility beliefs subscale on the Attribution Questionnaire to test the attribution model of public discrimination toward persons with mental illness (Corrigan et al., 2003). Participants responded on a 9-point semantic differential scale (1=not at all, 9=very much; $\alpha$=.70). The three items were averaged for a final score where higher numbers indicate a stronger perception of the subject personal responsibility for his situation.

**Positive & negative affect scales.** The positive and negative affect scales captured emotional reactions in response to an individual. The scales consisted of 11 items total (positive – 6; negative – 5) each of which were rated on a 5-point Likert scale that reflected high to low levels of affective response (1= not at all, 5 = very much). The items were divided into positive affect (sum of interest, friendliness, engagement, sympathy, and assertiveness) and negative affect (sum of anxiety, irritation, depression, and emotional distress behaviors) (Ghods, Roter, Ford, Larson, & Arbelaez, 2008). The scale was modified from the Roter Interaction Analysis System (RIAS) Global Affect

Rating, which captures the emotional context of a medical interaction as perceived by trained audio or video recording coders. The RIAS Global Affect Rating is most commonly calculated as sums of the positive and negative affect scores (Roter & Larson, 2002). Unlike other sections of the RIAS, the Global Affect Rating is based on non-verbal cues rather than connected to literal content.

**Demographics.** The demographics included questions about age, race/ethnicity, gender, income, subjective SES, employment, marital status and current or previous work as a healthcare provider. The Subjective Social Status Scale captured how individuals perceived themselves in the social hierarchy without regards to employment status, education or income, which are often used to determine SES. This scale has been used in previous work to better account for how participants perceive their SES (Adler, Epel, Castellazzo & Ickovics, 2000; Operario, Adler &Williams, 2004; Ostrove, Adler, Kuppermann & Washington, 2000). All scales can be found in Appendix A.

CHAPTER THREE

PILOT STUDY RESULTS

**Preliminary Analyses**

**Factor Analysis**

Principal components factor analysis with varimax rotation was used to reduce the

13 items from the traits questionnaire into a more manageable number. Using an

eigenvalue of 1.0 as criteria and excluding loadings of less than .4, the analysis yielded a

three factor solution which accounted for approximately 59% of the variance. The factor

loadings are shown in table 2. The first factor represented Offensiveness and consisted of

9 items, 8 fully loading with one additional item split loading on the first and second

factor (35.02% of variance). The second factor represented Emotional Weakness with 3

items fully loading on the second factor in addition to one split loading (13.94% of

variance). The third factor consisted of one item, Vulnerability (9.59% of variance). All

items loading on each factor were averaged to create 3 scales: Offensiveness Scale

($M$=2.94, $SD$=1.07; $\alpha$=.87), Emotional Weakness scale ($M$=3.78, $SD$=.99; $\alpha$=.54),

Vulnerability Scale ($M$=3.81, $SD$=1.65).

**Correlational Analyses between Dependent Variables and Covariates**

Given past research, a number of potential covariate variables were measured to

test if they should be used as controls when testing the research hypotheses. These

include participant age, gender, ethnicity/race, marital status, perceive social status,

Table 2. Trait factor loadings.

|  | Offensiveness | Emotional Weakness | Vulnerability |
|---|---|---|---|
| Vulnerable |  |  | .864 |
| Powerless |  | .639 |  |
| Self-pitying |  | .539 |  |
| Emotional |  | .751 |  |
| Proud | .611 |  |  |
| Entitled | .642 |  |  |
| Defensive | .620 |  |  |
| Demanding | .781 |  |  |
| Immoral | .780 |  |  |
| Repulsive | .740 |  |  |
| Unpredictable | .612 | .418 |  |
| Aggressive | .811 |  |  |
| Dangerous | .704 |  |  |

income, education, employment, and previous experience as a healthcare provider.

Participant age and perceived social status were standardized so that 0 was equal to the

mean, 1 was one standard deviation above the mean and -1 was one standard deviation

below the mean.  Gender was measured as male or female, labeled 1 and 0 respectively.

Marital status, income, education, employment, and ethnicity/race were dichotomized.

Marital status was divided into categories of participants who were currently with a

partner or not (1= In a Legal Union, Cohabitating with a partner, Married; 0= Single, not

cohabitating with a partner, Divorced, Separated, or Widowed).  Income was also divided

into two categories representing those above $15,000 per year (1) and those below (0)

based on the US poverty threshold of $15,063 for a two-person household (U.S. Census, 2011). Employment was dichotomized into employed for pay or not (1=Employed for wages or Self-Employed; 0=Out of work and looking for work, Out of work and not looking for work, homemaker, Student, Retired, or Unable to work). Education was divided into bachelors and above (1) and less than a bachelor's degree (0). Provider experience was divided into either current or previous experience as a healthcare provider (1) or no experience (0). Lastly ethnicity/race was split based on the data distribution. Participants were divided into with Asian (1) or non-Asian (0). Because the online survey was open to international participants, the demographics distribution did not mirror that of the United States as seen in the description of the sample participants. Gender was measured as male or female, labeled 1 and 0 respectively. Marital status, income, education, employment, and ethnicity/race were dichotomized. Marital status was divided into categories of participants who were currently with a partner or not (1= In a Legal Union, Cohabitating with a partner, Married; 0= Single, not cohabitating with a partner, Divorced, Separated, or Widowed). Income was also divided into two categories representing those above $15,000 per year (1) and those below (0) based on the US poverty threshold of $15,063 for a two-person household (U.S. Census, 2011). Employment was dichotomized into employed for pay or not (1=Employed for wages or Self-Employed; 0=Out of work and looking for work, Out of work and not looking for work, homemaker, Student, Retired, or Unable to work). Education was divided into bachelors and above (1) and less than a bachelor's degree (0). Provider experience was divided into either current or previous experience as a healthcare provider (1) or no experience (0). Lastly ethnicity/race was split based on the data distribution. Participants

were divided into with Asian (1) or non-Asian (0).  Because the online survey was open

to international participants, the demographics distribution did not mirror that of the

United States as seen in the description of the sample participants.

Below are the results of the correlation analyses between the dependent variables

and the potential covariates. [1]  Variables that significantly correlated with the dependent

variable were tested as a covariate.

**Competence-warmth questionnaire.**  Competency correlates significantly with

age ($r$=-.14, $p$<.05), social status ($r$=.27, $p$<.001), and healthcare experience

($r$=.18, $p$<.05).  Social status ($r$=.25, $p$<.001) correlated significantly with

warmth.

**Traits.**

*Offensiveness.* Offensiveness trait negatively correlated with Gender ($r$=-.14,

$p$<.05).

*Emotional weakness.* Emotional Weakness trait did not significantly correlate

with any potential covariates.

*Vulnerable.* Vulnerable did not significantly correlate with any potential

covariates.

**Overall impression item.** Overall impression correlated with Social Status

($r$=.17, $p$<.01), Gender ($r$=-.15, $p$<.05), & Healthcare Experience ($r$=.16, $p$<.05).

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[1] Additional intercorrelational analyses between the covariates were performed to test if multicollinearity
would interfere with the relationship of variables with more than one potential covariate.  While some of
potential covariates were significantly related, no correlation was over .41, thus the risk of multicollinearity
was considered negligible.  Correlational analyses between independent variables and covariates showed no
significant relationships and thus were not reported.

**Outlook scale.** Outlook correlated with Age ($r=-.138, p<.05$), Social Status ($r=.275, p<.001$), and Healthcare Experience ($r=.299, p<.001$).

**Responsibility scale.** Responsibility correlated with Social Status ($r=.278, p<.001$), Employment ($r=.200, p<.01$), Education ($r=.142, p<.05$), Ethnicity/Race ($r=.190, p<.01$), and Healthcare Experience ($r=.256, p<.001$).

**Positive & negative affect scales.** Positive Affect correlated with Ethnicty/Race ($r=-.145, p<.05$). Negative Affect correlated with Age ($r=-.251, p<.001$), Income ($r=.212, p<.01$), Marital Status ($r=-.242, p<.001$), Ethnicity/Race ($r=.168, p<.05$), and Healthcare Experience ($r=.248, p<.001$).

### Analysis of Variance/Analysis of Covariance

An analysis of variance and, where appropriate, an analysis of covariance were used to test the effects of depression, low socioeconomic status (SES) and race on the dependent variables. Tables 3-8 display ANOVA and ANCOVA results divided by related indices.

### Competency

When testing the effect of depression, low SES and race on competency, three models were tested, each including one of the following covariates: age, social status, and healthcare experience. The covariates showed no effects and thus were excluded from the final model. The final model for each variable included main effects for patient race, depression diagnosis, and SES, two-way interaction terms for each independent variable and one three-way interaction term for all three variables. Competency showed main effects for both depression and SES as well as a two-way interaction effect between depression and SES. However there was neither main effect for race nor other two-way or three-way interactions (See Table 3).

Participants perceived the patient with depression to be less competent (*M*=3.03, *SD*=.90) than the person not diagnosed with depression (*M*=3.32, *SD*=.92). In addition, they perceived the patient with a low SES to be less competent (*M*=2.98, *SD*=.94) than the patient who did not indicated a low SES (*M*=3.38, *SD*=.86). The main effects should be interpreted with caution because of the presence of a two-way interaction.

Table 3. Competency and warmth ANOVA results.

| | Race | Dep | SES | RaceX Dep | RaceX SES | DepX SES | RaceX DepX SES | Covariate |
|---|---|---|---|---|---|---|---|---|
| Competency | 0.26 | **6.98\*\*** | **10.96\*\*** | 2.65 | 0.05 | **5.42\*** | 0.17 | - |
| Warmth | 2.21 | **5.10\*** | **4.34\*** | 0.72 | 0.12 | 0.14 | 0.63 | - |

Notes: *\*=p<.05; \*\*=p<.01*

As illustrated in Figure 1, the two-way interaction between SES and depression was significant (Depression: Low SES: *M*=2.98, *SD*=1.01; No Low SES: *M*=3.08, *SD*=.79) (No Depression: Low SES: *M*=2.99, *SD*=.88; No Low SES: *M*=3.67, *SD*=.84). Socioeconomic status effected competency scores, but only when there was no indication of depression. However as Figure 2 shows depression had an effect on competency scores but only when there was no low SES. In other words, the difference between the perceptions of competency for a patient with one stigmatizing characteristic versus none was greater than the difference between the perceptions of competency for a patient with two stigmatizing characteristics versus one stigmatizing characteristic.
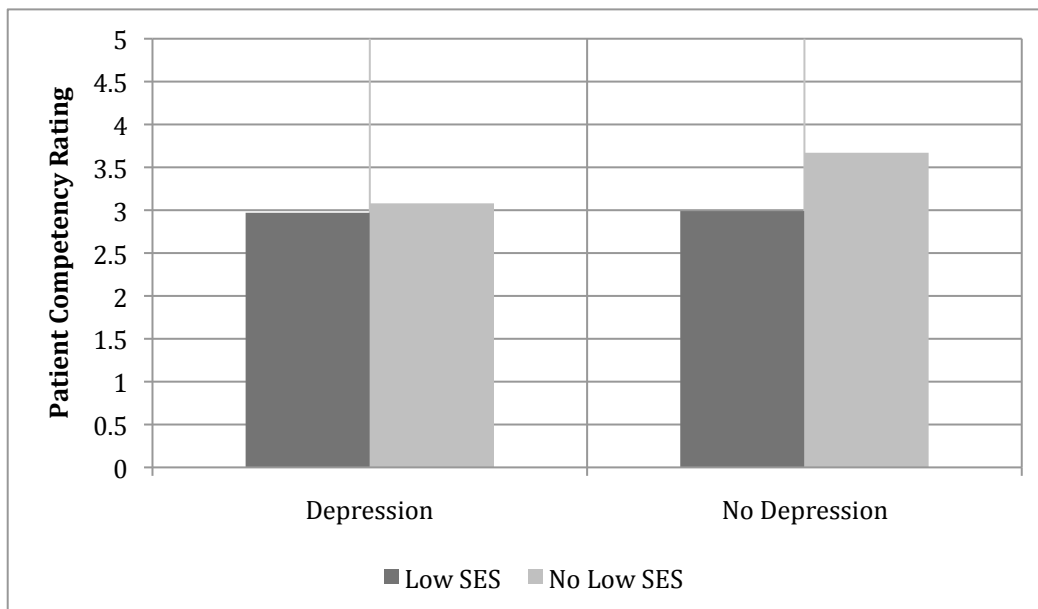
Figure 1. Patient Competency Ratings: SES X Depression Two-Way Interactions
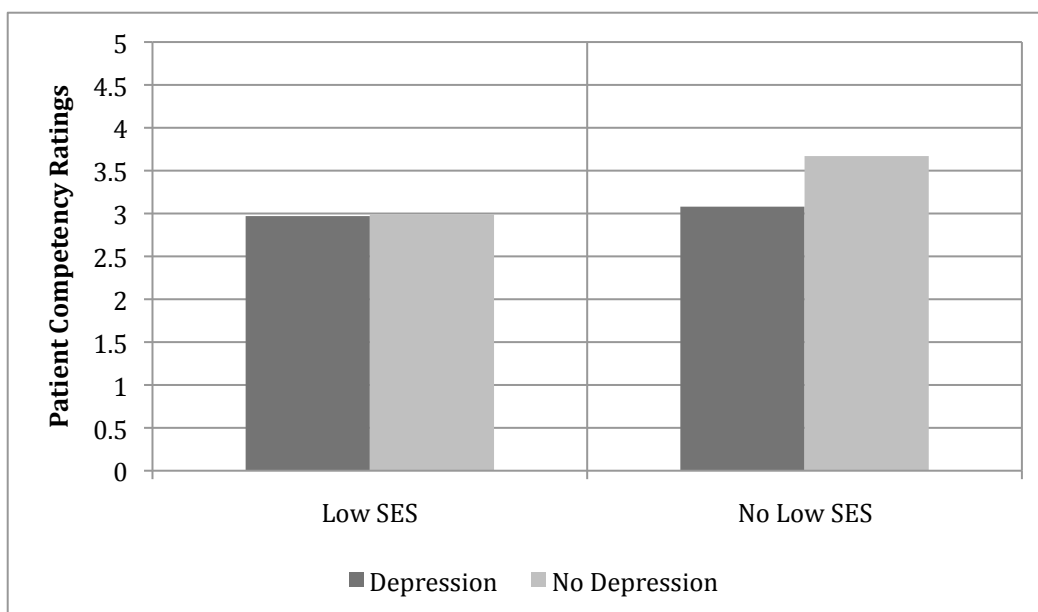


Figure 2. Patient Competency Ratings: Depression X SES Two-Way Interaction

**Competency Post-Hoc Tests.** To further understand the two-way interaction between depression and SES for competency ratings, a set of planned comparisons was run to test the simple effects.   The two-way interaction suggested that there was neither a significant simple effect of depression across the SES conditions, nor a significant simple effect of low SES across the depression conditions.  Planned comparisons were run to test for differences between (1) a patient with one stigmatizing label (depression) and a patient with different stigmatizing label (low SES) and (2) a patient with two stigmatizing labels (depression and low SES) and a patient with no stigmatizing labels.   Race was not included in the model as it showed no significant effect.  Because there were two additional tests run, the alpha level was adjusted to .025.

The planned contrast showed no significant difference in competency ratings between the two single stigmatizing label conditions (Depression: *M*=3.08, *SD*=.79; Low SES: *M*=2.99, *SD*=.88).   However the planned contrast showed that competency scores for the patient with no stigmatizing labels (*M*=3.67, *SD*=.84) were significantly higher than scores for the patient with two stigmatizing labels (Depression & Low SES) (*M*=2.97, *SD*=1.01; *F*=17.54, *p*<.001).

**Warmth**

Warmth was tested with social status as a covariate.  Social status had no effect and was excluded from the final model. As shown in Table 2, a main effect for depression and SES were found for ratings of warmth. Participants rated the man with depression as less warm (*M*=3.55, *SD*=.74) than the man not diagnosed with depression (*M*=3.75, *SD*=.75).  Similarly, participants rated the man with a low SES as less warm
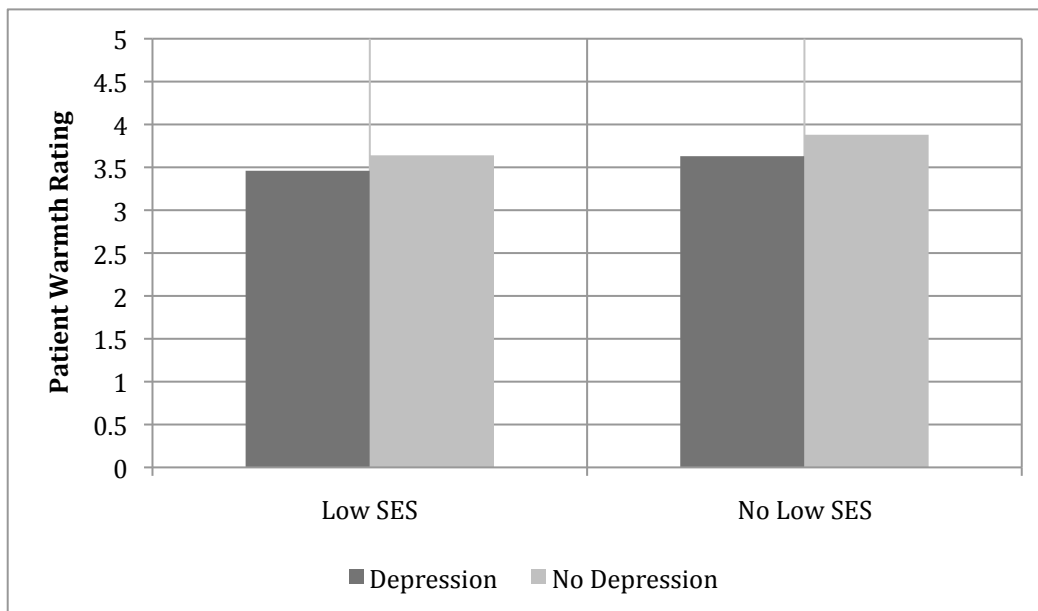
Figure 3. Patient Warmth Ratings: SES X Depression Two-Way Interaction
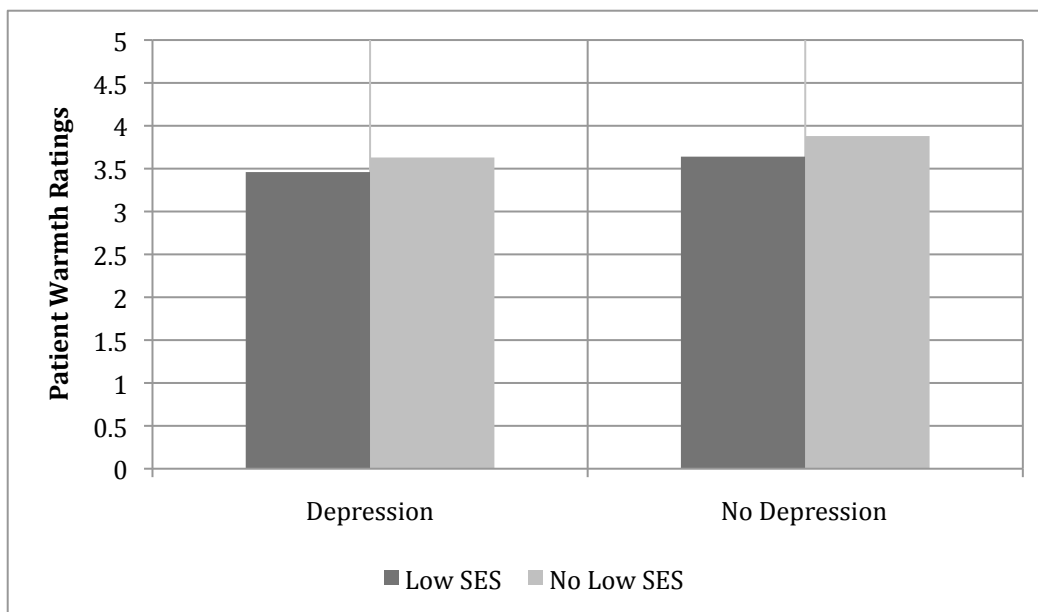


Figure 4. Patient Warmth Ratings: Depression X SES Two-Way Interaction

($M$ = 3.55, $SD$ = 0.81) than the man without a low SES ($M$ = 3.75, $SD$ = 0.60).  No main

effect for race, two-way interactions or three-way interactions was significant (See

Figures 3 and 4).

**Warmth post hoc tests.** Planned comparisons were run to test if warmth scores

showed patterns similar to competency scores.  As with the competency scores contrasts

were run to test the difference between the warmth scores for the man with both

depression and a low SES and neither label and, secondly, the difference between the

man with only low socioeconomic and the man with only depression.  Because there

were 2 additional tests run, the alpha level was adjusted to .025.  The contrast showed no

significant difference between the Depression-No Low Socioeconomic Condition and the

No Depression-Low SES.   However the planned contrast showed that warmth scores for

the No Depression-No Low SES condition ($M$=3.88, $SD$=.72) were significantly higher

than scores for the Depression-Low SES condition ($M$=3.46, $SD$=.85; $F$=8.78, $p$<.010).

Table 4. Warmth and competency mean score comparison.

| | Low SES | | No Low SES | |
|---|---|---|---|---|
| | Warmth | Competency | Warmth | Competency |
| Depression Diagnosis | 3.42 | > 2.97*** | 3.63 | > 3.01*** |
| No Depression Diagnosis | 3.60 | > 3.04*** | 3.91 | > 3.70* |

Note: *p=<.05, ***p=<.001

**Warmth & competency comparison tests.**  Using the procedure outlined by

Fiske and colleagues (2002), paired t-tests were run to test for mixed stereotype content.

As shown in Table 4, all of the conditions showed higher ratings of warmth than

competency for the patient described in the scenario.  This indicates that the stereotype

content was mixed. The differences were all significant, though the difference between

warmth and competency was smallest for the patient with no depression and no low SES.

**Traits**

The model to test the effect of race, SES and depression diagnosis on the

offensiveness trait was run with gender as a covariate. It had a significant effect on the

model and thus was included. As shown in Table 5, the final model showed a significant

main effect of SES for the offensiveness factor; No other main effects or interactions

were significant. Participants rated the patient with a low SES as less offensiveness

($M$=2.80, $SD$=1.01) than the patient without a low SES ($M$=3.09, $SD$=1.11). Neither the

emotional weakness trait nor the vulnerability trait showed a significant relationship with

any potential covariates, thus neither model included covariates. No main effects or

interactions were significant for either emotional weakness or vulnerability trait rating.

Table 5. Traits ANOVA/ANCOVA results.

| | Race | Dep | SES | RaceX Dep | RaceX SES | DepX SES | RaceX DepX SES | Covariate |
|---|---|---|---|---|---|---|---|---|
| Offensiveness | 2.97 | 0.95 | 3.95* | 0.96 | 3.30 | 0.26 | 0.70 | 4.56* (Gender) |
| Emotional Weakness | 0.71 | 1.16 | 0.00 | 0.06 | 0.19 | 0.51 | 0.25 | - |
| Vulnerability | 0.09 | 0.00 | 0.55 | 0.07 | 0.75 | 0.23 | 0.44 | - |

Note: *=$p<.05$

**Overall Evaluation**

As described above, social status, gender, and healthcare experience were

significantly related to the overall evaluation rating and thus were tested as covariates.

However none were significant and thus the model did not include any covariates. As

shown in Table 6, a main effect of depression showed that participants evaluated the man diagnosed with depression (*M*=4.51, *SD*=1.33) less positively than the man without the depression diagnosis (*M*=4.94, *SD*=1.22).   There were no main effects for SES (Low SES: *M*=4.72, *SD*=1.31; No Low SES: *M*=4.74, *SD*=1.28) or race (White: *M*=4.78, *SD*=1.21; Black: *M*=4.69, *SD*=1.36) and no significant interactions.

**Outlook**

Social status, age and healthcare experience were individually tested as covariates for Outlook, but none had a significant effect.  Therefore the final model looked at the effect of race, SES and depression diagnosis on outlook without any covariates.  As shown in Table 6, a main effect of SES was found.  Participants reported that the situation's outlook and likelihood for improvement was worse for the patient with a low SES (*M*=3.30, *SD*=1.88) than the patient without a low SES (*M*=3.83, *SD*=1.55).  There were no main effects for depression (Depression: *M*=3.48, *SD*=1.79; No Depression: *M*=3.66, *SD*=1.70) or race (White: *M*=3.45, *SD*=1.73; Black: *M*=3.68, *SD*=1.75) and no significant interactions.

**Responsibility**

The following variables were tested individually as covariates in the responsibility model: social status, employment, education, ethnicity/race, and healthcare experience. None had a significant effect, thus the final model did not include covariates.  As seen in Table 6, there were no main effects for depression (Depression: *M*=4.99, *SD*=1.91; No Depression: *M*=5.33, *SD*=1.60), SES (Low SES: *M*=5.31, *SD*=1.76; No Low SES: *M*=5.01, *SD*=1.78) or race (White: *M*=5.17, *SD*=1.97; Black: *M*=5.16, *SD*=1.59) and no significant interactions.

Table 6. Overall evaluation, outlook and responsibility ANOVA results.

| | Race | Dep | SES | RaceX Dep | RaceX SES | DepX SES | RaceX DepX SES | Covariate |
|---|---|---|---|---|---|---|---|---|
| Overall | 0.41 | 6.88* | 0.06 | 0.21 | 1.19 | 0.16 | 0.01 | - |
| Outlook | 1.17 | 0.69 | 5.93* | 0.29 | 1.17 | 0.53 | 0.11 | - |
| Responsibility | 0.00 | 2.27 | 1.78 | 0.26 | 0.11 | 1.57 | 0.04 | - |

Note: *=$p<.05$

## Positive and Negative Affect

The model testing the effect of race, SES and depression on positive affect was run with participant ethnicity/race as a covariate, which was significant and thus left in the final model. When controlling for participant ethnicity/race in the positive affect model, a significant main effect of SES (Low SES: $M=21.14$, $SD=4.86$; No Low SES: $M=22.36$, $SD=4.86$) and a two-way interaction between race and SES were found as shown in Table 7. There were no main effects for depression (Depression: $M=21.42$, $SD=5.10$; No Depression: $M=22.06$, $SD=4.63$) or race (White: $M=21.41$, $SD=4.90$; Black: $M=22.03$, $SD=4.84$) and no other significant interactions.

Table 7. Positive and negative affect ANOVA/ANCOVA results.

| | Race | Dep | SES | RaceX Dep | RaceX SES | DepX SES | RaceX DepX SES | Covariate |
|---|---|---|---|---|---|---|---|---|
| Positive Affect | 0.85 | 0.84 | 4.75* | 0.83 | 4.74* | 0.00 | 0.72 | 5.17* (Ethnicity/ Race) |
| Negative Affect | 0.21 | 0.84 | 1.69 | 0.01 | 0.17 | 1.96 | 0.47 | 9.72** (Income) |

Note. *=$p<.05$; **=$p<.01$

As shown in Figure 5, participants rated feeling less positively toward the White patient when he had a low SES (*M=20.19, SD=4.88*) versus no low SES (*M=22.72, SD=4.54*) in contrast to the Black patient whose ratings were not significantly different between the patient with a low SES (*M=22.03, SD=5.02*) versus no low SES (*M=22.08, SD=4.70*).

Negative affect ratings correlated significantly with age, income, marital status, ethnicity/race and healthcare experience. The effect of each covariate was individually tested in the full model with results showing income as the only variable that had significant affect on negative affect. After controlling for income, the model showed no main effects for depression (Depression: *M=15.34, SD=3.66*; No Depression: *M=14.86, SD=4.54*), SES (Low SES: *M=15.54, SD=4.14*; No Low SES: *M=14.61, SD=4.44*) or race (White: *M=15.31, SD=4.04*; Black: *M=14.90, SD=4.54*) and no significant interactions.
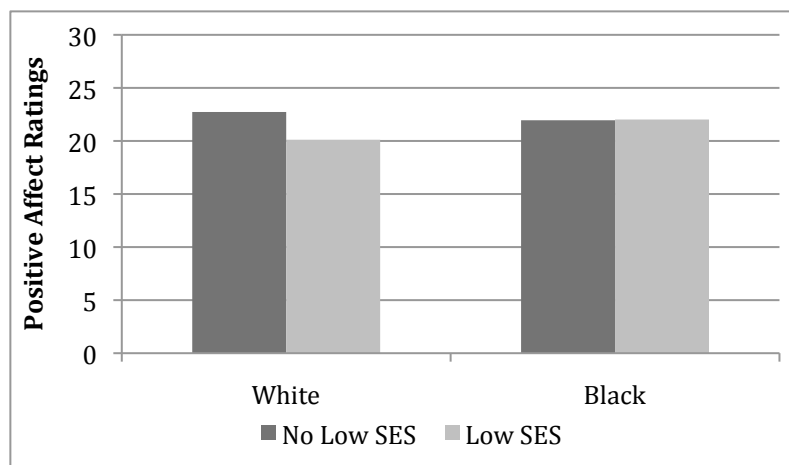


Figure 5. Positive Affect Ratings: SES X Race Two-Way Interaction

CHAPTER FOUR

PILOT STUDY DISCUSSION

The pilot study explored impressions and affective reactions to a patient with

stigmatizing characteristics in six domains: Competency & Warmth, Traits, Overall

Evaluation, Responsibility, Outlook, and Affective Reaction.  No a priori hypotheses

were created due to the exploratory design meant to inform the main study.  Overall the

results show that depression and SES drive the differences in patient evaluations, while

racial categorization makes little impact.  Both the Stereotype Content Model and

theories of ambivalence toward stigmatized groups best explain the results and provide a

framework with which to predict the communication and reactions of physicians toward

patients similar to those described in the scenario.

**Warmth & Competency**

Both depression and SES predicted lower competence and warmth ratings than

non-stigmatized groups. Neither was among the lowest or highest dimensions of

competence or warmth.  SES and depression diagnosis interacted to influence

competence, though there was no interaction for warmth ratings.  According to the

Stereotype Content Model, competence reflects the perception of the patient's ability to

be competitive in important domains, given their status.  Participants separately rated low

SES and depressed patients as less competent than the non-stigmatized patient.  The

results indicate that stigmatized patients are viewed as being somewhat able to compete for healthcare resources, but less so than higher income or non-depressed patients.

Competitiveness in a patient provider encounter could be seen from the physician's or an outside individual's perspective. To establish competence level, a physician may assess the patient's ability to question their opinions, diagnoses or treatment decisions, to adhere to the treatment plan, or to interfere with the physician's limited time resources. All of these would challenge the physician's goal to effectively and efficiently provide treatment. From a fellow member of the healthcare system, competitiveness may be judged as the ability to obtain scarce and valuable health resources, such as physician time and skills. If they believe that cost of unpaid patient bills could be reflected in higher personal health cost, then they may feel the patient's incompetence threatens their financial resources.

However an interaction between SES and depression diagnosis complicated the interpretation of competency results. When either single stigma was compared to no stigma, the decrease in competency ratings was greater than when a single stigmatizing characteristic was compared to a patient with both stigmatizing characteristics. When either or both stigmatized characteristics are present, the perception of the patient's ability to compete was equivalent. This supports other research that found no difference in competency ratings for people with mental illness and poor people (Sadler et al., 2012). While both low SES and a depression diagnosis produced decreases in competency separately, the interaction indicates that the two characteristics did not have an additive effect on competency ratings. An additive effect would have produced a lower competency rating for the patient with low SES and depression than the patient

with either low SES or depression alone. Instead the competency rating remained the same when a second stigmatizing characteristic was added to the already stigmatized patient.

The equivalent effects of single and multiple stigmas could be evidence of subtyping. Integrating the characteristics of multiple identities is unlikely unless a person has a significant level of motivation and the resources to do so (Fiske & Taylor, 1991). Given that the study provided no external motivation to process the information deeply and the participants spent on average less than 10 minutes to complete the survey, it is unlikely that participants integrated the information to create an individualized understanding of the man. Subtyping occurs when a larger group is broken into smaller factions that are associated with different stereotypes. An individual with a low SES, someone with depression and someone who is depressed and has a low SES could be represented as separate patient schemas. Bodenhausen and Macrae argue that the subtype can come to function as a stand-alone category (1998). In addition, evidence supports subtyping based on type of mental illness (Sadler et al., 2012) and on race and SES (Fiske et al., 2002). Subtyping is especially likely to occur if the perceiver is familiar with the subtyped group (Fiske, 1998). Given that the prevalence of depression increases as income decreases (Sturm & Gresnenz, 2002), it is likely people have encountered examples of through personal experiences or media representation. This is especially pertinent to physicians who regularly interact with a wide array of individuals, including people with depression. Between 11 percent and 36 percent of patient seen in primary care have a mental disorder (American Academy of Family Physicians, 2001). With such

a high number of cases, it is likely that physicians establish stereotypes of subgroups of individuals with unique assumptions about each group.

The second dimension in the Stereotype Content Model, warmth, reflects likelihood of competing. Both low SES and depression diagnosis groups were seen as less warm than the non-stigmatized patient. However all patients were considered high in warmth according to the Stereotype Content Model standards. In the healthcare setting, warmth could indicate the patient's desire to challenge the physician or compete for the healthcare resources. Like competency, SES and depression had a significant effect on warmth rating while race did not. Patients stigmatized by low SES or depression were seen as less warm than patients without stigmatizing characteristic. Low SES patients, patients with depression, as well as the patient with both stigmas were rated moderately high on warmth. Post-hoc tests showed that the patient labeled as both depressed and low income was also perceived as significantly less warm than the patient with no stigmas. The results support previous findings for no difference in warmth ratings for people with a mental illness and poor people, though homeless people and individuals on welfare are seen as less warm (Sadler et al., 2012). In the current study, the patient indicated that he had been homeless intermittently but because he was currently housed. The homeless stereotypes may have been inhibited given the amount of information presented to the participant. According to the ratings given in the current study, none of the patients were likely to be highly competitive, though the non-stigmatized were seen as less threatening than the stigmatized. Using the Stereotype Content Model, the ratings of warmth and competency suggest that SES and depression diagnosis evoke pity while the non-stigmatized individual evokes admiration.

Unlike the competency ratings, the rate of decrease in warmth stayed the same when comparing one stigmatizing characteristic (either low SES or depression) to no stigmatizing characteristic and when comparing two stigmatizing characteristics to one stigmatizing characteristic. These results could indicate an additive effect of depression and low SES stigma on perceptions of warmth such that both stigmatizing characteristics were integrated to decrease warmth ratings. Alternatively, warmth ratings could result from subtyping given the limited presence of motivation to individualize the patient. Overall, the results suggest that people subtype depressed and low SES individuals such that they are perceived as equally competent but less warm than someone with a low SES or depression alone.

Table 8. Relative competence and warmth across conditions.

|  | Low SES | No Low SES |
| --- | --- | --- |
| Depression Diagnosis | HW-MC | HW-MC |
| No Depression Diagnosis | HW-MC | HW-HC |

*Notes*: HW=High Warmth; MC=Moderate Competency; HC=High Competency

Using Fiske and colleagues' categorization of high medium and low, Table 8 represents the warmth and competency cluster that each subtype represents (2002). These findings diverge from previous research, which shows that poor people (both as a group and differentiated by race) are rated low on competency and warmth (Cuddy et al., 2007; Fiske et al., 2002; Sadler et al., 2012). Sadler and colleagues found that people labeled with mood/anxiety problems, including depression, were seen as low in warmth and moderate in competency (2012). The direction of the effect of socioeconomic effect and depression corresponds with their findings that being poor or being depressed results in

reduced ratings of warmth and competency in comparison to the reference group. In the pilot study the baseline description of the patient elicited high ratings of warmth and competence. However the patient in the current study was seen as overall higher in competence and warmth than general groups labeled as depressed or poor.

People tend to rely on stereotypes less when they are given more detailed information (Fiske & Neuberg, 1990). The extra details, such as being elderly and a former security guard, could have been the basis for judgment so that they relied on the negative stereotypes of poor and depressed people less than when assessing a label on a group. This corresponds with Kite, Stockdale, Whitley and Johnson's research which found the negative effects of age stereotypes diminished with the provision of additional information (2005). People also tend to judge a labeled individual less harshly than a labeled group. Negative feelings come from the dehumanization of the group members (Harris & Fiske, 2006). It is possible that a scenario about an individual and his experiences had a humanizing effect. Future research should explore the effect of groups versus individuals with multiple stigmatized conditions.

According to the Stereotype Content Model, ambivalent prejudice is a product of high ratings on one dimension but low on another. In the current study all variations of depression diagnosis and SES showed significantly higher ratings on warmth than competency, an indication of ambivalent attitudes toward the patient. The ratings of individuals with low SES align with the direction of Fiske and colleagues findings for ratings of poor black and whites (2002). However, depression findings diverge from recent work by Sadler and colleagues that showed warmth ratings to be lower than competence ratings for people with anxiety/mood problems, including depression (2012).

While, Fiske and colleagues did not test ratings for people with depression, the nearest

proxy, a cluster that included disabled people, also showed higher ratings of warmth than

competence (2002).  The current results could have been complicated by the description

of the patient as elderly.  Research consistently finds that elderly people are rated as

warm, but incompetent (Cuddy et al., 2005; Cuddy & Fiske, 2002; Fiske et al., 1999;

Fiske et al., 2002; Heckhausen, Dixon, & Baltes, 1989; Kite, Deaux, & Miele, 1991), as

found for the patient in the current study.  Further work on the differences between older

and younger patients would be valuable in understanding the impact age has on

perception of patients.

The Behavior from Intergroup Affect and Stereotypes (BIAS) Map predicts

behaviors based on the feelings evoked by warmth and competency judgments (See

Figure 6).  The current work on the competency and warmth ratings of stigmatized

patients can be used to make predictions about the physician behavior during an office

visit (Cuddy et al., 2007).   The baseline patient, seen as highly competent and warm,

should evoke feelings of admiration that correspond with active and passive helpful

behavior.  The patients with depression or SES who are high in warmth and moderate in

competence are likely to evoke fewer feelings of admiration and more of pity.  Active

help but also passive harmful behavior, such as distancing, will accompany these

feelings.  The patient with both depression and low SES should evoke less active help

than the patient with one stigma because of lower warmth stereotypes.  There should be

similar levels of passively harmful behavior given the equivalence of SES and depression

competency ratings. The specific type of communication and behavior that would be seen

in a physician's office based on the BIAS map will be discussed in more depth in the next

section.
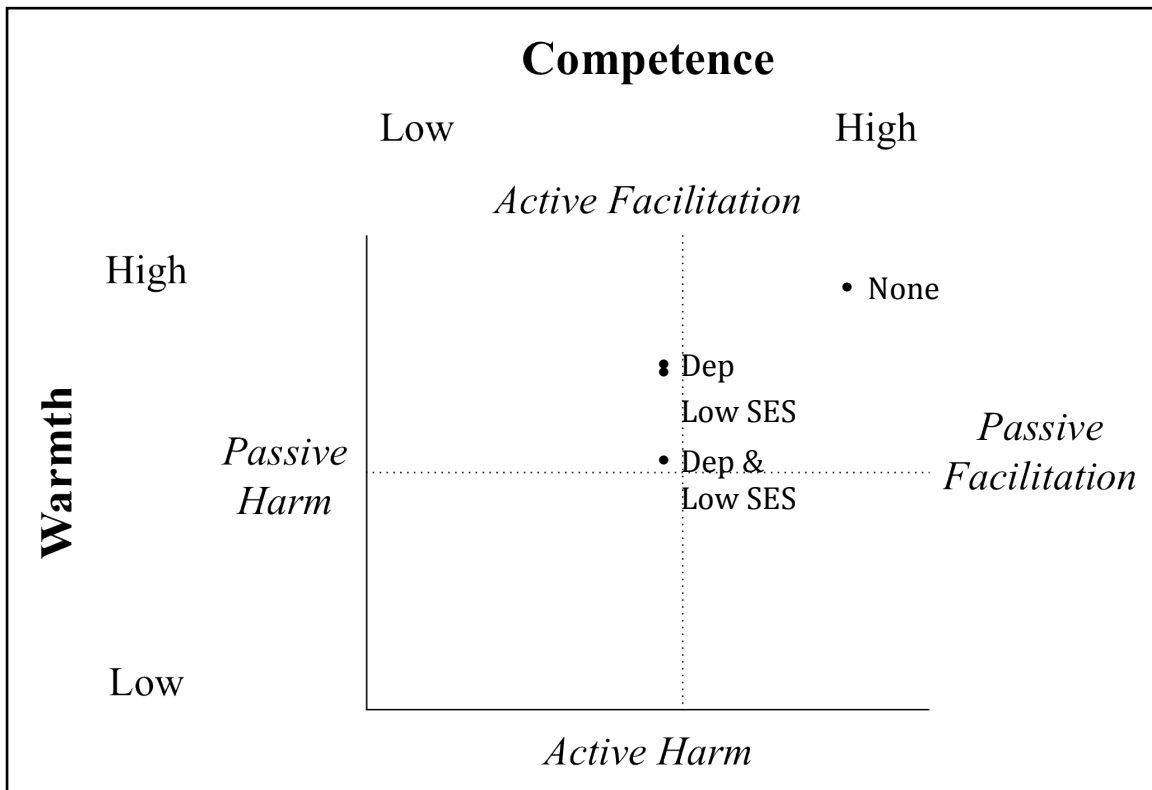


Figure 6. Stereotype Content Model & BIAS Map predictions for Depression and
Socioeconomic Status

Other studies have shown socioeconomic effect can account for differential

treatment of minorities (Cox et al., 2012). According to Bodenhausen and Macrae's

stereotype activation and inhibition model, when a person has multiple categories from

which to judge, they become overwhelmed and default to the category that best fit the

information (1998). Because race is not directly related to the symptoms, it could have

become irrelevant in the face of SES and depression status. The relationship between

SES and depression in a medical setting is much more informative than race because both

can have a direct impact on physical health. Depression can manifest in physical

symptoms, and as in the current case, low SES can be a viable explanation for weight loss

from lack of food. Thus the stereotypes typically activated by race could have been

inhibited because of the overwhelming amount of information. Category salience also

impacts the stereotypes activated (Fiske & Neuberg, 1990). The description of the person

as a patient in a doctor's office could have made health-relevant categories more salient.

Therefore race may become a peripheral trait with minimal impact on evaluation, given

better fitting information.

The lack of explicit racial bias in the current study could also be an artifact of

suppressed or concealed implicit attitudes driven by personal and normative egalitarian

values. Reactions to category-activated stereotypes diverge from expected behaviors

when motivated by personal endorsement of egalitarian values to limit biased

interpretations (Fiske & Neuberg, 1990) or when norms against discrimination inhibit the

behavior (Bodenhausen & Macrae, 1998). Because society rejects explicit negative

attitudes toward Black individuals more than explicit negative attitudes toward mental

illness and low SES, future healthcare studies should use subtle measures that are not

subject to personal or social control that may reveal an implicit bias toward the Black

patient.

The pilot study was open to an international sample and the respondents likely

represented a variety of cultural backgrounds with different variations in the content and

amount of exposure to racial stereotypes. Racial stereotypes vary by culture, and the

effects typically found in an American sample may have been washed out by cultural

heterogeneity.[2] Cultural variation did not appear to impact ratings associated with depression diagnosis and SES. Fazio posits that categorization may be influenced by how evaluatively laden the category is for the perceiver (1998). However, Western racial stereotypes are not universal, and "Black" and "White" racial categories may evoke less valenced attitudes in other cultures. Thus, future studies should explore cross-culture variation in effects of patient race in patient-provider encounter.

Findings that do not support individual racial bias towards patients are not meant to undermine the crisis in racial health disparities. Other work on racial differences in health outcomes emphasize that health disparities were less effected by individual level racial attitudes and that interventions should be more focused on systematic discrimination and cultural correlates of race that appear to have a stronger impact on health outcomes (Dovidio & Fiske, 2012; Jackson, Knight, & Rafferty, 2010). The current findings support that interventions to reduce disparities should involve more than individual level bias.

**Traits**

The three factors that emerged from the traits scale were labeled offensiveness, emotional weakness and vulnerability. The offensiveness factor, which explained the highest percentage of the variance, corresponds with stereotypes of groups considered high in competency but low in warmth (Fiske et al., 2002). The traits included in the offensiveness factor indicate an element of capability and competence. For example categorizing someone as aggressive, demanding and proud entails that they are perceived as having the ability to threaten and demand as well as the confidence to carry out the

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[2] Participants were not asked to provide their country of residency, and the web platform, Mechanical Turk, does not provide location where the survey was accessed. Therefore, the effect of culture cannot be tested.

actions. The offensiveness factor also includes traits such as immoral and repulsive that capture a cold, unlikeable dimension. The dual nature of the factor fits well with the Stereotype Content Model as well as theories of ambivalent stereotypes. It also aligns with the current study's evidence that low SES patients concurrently evoke moderate competency ratings and comparatively higher warmth ratings.

Of the three traits factors to emerge from the factor analysis, the independent variables only had an effect on the offensiveness factor. When controlling for gender, the patient with a low SES was less offensive than the man who did not have a low SES, though patients were labeled as moderately offensive regardless of SES. Initially the findings seem to counter the majority of research supporting negative evaluations of low SES groups in comparison to higher status groups (Fiske et al., 2002; Lott, 2002). However as explained above, the offensiveness factor has a dual nature and high levels of the trait reflect negative intentions along with the capability to achieve them. According to the Stereotype Content Model, low warmth and high competence are associated with envy and jealousy and describe groups that are competitive and potentially threatening (Fiske et al., 2002). In the current study, low SES patients are seen as low in competence and moderately warm, though lower than non-low SES patients. If the low SES patient was seen as less competent overall then he may be seen as less capable to carry out the more active, threatening components of the factor. Neither low nor non-low SES patients were seen as particularly dangerous or threatening as indicated by the moderate offensiveness scale ratings. The perceptions of the traits associated with the offensiveness factor, such as dangerous and aggressive, may be more strongly associated with the more competent patient because of his increased capacity to act upon anything.

The traits of emotional weakness and vulnerability were the second and third factors. The patient was considered to posses both emotional weakness and vulnerability at a moderately high level with no difference in the traits based on the patient depression diagnosis, SES, or race. Both factors reflect stereotypes of groups considered high in warmth and low in competency, such as elderly persons and housewives. These groups are low status but not seen as competition because of their incompetence. Thus the prejudice toward the groups tends to be more paternalistic with fillings of pity and sympathy. The man in the scenario was described as both an elderly man and a patient experiencing worrisome symptoms. Elderly people invoke paternalistic prejudice (Fiske et al., 2002) and patients are traditionally in vulnerable position of the patient-doctor power relationship. The two characteristics held constant over the scenarios may have produced the reaction such that the depression diagnosis, SES, and race did not affect judgments.

The lack of difference for emotional weakness and vulnerability could also be due to error variance that was introduced by running the factor analysis with data pooled across the conditions. Though this is a relatively common practice (DeCarlo & Leigh, 1996; Handelman & Arnold, 1999; Simonin & Ruth, 1998; Spreng, MacKenzie & Olshavsky, 1996), some researchers advise against using this method because it can produce biased results from the variances introduced with the manipulations (Calder & Sternthal, 1980; Hays, 1988; Muthen 1989). However, the pooled dataset approached the recommended 300 data points (Tabachnick & Fidell, 1996), whereas the individual conditions equaled approximately 30 participants each. A factor analysis without pooled data may have reduced bias but was not feasible with such a low number of participants.

**Overall Evaluation**

Participants reported a less positive impression of the patient with depression than patients without a depression label. The negative evaluation for depression is in accord with other results that show that depression is generally a negatively stigmatized condition (Corrigan et al., 2003; Angermeyer & Matschinger, 2004). However neither race nor SES effected the overall evaluation. The overall evaluation of patient race corresponds with the null findings on other explicit measures in the current study. As with any explicit measure, the results could be a result of controlled response for an explicit bias that may be found in an implicit bias test. Ambivalent racism theory states that many people hold conflicting attitudes about race because they value egalitarianism but also implicitly associate Blacks with more negative stereotypes that evoke negative emotional reactions (Dovidio & Gaertner, 1986; Gaertner & Dovidio, 2004). As a result of the ambivalence, people can avoid explicit bias, but implicit measures capture conflicting, negative reactions.

SES also did not affect the overall impression of the individual, though other measures, such as warmth, competency and the offensiveness trait were negatively impacted by SES. As with race, ambivalence toward the patient may have made it difficult to capture negative attitudes with an explicit measure of prejudice. While the ambivalent racism theory functions as a way to explain differences in racial attitudes, the framework has been applied to other stigmatized characteristics as well (Dovidio, Pagotto, & Hebl, 2011).

If ambivalence were the sole explanation for the null findings, then it would be expected that depression diagnosis also would show no differences. In the current and

past studies, depression has been found to illicit both positive and negative reactions, such as feelings of pity but desire for social distance (Corrigan et al., 2003). The difference in the overall evaluation of the patient with depression and the patient without depression may indicate that stigmatizing people is more acceptable than racial or class stigmatization thus there was less hesitancy to report negative feelings. This may be more likely given that the study included a sizable percentage of Asian individuals. Studies have found that Asian culture have higher rates of stigma surrounding depression, especially if the person seeks treatment (Fogel & Ford, 2005; Rao, Feinglass, & Corrigan, 2007; Tsang, Tam, Chan, & Cheung, 2003). So cultural factors may have played a role in explicit negative evaluation of the depressed patient.

**Outlook**

SES affected the perceived outlook for the patient's future while neither depression diagnosis nor race had an impact. A broad range of researchers have delineated controllability of characteristic onset/course as a key dimension of stigma (Deaux et al., 1995; Frable, 1993; Goffman, 1963; Jones et al., 1984; Towler & Schneider, 2005). Race is an uncontrollable, or tribal, stigma whereas SES and depression are considered to be controllable, though the degree of control is arguable. Someone who has an uncontrollable characteristic, such as race, would typically be judged as having a worse outlook because they could not change. Race did not have a significant impact on the judgment of the individual, so it seems that it is not an important factor for judging a patient in this situation.

SES and depression are seen as relatively more controllable than race. Because of this, interventions would be expected to help the patient. The scenario has the patient

receiving medical care for his depression, which likely mitigated the negative effects of

outlook for a patient with a depression.  However there were no concrete, long term plans

for the low SES patient to receive financial assistance, and the patient expressed

difficulty improving his housing and economic condition alone.  Therefore, controllable

stigmas seem to be perceived as having more optimistic outcomes if there is a plan for

gaining lost control.

## Responsibility

There were no effects on attributions of responsibility based on the patient's depression

diagnosis, SES or race.   As described above, one of the key dimensions of stigma is

controllability of onset. The pilot research diverges from previous findings that poor and

depressed people tend to be blamed for the onset of their condition (Corrigan et al., 2003;

Lott, 2002).   The scenarios provide a detailed explanation for the onset of depression and

poverty.  Both the death of the daughter and the job loss were not direct under the control

of the patient, so the participants may have limited their attributions of responsibility.

## Positive and Negative Affect

According to social psychological models, including the Stereotype Content Model,

interpersonal evaluations should translate into corresponding emotional reactions, but this

was only partially supported in the current research.  Positive affect varied based on the

SES of the individual alone and in combination with the race. Neither race nor depression

impacted positive affective reactions in the current study.   Black patients elicited

relatively high rates of positive affect regardless of their SES.  White patients, on the

other hand, elicited less positive affect when described as low SES than when not

described as low SES.  If White, financially stable patients are seen as the in-group, then

a person who diverges from the expected is more likely to bring about a negative reaction than other outgroups, especially if financial stability is a defining characteristic of the in-group (Marques, Abrams, Páez, & Taboada, 1998).

Depression diagnosis, SES, and a race did not impact reports of negative affect elicited by the patient. The null finding supports other evidence that prejudice tends to manifest as in-group favoritism rather than negativity toward the out-group (Brewer, 2002). The pattern of findings for positive affect and negative affect do not correspond with the stereotype content or trait ratings used in the current study. Participants may not have had a strong emotional reaction because they imagined themselves as an uninvolved by-stander in a scenario. The lack of realism in the scenario may have truncated the emotional response. In the second study, the affective reaction was captured in a real patient-provider encounter through an implicit measure of the physician tone of voice to capture an unbiased emotional reaction.

## Conclusion

The current research supports that stereotypes are more nuanced than general negative and positive evaluations for stigmatized patients and that the patients appear to be judged on dimensions of competency and warmth, as with non-patient stereotyped groups. Mental illness and SES were the most influential in judgments of patients while race had little impact. Multiple stigmas had a limited impact on reactions to the patient, but deserve further exploration in a non-laboratory based study. Implications of the pilot study provided useful information for the formulation of hypotheses about emotional reactions and behaviors of physicians that were explored in the second study.

CHAPTER FIVE

PATIENT-PROVIDER RELATIONSHIP AND PATIENT-CENTERED

COMMUNICATION

As described previously, differences in the quality of health care and health outcomes

have been well documented for people with mental illness, low socioeconomic status

(SES) individuals and minorities.  People with mental illness experience higher rates of

morbidity and mortality from physical illness than the general population and at higher

rates than would be expected by incidence alone (Lawrence & Kisely, 2010).   Health

outcomes have also been associated with social status such that lower status predicts

higher mortality and morbidity with effects varying by disease (Adler & Ostrove, 1999).

The pilot study suggested that SES and depression diagnosis impact perceptions of the

patient described in the scenario while there was limited impact of race.  Given the

findings, it is important to study the verbal and non-verbal manifestation of these biases

in physicians working in a field setting.  Using secondary data, I analyzed physician

communication in response to a patient whose description varies by SES and depression

diagnosis.  The patient was played by a scripted actor, or standardized patient, thus

controlling for patient individual differences.

In the following sections include the history and current trends in patient provider

relationships, the framework of the medical encounter in the context of patient-provider

communication, and evidence of the impact of communication.  This is followed by an

analysis of potential moderators of communication that make physicians in a medical context particularly susceptible to bias. Lastly, the section presents existing evidence of less positive communication between physicians and stigmatized groups and hypotheses concerning SES and depression diagnosis impacts on communication, separately and together.

<div align="center">**Patient-Provider Relationship**</div>

Over the past fifty years, there has been a call for a shift in the medical model from paternalistic, authoritarian treatment styles to patient-centered medicine, sometimes referred to as relationship-centered care. The advent of important advances in biological knowledge and treatments in the 20th century led to an increased focus on disease physiology and less focus on the patient. Roter claims that the shift toward patient centeredness and communication will be the focus of the 21st century just as the epidemiological focus was the medical revolution of the 20th century (2000). The recent movement back to the patient came alongside a number of cultural changes, including an aging population and increased comorbid, chronic illness rates (WHO, 2009). Chronic conditions require patients to do the majority of the work outside of the hospital or clinic setting and also to integrate treatment into their daily life that must be balanced with competing priorities, values and relationships. Thus the role of the physician has to shift from primarily acute treatment that requires minimal relationship negotiation to an equal partnership in an ongoing relationship that involves patients in their care.

The power dynamics in traditional relationships greatly favors the physician, who has a paternalistic role while the patient takes on a passive role (Charles, Whelan, &

Gafni, 1997). In this model of medicine, the provider is the expert guardian meant to focus on the patient's health and wellbeing with minimal consideration for patient choice and autonomy (Emanuel & Emanuel, 1992). After using knowledge and skills to discern the disease and determine a treatment, the provider selectively communicates disease and treatment information that engenders patient assent or, on the extreme, notifies the patient of the treatment and when it begins. The patient's role is to accept unquestioningly the treatment because of provider is assumed to be able to discern patient goals and objectives with minimal patient participation. Assent from the patient is considered evidence of patient choice and participation. Thus this method is sometimes called clinician or doctor-centered interviewing (Smith, 2002).

While functional for acute problems with well established, non-invasive treatment for otherwise healthy individuals, patients managing chronic, complex illnesses that involve integration of changes in multiple life domains require a different model of medicine. Patients also expect greater acknowledgement of their voice with the advent of easily accessible medical information. Patients are more informed now and want to be aware of the full impact of any treatment as well as alternatives available to them. While physicians are the experts in medical knowledge, patients are experts in their body, their values, their life priorities and choices that affect these. Patient-physician relationships marked by a patient with an active role and a physician that treats patient fairly have predicted patient activation (Alexander, Hearld, Mittler, & Harvey, 2012). Patient activation occurs when patients accept the importance of their role in their health and recognize their skills, ability and commitment to following treatment plans (Hibbard et

al., 2007). Patient activation has been found to significantly impact health outcomes (Hibbard, 2009; Mosen et al., 2007; Remmers et al., 2009)

The patient- or relationship-centered model focuses on an equal responsibility and voice for the patient in the medical encounter. Roter defines patient centered medicine as the building of a relationship between the patient and the provider that allows the patient's needs, values, beliefs and opinions to be revealed and integrated into negotiations of the best treatment options for the patient (2000). Mead and Bower suggest that there are five dimensions of a patient centered model: (1) biopsychosocial perspective, (2) the patient-as-person, (3) sharing power and responsibility, (4) a therapeutic alliance, and (5) doctor-as-person (2000). The biopsychosocial perspective includes the traditional notion of illness as having biological roots but also recognizess that illness can stem from psychological and social issues. Therefore when a patient experiences an illness without a testable biological cause, often the case with mental illness, the doctor still perceives the illness as something to treat in a medical office. Other models would not conceptualize the person as ill, making biological disease the focus rather than the person.

The patient-as-person component acknowledges that diseases, illnesses and injuries will manifest differently and need treatment regimens based on the individual history and current situation. Depression has a wide and varying range of presenting symptoms with some individuals gaining weight and some losing weight. Some feel a general malaise and anxiety while others become irritable and withdrawn. Treatment for depression is equally complex. Inpatient treatment for major depression may be

generally ideal for severe cases, but physicians who consider the "patient-as-person" would be aware of their patient's attitude toward treatment for mental illness and work, social or family obligations when presenting treatment options.

The third component of patient centeredness requires the doctor and patient to share power and responsibility in the medical relationship. As patients become more activated and informed, they expect the doctor to share all information, unlike the paternalistic model. Again contrasting paternalism, patients are expected to take equal responsibility for their health and wellbeing. Patients have an equal say in the treatment and thus are expected to be responsible for involvement in their health care. Because the doctor is a gatekeeper to many aspects of healthcare, it is unlikely that full equality of power can be achieved within current healthcare models. Patient-centered care promotes physicians relinquishing authoritarian power by moving from a parent-child relationship model to one between two consenting adults, to the degree the patient desires the change.

Emanuel and Emanuel noted that power dynamics could be understood through 3 elements (1) who set the agenda and goals of the encounter, (2) patient value exploration and integration and (3) physician role (1992). This model specifies how the third component of Mead and Bower's model looks when there are high and low levels of power for the physician and patient. Using the Emanuel and Emanuel conception, equal shares in power and responsibility in a patient centered relationship would include a mutually agreed upon negotiation of the agenda and goals, explicit questioning of the patients values as they relate to the goals of the encounter, and lastly, the physician taking on the advisor or counselor role. This is in contrast to the paternalistic model described

earlier where the physician sets the goal and agenda, assumes the knowledge of the

patient's values and acts as a guardian or parent.

The fourth element of a patient-centered relationship is therapeutic alliance, based

on psychotherapeutic models in the tradition of Carl Rogers where empathy, genuineness

and unconditional positive regard are necessary for successful treatment (1967).

Paternalistic models also promote a positive doctor-patient relationship, though with

compliance motivations. Negative affect from the patient could lead to treatment

incompliance or to poor treatment planning because of biases in physician's decision

making when the provider feels negative emotions toward the patient. There is evidence

to support that a positive relationship has a functional role (Zolnierek & DiMatteo, 2009).

The positive affect from the therapeutic alliance in paternalistic models is only a tool that

can be used to improve treatment.

On the other hand, in patient-centered medicine, therapeutic alliance is a

necessary component central to the patient-centered relationship. Patients and providers

integrate affective and cognitive elements such that they agree on goals, patients have

confidence in the treatment or intervention, and patients perceive that the provider cares

and empathizes with them (Mead & Bower, 2000). Research supports that therapeutic

relationships that include elements such as rapport building and listening can be directly

healing as well as an indirect means to successful treatments (Duggan & Thompson,

2011; Jagosh, Boudreau, Steinert, MacDonald, & Ingram, 2011; Street, 2003; Street,

Makoul, Arora & Epstein, 2009).

Doctor-as-person, the fifth and final element of the patient centered model,

conceptualizes the doctor as a partner in the relationship rather than a separate entity

objectively solving a problem.  The doctor and patient have a reciprocal influence on one

another's thoughts and emotions. This aspect of the model also acknowledges that the

doctor brings their biases and subjective experiences into the relationship. Just as there is

a full history that must be considered when the patient presents for treatment, the doctor's

history must be acknowledged as well.  Part of this history includes exposure to public

stigma, wherein large portions of society endorse negative stereotypes and display

prejudice that motivates action against the stigmatized group or individual (Corrigan,

Kerr, & Knudsen, 2005).

The role of patients and physicians continues to morph from the paternalistic

model to one in which the patient has more voice.  The five elements modeled by Mead

and Bower, biopsychosocial perspective, patient-as-person, shared power and

responsibility, therapeutic alliance, and doctor-as-person, provide a framework for

understanding the patient-centered relationship.  Because patient centered medicine

focuses as much on values and relationships as concrete health outcomes, communication

is integral to capturing the patient-centeredness in an encounter at all stages of the

medical interview.

## Communication within the Medical Encounter

Effective patient-centered communication has numerous benefits, including patient

satisfaction, health care costs, and health outcomes.  Pathways through which

communication impacts health outcome include accurate diagnosis, understanding the

problem, promoting treatment adherence and aiding the recovery process (Duggan,

2006). Patients are more likely to trust their physicians (Fiscella et al., 2004) and pay

lower health care costs (Epstein et al., 2005) when the encounter includes components of

patient-centered communication. Other studies show that attentiveness and empathy,

which relate to partnership building and interpersonal sensitivity in patient-centered care,

lead to increased patient satisfaction and self-efficacy as well as decreased distress

(Zachariae et al., 2003).  A comprehensive review of history-taking and discussion of

treatment showed that elements of patient centered communication, such as engagement

of patient participation, physician emotional support, willingness to share decision

making, and mutually agreed agenda and goal, was associated with better patient health

outcomes, including diminished depressive and anxiety symptoms, better control of

diabetes and lowered blood pressure (Stewart, 1995).

Patient-centered communication positively impacts stigmatized populations as

well.  African Americans with major depressive disorder receiving patient centered care

reported similar levels of improved outcome as standard care (Cooper et al., 2012a).

Though standard care resulted in more treatment, patients receiving patient centered care

reported better ratings of care with additional help identifying concerns and adhering to

treatment.  Physicians with patient-centered communication training exhibit more

positive communication with patients from underrepresented groups (Low SES and

minority status), which seems to have positive impacts on minority and low SES patients

with uncontrolled hypertension (Cooper et al., 2011).

While there is not a general consensus about the exact elements that make up

successful patient-centered communication in the medical interview, they tend to center

around similar themes of relationship/partnership building, information giving and receiving, interpersonal sensitivity, decision making and basic medical competency (Ong et al., 1995; Roter, 2000; Street, 2003). A key component of a patient-centered primary care encounter is the medical interview. Hall, Roter, & Katz conducted a meta analysis that uncovered 5 basic categories of communication within the medical encounter (1988). These have been honed and developed by Roter and colleagues to include information giving, question asking, partnership building, rapport building, and socioemotional talk as elements for effective communication (Roter, 2000). Information giving occurs when the physician provides general biomedical or psychosocial explanations, details about disease, drug or treatment and any procedures or exams the patient will undergo. Question asking includes both open and closed ended questions about biomedical or psychosocial topics. Partnership building occurs when the physician limits their dominant conversation and encourages the patient's participation. The fourth element is rapport-building. This involves emotional content that is not directly related to medical or psychosocial information concerning the symptoms or illness. Much of rapport building is found in non-verbal communication and tone of voice. Lastly the primary care encounter involves socioemotional talk. This includes the general positive or negative tone of the encounter and instances of social information exchange that occur out of friendliness and acknowledge the patient as a person. The presence and manner with which these are accomplished determine the extent to which a patient and physician achieve successful patient-centered communication.

Research indicates that despite the push for patient-centered medicine, most

physicians maintain traditional clinician-centered communication during medical

encounters.  To support equal power, communication during agenda setting should begin

with the patient talking freely about the reason for the visit with the physician

encouragement and avoiding interruptions and close-ended questions (Cegala, 2000).

However physicians tend to dominate the interview and rarely listen to patient concerns,

engage patients or collaborate in treatment decision making (Agha, Roter, Schapira,

2009; Campion, Foulkes, Neighbour & Tate, 2002; Elwyn, Edwards, & Kinnersley,

1999; Stewart, 1995; Stewart, McWhinney, & Buck, 1979).  Patients and physicians also

have different understandings of what has been communicated in relation to medication,

degree of patient involvement and affective reactions though not always to the

dissatisfaction of the patient (Olson & Windish, 2010). However, patients are generally

dissatisfied with physicians that quell psychosocial topics and dominate discussions

(Bertakis, Roter & Putnam, 1991).

Patients will often give subtle cues that provide insight into the psychosocial

components of their history which need to be addressed for patient-centered care.

Patient-centered communication calls for active listening for cues and elicitation of

patient concerns through open-ended question asking. Research has found that physicians

in primary care often miss cues and concerns and discourage disclosure (Zimmermann,

Del Piccolo, & Finset, 2007) or fail to follow up with their concerns which can lead to

deficits in care (Weiner et al., 2010). Other evidence shows that physicians vary in how

well they display interpersonal sensitivity when addressing patient emotional needs and

concerns.  Typically physicians miss opportunities to provide emotional support (Hsu et

al., 2012). Mjaaland and colleagues found that the majority of physicians noted emotional cues and concerns, but they tended to avoid following up with emotional discussions, especially if the patient was explicit about their concern (Mjaaland, Finset, Jensen & Gulbrandsen, 2011). Oncologists tend to address biomedical concerns for cancer patients but were less effective in responses to emotional cues (Butow, Brown, Cogar, Tattersall, & Dunn, 2002). In addition, primary care physicians do a poor job of discussing mood and emotional disturbances with patients who present with depression symptoms (Ghods et al., 2008). Overall, physicians struggle to detect and handle patient emotions effectively, which can be particularly detrimental to treating the psychosocial elements of the illness, especially for patients with stigmatized characteristics including the two studied in the current research.

Patient-centered communication also involves emotional expression, interpersonal sensitivity and rapport building through physician non-verbal communication in the physician-patient encounter. Roter and colleagues argue that communication of emotion and expert knowledge is central to the patient-physician relationship (2006). Research shows that nonverbal sensitivity is related to patient centered attitudes and behaviors (Hall, Roter, Blanch, & Frankel, 2009). Nonverbal behaviors in the clinical setting can include body language such as facial expression, eye contact and body placement. It can includes non-visual components, such as tone of voice, speed rate, and interruptions. These are connected to verbal communication and can give context to the statement that provides more information than language alone.

Non-verbal expressions are known to reveal emotions that cannot be determined

from verbal communication. For example, "Is there anything else?" given in a terse tone

can indicate annoyance or anger. The same statement in a sympathetic tone followed by

a pause for patient response indicates empathy and concern. Non-verbal communication

is more likely to reveal implicit attitudes, and affective reactions in conjunction with

verbal communication provide more information than the study of verbal communication

alone (Roter, Frankel, Hall, & Sluyter, 2006). This includes affective reactions, such as

pity, that stem from the stereotype dimension of warmth and competence explored in the

pilot study. Despite the importance of non-verbal expressions, there has been limited

research on its impact in the medical encounter (Hall, Harrigan, & Rosenthal, 1995).

## Communication Moderators

There are a multitude of systemic and individual patient and provider factors that

contribute to health disparities for stigmatized groups. On the provider level, physician

bias has the potential to directly and indirectly impact health disparities. While

physicians have been trained to make objective and non-biased assessments of patients

and to act in their best interest, the human tendency to rely on social categorization when

faced with a barrage of information makes it unlikely that physicians are unaffected by

the stereotypes associated with socially stigmatized groups, including people with

depression and a low SES (Fiske & Neuberg, 1990). Even when motivated to remain

unprejudiced and non-discriminatory, people often carry implicit attitudes despite

rejection of explicit attitudes that support the stereotypes (Devine, 1989; Dovidio et al.,

1997; Fazio, Jackson, Dunton, & Williams, 1995; Greenwald & Banaji, 1995, Lepore &

Brown, 1997). These perceptions can then parlay into affective reactions and differential

behavior reflected in communication and based on characteristics peripheral to the illness, which ultimately effect patient diagnosis, treatment, and outcomes.

According to the Stereotype Inhibition and Activation Model, once the category and associated stereotypes are activated, the physician is likely to interpret a patient's behavior in line with the stereotypes (Bodenhausen & Macrae, 1998). The biased interpretations then lead to discriminatory behavior. The pilot study suggested that when low SES and depression categories were identified, the stereotypes high warmth and mid level competency would be activated and lead to feelings of pity. The BIAS model predicts that the physician will want to help but also will want social and cognitive distance from the patient. As we know from social psychology research, stigma, prejudice and discrimination are often conveyed unconsciously through non-verbal communication behaviors (Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997). Provider communication during the patient-physician encounter may function as an avenue for stigma, specifically through subtle non-verbal communication. The stigma may manifest as negative affective tone and paternalistic communication. The physician would be more likely to dominate the conversation leaving the patient with little room to share any information not specifically requested by the doctor. Additionally patients are more likely to be excluded from decision-making if the physician believes they are incompetent. These behaviors allow the physician to help the patient but maintain distance by limiting partnership and rapport building.

The stereotype activation to discrimination process may be inhibited or accentuated by a number of factors including the physician's personal beliefs and

perceptions of normative beliefs about egalitarianism (Bodenhausen & Macrae, 1998). A physician may have the personal motivation and normative motivation to be egalitarian, however, other factors can interfere with the suppression of stereotypes or amplify the use of stereotypes to understand the situation. The physician may still rely on the stereotype content through heuristic processing rather than more cognitively taxing systematic processing due to situational characteristics, personal characteristics, and their interaction when in an encounter with a person with mental illness or a low SES.

**Physician Roles and Organizational Expectations**

The continuum model of impression formation (Fiske & Neuberg, 1990) states that processing information occurs along a category-based or individual-based continuum in which a perceiver judges a target based on either systematic processing of the individual traits or through heuristic processing based on the target person's perceived social categories. Power has been shown to influence individuals to use less systematic processing because power makes the person less dependent on others and thus the outcome of their processing is less tied to the target person (Fiske, 1993; Goodwin, Gubin, Fiske, & Yzerbyt, 2000). Physicians are in a position of power and have few day-to-day ties to their performance as a physician and the patient's outcome. This is especially true in clinics where there is an overflow of patients and physicians do not see the same patients regularly so do not develop strong relationships. These characteristics make physicians susceptible to relying on categories rather than individuating information to form impressions of their patients. Other research has countered that power leads to more individuation (Chen, Ybarra & Keifer, 2004); however, this effect is

minimized when focus is split between person centered and organization centered tasks (Overbeck & Park, 2001). This is especially pertinent to physicians who are pushed to practice patient-centered medicine but also are under pressure to fulfill all the requirements of their office or hospital – such as filling a quota of patients seen, reducing medical costs, and meeting efficiency requirements.

**Time Pressure**

Individuals under time pressure are more likely to rely on stereotypes and heuristics to make decisions and judgments because the systematic processing takes more time and effort. The average office visit takes approximately 18 minutes in the United States (Mechanic, McAlpine, & Rosenthal, 2001) and some argue that more time is needed for quality patient care (Freeman et al., 2002). The rise of chronic, complex conditions and more emphasis on patient-provider communication yields complex consultations requiring more time. Socially disadvantaged patients whose medical issues are often complicated by social issues require even more time to disentangle their needs (Fiscella & Epstein, 2008). Thus the pressure on physicians to meet the increased demands set by the organization and encountering complex cases may result in cutting cognitive corners by making assumptions based on stereotypes rather than probing further to fully understand the issue.

**Goal Threat**

Physicians' goals are to successfully diagnosis and treat a patient. A patient who has a complex situation with a combination of biomedical and psychosocial issues effecting to their symptoms will be more difficult to treat. This is likely to threaten, or

put in peril, the physicians successful completion of his goal.  Peril is one of the key

factors of stigma such that the characteristic marks the individual as somehow threatening

(Deaux, Reid, Mizrahi & Ethier, 1995; Frable, 1993; Jones et al., 1984).  Emotions

resulting from this threat are likely to direct behavior to avoid or diminish the threat so

that they can achieve the goal.  According to Cottrell & Neuberg's sociofunctional

approach to prejudice, in-group threats to specific domains will result in specific

emotions reflective of an attempt to diminish the domain's threat (2005).  To diminish the

threat, the physician is more likely to distance herself from the patient and avoid rapport

and relationship building communication in comparison to patients with less complex

cases.  This could result in less positive emotional reactions to the patient as expressed in

non-verbal communication.

**Uncomfortable Interactions**

Interactions between stigmatized and non-stigmatized individuals have been

characterized as stressful due to ambivalent feelings toward a stigmatized individual

either because of differing implicit and explicit beliefs (Dovidio & Gaertner, 1999) or

conflicting feelings toward the individual and their stigmatized group (Olson & Fazio,

2007).  In the first study, the results showed that the patient with multiple stigmas did

provoke mixed reactions where they were higher in warmth than competency.  To avoid

discomfort, people will socially distance themselves from the stigmatized group

(Corrigan et al., 2003; Lott, 2002).  In the medical context, physicians are likely to be in

professional relationships with people perceived as stigmatized.  However, they will not

be able to completely withdrawal from every situation.  Thus within the medical exam

this likely leads to overall less patient-centered care because of the discomfort experienced by the physician.  For example, medical encounters with stigmatized individuals show less quality of care through differences in exams, guidance and, in the extreme, physician refusal to treat (Smith, 2002).

**Medical Training**

In his book, *How Doctors Think*, Jerome Groopman, M.D. explains that despite the emphasis on objectivity in medical training, physicians are just as prone to the same biases as non-physicians and in some cases, are more prone to them (2008).  According to Illness Scripts Theory, physicians make medical decisions by looking at the enabling conditions (e.g. patient history, demographics, comorbid conditions) that would affect the probability of a disease, the faults (e.g. biomedical evidence of disease), and the consequences that come from the fault (e.g. symptoms, complaints) (van Schaik, Flynn, van Wersch, Douglass & Cann, 2005).  Physician experience tends toward looking for the common, or what is most probable.  This is successful for the majority of patients, but it fails to take into account the biases that physicians bring into the medical counter, which goes against the "Doctor-as-person" component of the patient-centered medical model.

An important component to health disparities that occurs on the provider level is their vulnerability to cognitive bias in assessing, diagnosing and treating patients some of which stems from medical training.  The medical community has recognized the impact of cognitive biases and affective factors in physician decision making (Croskerry, 2003; Croskerry, Abbass & Wu, 2008).   Decision-making in medical situations involves quick pattern recognition rather than systematic processing and integrating of cues.  Thus

physicians often rely on heuristics. Croskerry argues that a diagnostic reasoning model which takes into account the dual processing nature of decision making is the most appropriate for clinicians (2009). However medical training in bias recognition and correction is not ubiquitous thus most physicians don't have the basic tools to identify their patterns of thinking and assess where biases could impact their decision.

Croskerry describes a number of cognitive errors that he believes are found in medical decision making, including ascertainment bias, anchoring and confirmation bias, fundamental attribution error, and gender bias (2003). These cognitive errors are examples of ways in which stereotypes could bias the interpretation of the individual to produce discriminatory behavior. Ascertainment bias occurs when a provider expects outcomes, behaviors or diseases based on expectations drawn from stereotypes. This can be especially harmful if the physician uses anchoring such that the first salient feature determines the physicians' decision making without regard for later information. During the later part of the medical interview, physicians can also fall prey to the confirmation bias where in the patient communication and exam results are interpreted to support their initial categorizations and expectations. Numerous characteristics specific to the medical encounter engender reliance on heuristic processing, despite intention or awareness of biases. Because people with depression and low SES carry negatively-valenced stereotypes, and it is imperative to understand the effects of stigmatizing characteristics within the medical context rather than relying on knowledge based on non-specific interpersonal relationships and communication.

**Physician Gender**

Female physicians tend to use more patient-centered communication, both verbal and non-verbal, than male counterparts. Patients respond with more partnership statements and provide more information to female physicians (Hall, Irish, Roter, Ehrlich, & Miller, 1994a). However younger physicians, and particularly young female physicians, received the lowest patient satisfaction ratings which were unrelated to communication (Hall, Irish, Roter, Ehrlich, & Miller, 1994b). This is likely related to social roles ascribed to women, as explained by the Social Role Theory (Eagly, Wood, & Johannesen-Schmidt, 2004). While gender effects in the medical context are of the upmost important, they are beyond the scope of the current project and were not a focal point of the study.

**Stigmatized Characteristics and Patient-Centered Communication**

Theories and models indicate that physician biases are likely to impact the patient provider relationship, and evidence shows that patient symptoms and characteristics influence medical decision making despite medical training to remain objective (van Schaik et al., 2003). Recently there has been more research showing that patient personal characteristics and social categories affect physician perceptions and communication (Cooper et al., 2012b; van Ryn & Burke, 2000). For example, physician behavior was found to be partially responsible for less patient-centered care with high neuroticism patients (Ellington & Wiebe, 1999) and sicker patients (Hall, Milburn, Roter & Daltroy, 1998). In addition physicians give more information to patients they respect versus those they do not (Beach, Roter, Wang, Duggan, & Cooper, 2006).

Recent research has found physician bias affects racial/ethnic disparities in healthcare (Burgess, Fu, & van Ryn, 2004; Dovidio & Fiske, 2012). For example race/ethnicity studies have found patient perceived prejudice and discrimination impacts patient-provider communication, which has been suggested as a mediator to patient disengagement and health disparities found in these groups (Hausmann et al., 2011). Patients that have experienced discrimination in the past have overall less positive communication with providers, and both patients and physicians exhibit more negative nonverbal affect in the encounter (Hausmann et al., 2011).  Black patients reported less positive interactions with physicians who had attitudes in line with aversive racism than any other combination, including explicit and implicit racism **(**Penner et al., 2010).  This included experiencing less warmth and friendless from the physician and less feeling that they were part of a team with the physician.  However much of this work is in perception of discrimination rather than measuring prejudice or discriminatory behaviors, and researchers have called for more empirical examination of doctors' prejudice and stereotypes as they effect racial/ethnicity health disparities (Balsa & McGuire, 2003).

Other research on race/ethnicity differences in patient-centered medicine analyzes the encounter using an established communication analysis system, such as the Roter Interaction Analysis Scale (RIAS) which can capture the subtle behaviors that are below providers' consciousness.  Comparing Blacks and Whites with controlled or uncontrolled blood pressure showed that patient race influenced communication more than the medical differences in areas include length of visit, biomedical, psychosocial and rapport building talk (Cené, Roter, Carson, Miller, & Cooper, 2009).  Physicians were more verbally

dominant with Black HIV patients compared to White HIV patients, though this was mostly due to less talking from Black patients (Beach et al., 2010). In the same study physicians were less patient-centered and used less psychosocial talk with Hispanic patients than with non-Hispanic patients regardless of English proficiency. Unconscious stereotype activation in physicians leads to biases in diagnoses without their intent or awareness (Moskowitz, Stone & Childs, 2012). Implicit general racial bias and implicit attitudes about race and compliance with treatment has a negative impact on patient's affect and ratings of care and physician communication, including verbal dominance and less patient centeredness (Cooper et al., 2012b).

Recently there has been a call to explore racial differences not from a perspective of individual prejudice but to look at the mediating elements between race and health disparities, which includes SES (Jackson, Knight, & Rafferty, 2010). While there is evidence of less engagement in the form of relationship building, information giving, and shared decision making in patient-physician encounters for minorities, SES explained more of the relationship (Cox et al., 2012). However, patient race and SES independently affect physicians' perceptions of patient treatment factors, including likely adherence to treatment, risky health behavior and adequate social support (van Ryn & Burke, 2000). In addition they perceived Black patients as less intelligent and had less warm feelings toward them. Physicians ascribed a broad range of negative personality traits to low SES patients and also considered them less intelligent with fewer life responsibilities.

Less research connects the components of the patient provider interaction with the well-documented experience of health disparities for people with mental illness. Few

have conceptualized mental illness as a patient identity that could engender prejudice. Within mental health care, mental health professionals have been found to respond stereotypically to individuals with mental illness, which could serve as a barrier for mental health treatment (Ryan, Robinson, & Hausmann, 2001). Impacts on physical health treatment went unexplored. Depression typically has been viewed as a separate condition to be treated in a separate system. This has been used to explain differences in health care for those with depression (Pope, 2011). However, primary care physicians manage one-third to two-thirds of patients treated for depression (Harman, Veazie, & Lyness, 2006; Kessler et al., 2003), and some evidence suggests that mental health stigma impacts how physical treatment is carried out (Küey, 2008). There are well documented barriers to treating depression in primary care (Pincus, Pechura, Elinson, & Pettit, 2001), such as the separation of mental and physical health systems and differences in insurance coverage impact depression treatment. However, physician factors, such as discomfort treating people with mental illness, lack of knowledge or experience, and time constraints/competing demands, also make mental illness treatment secondary (Druss, 2007). Patients with depression report experiencing and being affected by patronizing attitudes and feelings of stigma more than overt discrimination (Dinos, Stevens, Serfaty, Weich, & King, 2004). Thus it appears that provider biases may play an important role in health care disparities.

Even fewer studies have looked at the intersection of multiple stigmatized identities as determinants for differences in provider communication. As Goffman expressed, individuals manage multiple identities at one time (1963). Most research has

looked at stigmatized identities separately as if the individual was not presenting multiple identities at one time. However, patients with mental illness and a physical disability report more perceived stigma and discrimination which related to negative self-rated health (Bahm & Forchuk, 2008). In addition, African Americans are less likely to seek treatment, and depression is less likely to be detected (Ghods et al., 2008). Physicians also discussed depression less with African American patients than with White patients who showed equivalent symptoms, and African Americans with depression experienced less rapport building. However, this work did not compare patients without depression – a gap that the current study was able to fill. Understanding the mechanism through which multiple stigmatizing characteristics effect physician communication and behavior in the medical encounter is essential because of their unique position as gatekeepers to physical health care, mental health care and social services.

**Hypotheses**

Research has examined how patient level characteristics, beyond the specific disease characteristics, can influence health either directly or in interaction with system, provider and situational factors. Previous research has had four primary focuses: documenting health disparities; investigating the system issues for individuals with mental illness within the mental health system; exploring the barriers to physical and mental health treatment; and examining the direct effect of self-stigma on patients. In addition, much of this work has been done using patient perception or using laboratory based experiments. Physicians are aware of being judged on their communication so they behavior differently than in non-lab settings. When communication is addressed, the

focus has been on verbal instead of non-verbal, though biases and prejudice are often not captured in explicit measurements.  Non-verbal responses tap into the implicit prejudices and biases that are often unrecognized by the perceiver but are felt by the target person. There appears to be a gap between the documentation of the problem, the effects of the problem and the mechanisms through which stigma is manifested.

Work has been done connecting single stigmatizing characteristics or conditions with decreased satisfaction with communication and differential treatment based. However there has been no research to date that integrates the impact of multiple stigmatizing characteristics or conditions on patient-provider communication. The current study adds to the literature by focusing on objective measures of patient-provider communication, including non-verbal elements, in a field setting and on the effect of multiple stigmatizing characteristics.  Roter's description of communication categories in medical encounters has been used extensively to delineate the content and correlates of verbal and non-verbal communication in the patient-provider encounter (Ford, Fallowfield, & Lewis, 1996; Kumar et al., 2010; Roter & Larson, 2001; Wissow et al. 1998).  In the current study, the following elements of communication were targeted based on previous work that examined the content and correlates of providers communication using Roter's analysis system: Patient-Centered Verbal Communication: Patient-Centered Talk, Rapport Building, Provider Engagement, Verbal Dominance; Patient-Centered Non-Verbal Communication: Length of Visit and Global Affective Rating.  Given the limited impact of race in the pilot study, the current study focused on depression diagnosis and low SES as determinants of provider biases in the patient-

provider encounter.

Hypothesis 1: Physicians would use elements of patient-centered verbal communication less for a patient with a stigmatized characteristic (patient with depression or a low SES) than with a patient without these characteristics during physician-patient encounters.

Hypothesis 1a: Physicians would use elements of patient-centered verbal communication less for a patient with multiple stigmatized characteristics (patient with depression and a low SES) than for a patient with a single stigmatized characteristic during physician-patient encounters.

Hypothesis 2: Physicians would have less positive affective reactions for a patient with a stigmatized characteristic (patient with depression or a low SES) than with a patient without these characteristics during physician-patient encounters.

Hypothesis 2a: Physicians would have less positive affective reactions for a patient with multiple stigmatized characteristics (patient with depression and a low SES) than for a patient with a single stigmatized characteristic during physician-patient encounters.

Hypothesis 3: The length of the physician visit would be shorter for a patient with a stigmatized characteristic (patient with depression or a low SES) than a patient without these characteristics during physician-patient encounters.

Hypothesis 3a: The length of the physician visit would be shorter for a patient with multiple stigmatized characteristics (patient with depression and a low SES) than for a patient with a single stigmatized characteristic during physician-patient encounters.

CHAPTER SIX

STUDY TWO METHODOLOGY

**Procedure**

The second study employed secondary data from a cross sectional, experimental study

collected as part of a larger project on psychosocial and biomedical treatment errors made

by physicians during primary care appointments between April 2007 and April 2009

(Grant funded by the Department of Veterans Affairs Health Services Research and

Development Service (grant IIR 04-1071) Primary Investigator: Saul Weiner, MD).  The

primary care encounter occurred at the offices of practicing physicians who agreed to the

blinded study.  The physician saw trained actors portraying patients without being aware

when the appointment would occur or knowing the identity of the patient.  This is

referred to as using an unannounced standardized patient.  This reduced the effects of

demand characteristics on behaviors that would be difficult to attain otherwise. Edward

Hines, Jr. Veterans Affairs Health Services Research and Development and UIC IRB

committees approved the study.

Unblinded observations of physician-standardized patient interactions are often

used in medical training.  However knowledge of observation is likely to produce

behavioral differences in physicians (Coleman, 2000), so unblinded physician

observation is not ideal for research.   To reduce the threat of demand characteristics, the

physician should agree to a surprise appointment in their clinic where they are unaware

that the appointment is with a standardized patient.  This requires additional

resources which makes primary data collection difficult. A secondary dataset provides an opportunity to assess situations without overtaxing the healthcare system.

Using secondary data sources has not been common in psychology research unlike related disciplines such as communication, sociology and anthropology. Secondary datasets allow researchers to explore a myriad of topics using samples that are more representative of the general population and otherwise difficult to research (Trzesniewski, Donnellan & Lucas, 2011).   Physician-patient encounters within the healthcare setting are difficult to access because of privacy restrictions and the demands that research can put on the healthcare system, in terms of provider time, space and other resources.  Using real patients for healthcare research reduces experimental control because of the natural variation in patient conditions and situations.  However standardized patients allow researchers to control the presentation to the physician. Standardized patients receive careful training from programs at medical schools designed to teach healthy actors to portray the role of a patient, often for medical student practice and have been found to be a reliable and valid research tool in medical practice (Beullens, Rethans, Goedhuys, & Buntinx, 1997).

The participants were 152 physicians in 14 practice locations who consented to have researchers schedule and audio record up to 4 appointments with 4 unannounced standardized patients (trained actors) over the subsequent 18 months.  Eight standardized patients received coaching at the University of Illinois at Chicago Dr. Allan L. & Mary L. Graham Clinical Performance Center, which specializes in training standardized patients. The actors were trained to perform as a patient in one of four baseline cases with the following primary reasons for visit: (1) Diabetes, (2) Hip Replacement Surgery

Clearance, (3) Unexplained Weight Loss, and (4) Uncontrolled Asthma. Each case had 4

variations: Baseline Condition only; Baseline condition with additional medical

information; Baseline condition and additional contextual information; or Baseline

condition with additional medical information and contextual information (See Table 9).

Table 9. Study two case descriptions.

| Conditions | Case 1 | Case 2 | **Case 3** | Case 4 |
|---|---|---|---|---|
| *Baseline* | Diabetes with fainting spells after insulin change | Hip Replacement candidate with high blood pressure and overweight | **Unexplained Weight Loss** | Asthma with persistent problems despite treatment |
| *Baseline & Medical* | Diabetes & Arrhythmia | Hip Replacement & Hypothyroid | **Unexplained Weight Loss & Depression** | Asthma & Gastroesophageal Reflux Disease (GERD) |
| *Baseline & Contextual* | Diabetes & Health Illiteracy | Hip Replacement & Caretaker | **Unexplained Weight Loss & Low SES** | Asthma & Uninsured/ Financial Issues |
| *Baseline, Medical & Contextual* | Diabetes, Arrhythmia & Health Illiteracy | Hip Replacement, Hypothyroid & Caretaker | **Unexplained Weight Loss, Depression & Low SES** | Asthma, GERD & Uninsured/ Financial Issues |

Providers were scheduled to meet with four different standardized patients, acting

out one of four cases, so that all providers were presented with all cases. The condition

for the case was randomly assigned to the provider such that each condition was

represented equally across all participants. The current study used the Weight

Loss/Depression/Low socioeconomic status (SES) case and the four conditions within it

as both depression and low SES are known to be stigmatized conditions that contribute to

health disparities within these populations (Druss, Bradford, Rosenheck, Radford, &

Krumholz, 2000; Lawrence & Kisley, 2010; Nordt, Rossler, & Lauber, 2006; Viron & Stern, 2010).

All physicians were presented with a person acting out the scenario with unexplained weight loss as the chief complaint and cues that could indicate depression and poverty. In all conditions of case 3, Mr. Garrison, the 70-year-old male patient, described details of their chief medical complaint, weight loss, which should prompt the provider to test for cancer in the absence of other causal factors according to standard medical practice (Weiner, et al., 2007). However, within the description of their problem, all patients gave additional cues – information that should alert the provider to possible alternate causes of the complaint – for both depression and poverty. The patients showed possible signs of being down and depressed including sighing twice as the depression cue. The low SES cue was conveyed by shabby clothing and a disheveled appearance that could be an indication of homelessness or having economic hardships. These cues were not meant to lead the provider to diagnose the patient with depression or assume that they were low SES. Instead they were intended to indicate the need to further investigate other sources of weight loss. As part of the medical interview, the physician probes, or ask questions about, patient's cues to elicit information for diagnosis and treatment planning. Weiner and colleagues tested that the cues were sufficient to elicit probes with experienced physicians not enrolled as participants (2007).

When the physicians did not probe the cues, the standardized patients offered no information. However if the physician in the current study probed the cues, the patient provided a narrative aligned with the randomly assigned condition. For questions about depression (e.g. whether the patient was feeling down, having have trouble sleeping,

having trouble concentration, if anything triggered the depression), the standardized

patients were instructed to use the following script for the weight loss & depression

condition and the weight loss, depression and low SES condition:

> "Mr. Garrison acknowledges that he has been more anxious than usual and sad
> and angry since his daughter was killed about a year ago in a domestic violence
> incident.  He sleeps fitfully and has trouble concentrating.  His appetite is 'gone'
> much of the time, so he eats very little. He says he is not sure life is worth living."

When the provider probed the depression cues and was assigned to the baseline weight

loss condition or the weight loss and poverty condition, the standardized patient

responded negatively to the questions, thus eliminating depression as a factor in his

weight loss.

If a provider asked questions about the standardized patient's financial situation

(e.g. if he has trouble affording food, finding work, managing on his social security, or

obtaining enough food), the patient was instructed to use the following script for the

weight loss and poverty condition or the weight loss, depression and low SES condition:

> "He will also reveal (again, if pertinent questions are asked) that it has been
> difficult supporting himself on a small military pension.  Further questioning
> reveals severe financial hardship since he lost a job as a security guard about a
> year ago. 'People think I am too old now to hire me.' Mr. Garrison is currently
> living in a boarding house, but has been homeless twice in the last year.  He still
> is able to eat about three times a week at a soup kitchen, but otherwise rarely
> 'finds a good meal.'"

For the baseline weight loss condition or the weight loss and depression condition, the

standardized patient responded to the provider's probes about his financial situation with

reassurances that he was able to afford food and shelter.  For all appointments providers

were blind to the condition and were unaware that their appointment was with a

standardized patient.  Table 10 shows the distribution of physicians' assigned sample.

Table 10. Assigned distribution of providers in weight loss/depression/low SES case.

|  | No Low SES | Low SES | TOTAL |
|---|---|---|---|
| No Depression | 25 | 21 | 46 |
| Depression | 23 | 24 | 47 |
| TOTAL | 48 | 45 | 93 |

*NOTE:* Weight loss information given in all cases.

As described previously, patients provided cues but no explicit information to confirm the presence of depression or poverty unless the doctor probed. Physicians' lack of recognition or acknowledgement of these subtle cues is a recognized problem in the medical literature (Zimmerman, Del Piccolo, & Finset, 2007). As would be expected from previous findings some physicians did not address the patient's depression and/or poverty cues in the current study. Weiner and colleagues' (2010) original work with the current dataset, physicians probed medical cues in only 63% of all visits across the four cases. Physicians probed even fewer contextual cues (51%) than medical cues.

Stigma models argue that before the "perceiver" devalues the "target" person, they must first identify the attribute considered to be a stigmatized characteristic (Crocker, Major, & Steele, 1998). In the original distribution of conditions, the provider did not necessarily identify the characteristic possibly eliminating the potential effects of stigma. The provider may have assumed the patient was depressed or had a low SES and felt further probing was extraneous. However, the physicians who did not probe also may have been unaware of the patient's attributes. Without probing the cues for depression or poverty, they may not have been affected by the stigma. Therefore, an additional set of analyses was run using the redistribution of all of the visits based on the

physicians' probing behavior.  A physician who probed the depression or poverty cue and received a confirmatory response was considered to be aware of the respective patient characteristic.  This distribution is labeled the Revealed sample (See Table 11).

Table 11. Revealed distribution of providers in weight loss/depression/low SES case.

|  | No Low SES | Low SES | TOTAL |
| --- | --- | --- | --- |
| No Depression | 34 | 15 | 49 |
| Depression | 32 | 12 | 44 |
| TOTAL | 66 | 27 | 93 |

*NOTE:* Weight loss information was given in all cases.

The Revealed distribution patterns are based on how the provider responded to the depression and poverty cues and their assigned condition.  Not probing a cue only changed the original condition if the provider was assigned to an experimental condition that corresponded to the unprobed cue.  For example, a provider in a weight loss and poverty condition who did not probe the depression or poverty cues would be reassigned to the weight loss only condition.  However if they probed the poverty cue but not the depression cue, they would remain in the weight loss and poverty condition because the standardized patient was not supposed to be experiencing depression and thus would have responded negatively to the questions.

Detailed descriptions of the reassignment of the cases follow.  Of the 24 encounters originally assigned to the weight loss, depression and poverty condition, as shown in Table 11, 12 physicians probed the patients' cues about both poverty and depression resulting in 12 encounters with a patient perceived as having depression and experiencing poverty.  One physician did not probe either case and that case became a

baseline condition. Eleven providers probed the depression cue and thus 11 encounters were redistributed to the weight loss and depression condition.

In the condition where patients had weight loss and depression, physicians in 21 of the original 23 encounters probed for depression and received a confirmatory response. Thus they remained in the original condition. The remaining 2 physicians did not probe the patient cue. These encounters were categorized as baseline because the provider was unaware of issues other than unexplained weight loss. Of the 21 encounters originally assigned to the weight loss and poverty condition, 15 physicians probed the poverty cue. The 6 encounters where the physician did not ask about the patient's ability to afford food were redistributed to the baseline condition.

Analyzing the data using the Revealed Distribution introduced a potential confound because the provider was selectively exposed to depression and/or poverty assignments based on their probing behavior. Providers who noticed subtle cues and asked probing questions may be different than those providers who either do not notice the cues or who ignore them. The difference in probing behavior may be related to stigmatizing behavior. For example a provider who is familiar with mental illness and poverty issues may be primed to notice any characteristics that could be indicative of depression or poverty. Because familiarity is related to more positive attitudes toward stigmatized characteristics, providers who noticed the cue may also be less stigmatizing toward the patient.

To control for potential confounding effects, the data was analyzed after removing those encounters where the physician did not probe the cues. As with the revealed redistribution of the sample, a physician that probed the cue(s) that corresponded to their

experimental condition remained in the data set. However, if they did not, the encounter was deleted from the dataset rather than reassigned. All of the encounters reassigned in the previous version of the dataset were simply removed. Table 12 details the Excluded distribution. By removing the non-probing physicians, the confound and its effects are also removed. However removing the cases also decreases the power and the ability to capture representative reflections of stigma effects on communication and health outcomes. Thus it was important to test the data in using all three distributions.

Table 12. Excluded distribution of providers in weight loss/ depression/low SES case.

|  | No Low SES | Low SES | TOTAL |
|---|---|---|---|
| No Depression | 25 | 15 | 40 |
| Depression | 21 | 12 | 34 |
| TOTAL | 46 | 27 | 74 |

NOTE: Weight loss information was given in all cases.

## Measures

The current study looked at the question of whether depression and low SES, both stigmatized conditions, had effects on the patient provider encounter. The following verbal and non-verbal patient-provider communication variables were used as proxies to measure the effects of stigmatized conditions on health outcomes.

**Elements of Patient-Provider Communication**

As practices in medicine have shifted toward a patient-centered approach, it has become more important for patients to be an active contributor in the health care setting. This change has led to an increase in the study of patient-provider communication in the primary care setting, particularly for chronic conditions which require a strong patient-

provider relationship and extensive patient self-management routines. Patient-centered care requires the medical exchange to be a problem-solving session where the expertise of both parties factors unto the solution. Contributions by the patient and provider during the medical exchange are made up of both instrumental, or task focused, and affective, or socioemotional, elements (Roter & Larson, 2001). Physicians' task-focused behaviors are the skills and techniques acquired in medical education and practice for which they are consulted. These are comprised of asking questions, giving information, and counseling about biomedical and psychosocial topics as well as running tests and procedures. Task-focused communication is any dialogue in reference to these elements, such as discussion about an exam or treatment, even if they are not being actively performed.

The affective dimension of verbal communication is comprised of socioemotional communication that focuses on psychosocial topics related to relationship building rather than data gathering or counseling. For example, a physician inquiring about a patient's everyday activities as social conversation to develop rapport reflects the affective or socioemotional element of communication. However if the same question is asked to assess the patient's level of physical mobility, the doctor would be engaging in task-focused communication.

Socioemotional communication can involve both explicit affective content, such as showing empathy, and implicit social and emotional relationship building, such as social conversation. Affective communication is also reflected nonverbally through the overall demeanor of the physician and patient. Rather than being attached to specific

verbal content, the tonal qualities of the vocal expression tend to reflect the global

affective demeanor more accurately than literal phrases (Roter, 1991).

To measure these elements of communication, the transcripts were coded by two

expert coders using the Roter Interaction Analysis System (RIAS) coding scheme at

RIASworks, a company dedicated to coding and training in RIAS.   The RIAS, a coding

method used extensively for verbal and nonverbal communication in medical dialogue,

and has been found to have high reliability between .70 and .99 (Roter & Larson, 2000).

The codes are applied to the smallest element of communication, known as an utterance

(Roter, 2011).  The smallest element may be one word or a long sentence, but it must

contain only one idea, thought or question.   In addition any pause of at least one second

represents the close of one utterance, even if it was not a complete thought or sentence.

The verbal statements of patients and providers are analyzed using 37 codes, 25 that

reflect task focused communication and 12 that reflect socio-emotional exchanges (See

Appendix C).  In the current study, the physician codes were studied as outcome

variables primarily because the focus is on the provider reaction to the patient

characteristics.  Composite measures including patient and doctor codes are described in

detail below (See Table 13).

**Patient-centered communication ratio.** Patient-centeredness of an encounter

consists of the degree that the encounter is concentrated on understanding the patient and

their situation so that it can be integrated into the treatment of the medical complaint.

Patient-centeredness was calculated using the ratio of patient-centered talk to doctor-

centered talk, a previously validated composite (Ford, Fallowfield, Lewis, 1996; Mead &

Bower, 2000). Patient centered talk consisted of all physician and standardized patient

psychosocial or lifestyle questions and information giving, verbal attention and clarifying

behavior while doctor centered talk included physician medical question, medical

information giving and directive statements (See Table 13).

**Rapport building.** Rapport building reflects the extent the provider is attempting

to build a relationship and willing to be close to the patient. Rapport building was

measured by tallying the amount of emotional talk, (legitimizing statements, expressions

of concern/worry, reassurance/optimism, partnership and self-disclosure) positive talk

(laughs/jokes, shows approval, compliments, and show agreement understanding),

negative talk (disagreement/criticism) and social conversation (Kumar, et al., 2010; See

Table 13).

**Provider engagement.** Provider engagement measures the extent to which the

provider is attempting to involve the patient in the medical encounter. The construct

included the codes asking for patients' opinions and checking patient understanding

(Kumar, et al., 2010). A higher score indicated more patient awareness (See Table 13).

**Verbal dominance.** In addition to the content of the talk, verbal dominance was

measured to assess how much the provider dominated the conversation rather than

leaving room for listening and patient input. Verbal dominance of the physician was

calculated as the ratio of the number of provider utterances to patient utterances with

higher numbers indicating more dominance (Kumar, et al., 2010).

Table 13. Roter Interaction Analysis System (RIAS) composite measures.

| Composite Measure | Utterance Calculation |
|---|---|
| Data Gathering – Biomedical | Closed Question-Medical + Closed question–therapeutic + Closed Question-Other + Open Question-Medical + Open question-therapeutic + Open Question-Other + Bid for Repetition |
| Data Gathering – Lifestyle/Psychosocial | Closed Question-Lifestyle + Closed Question-Psychosocial + Open Question-Lifestyle + Open Question-Psychosocial |
| Patient Education and Counseling-Biomedical | Gives Information-Medical + Gives Information-Therapeutic + Gives Information-Other + Counsels-Medical/Therapeutic |
| Patient Education and Counseling-Lifestyle/Psychosocial | Gives Information-Lifestyle + Gives Information-Psychosocial + Counsels-Lifestyle/Psychosocial |
| Provider Engagement (Facilitation and Patient Activation) | Asks for Opinion + Asks for Permission + Asks for Reassurance + Asks for Understanding + Back-Channels + Paraphrase/Checks for Understanding |
| Rapport-Building/Positive | Laughs/Tells Jokes + Approval-Direct + Compliment – General + Shows Agreement/Understanding |
| Rapport-Building/Emotional | Empathy Statements + Legitimation Statements + Concern/Worry + Reassures/Optimism + Partnership Statements + Self-Disclosure |
| Rapport-Building/Negative | Disagreement/Criticism – Direct + Disagreement/Criticism - General |
| Rapport-Building/Social | Personal Remarks |
| Procedural | Transitions + Gives orientation/Instructions |
| Patient Centered Communication | [Data Gathering-lifestyle/psychosocial (doctor) + Information-Giving-lifestyle/psychosocial (doctor) + Rapport-building/emotional (doctor) + Provider Engagement (doctor) + Data-Gathering-lifestyle/psychosocial (patient) + Information-giving-lifestyle/psychosocial (patient) + Rapport-building/emotional (patient) + Data-gathering-biomedical (patient)] / [Data-Gathering-biomedical (doctor) + Procedural (doctor) + Information-giving-biomedical (patient) + Information-giving-biomedical (doctor)] |

**Length of visit.** The length of the visit was calculated as the number of minutes the provider spent in the room with the patient.  In encounters where physicians left the room, the number of minutes that they were absent was deducted for the final calculation.

**Global positive affective rating.**  As discussed, affective communication is best reflected in the overall nonverbal demeanor of the participants. The RIAS coding scheme included the following affective dimensions: anger, anxiety, sadness, upset, dominance, interest, friendliness, responsiveness, empathetic, respectfulness, hurried and interactivity.  The ratings were assigned on a six point Likert scale, six being the highest, with one score for the entire medical encounter. These were not attached to literal statements but instead reflected the overall affect detected by the coder through tonal quality.  Positive physician affect was calculated by summing the coder ratings of physicians' interest, friendliness, engagement, and sympathy minus hurried behaviors (Ghods, et al., 2008).

**Treatment Plan**

During each appointment, physicians attempted to determine the most appropriate treatment plan based on data gathered from the patient and tests administered to them. This treatment plan then was documented in the medical notes from the encounter.  A treatment plan is a successful when it adequately addressed the whole person to include their physical issues as well as any circumstances that effect the treatment.  If the plan was chosen because of stereotypes or prejudice based on a characteristics attributed to a patient would be considered an incorrect treatment plan.

For the baseline and biomedical conditions, correct treatment plans reflected evidence-based, international standards of care for cancer testing and depression (Weiner, et al.,

2010).  However no such standards exist for contextual issues, such as poverty, because

of the uniqueness and complexity of individual patient situations.  To determine the most

appropriate treatment plan for the contextual case variants in the current study, internal

medicine physicians informally reviewed the cases and recommended plans of care.  The

cases were revised until the depression variant and the poverty variant consistently

elicited distinctly different treatment plans.  Next, 16 different primary care physicians,

otherwise unaffiliated with the study, was randomly assigned to independently review a

variant of the case.  The treatment plan was considered appropriate when 4 out of 4

physicians with the same case variant reached a consensus on treatment plan that

addressed the contextual information and differed from the treatment plan of other case

non-contextual conditions.

In the current study, the physicians' notes about the appointment were used to

determine the treatment plan for each encounter.  If the physician's notes were not

available, the transcribed dialogue from the medical encounter was read to determine the

verbal treatment plan conveyed to the patient.  Trained coders, who were blind to case

variant, documented the plans of care for each encounter which included counseling,

medical tests, referrals, screenings, and prescriptions, among others.

Once the plans of care were documented, they were scored as appropriate or

inappropriate.  The condition that was used to determine the appropriate treatment plan

was based on original assignment to condition not on the condition revealed based on

probing behavior.  For example if a physician was assigned to the depression

(biomedical) condition, but did not elicit the symptoms from the patient, then the

appropriate treatment would still be treatment for depression.   The appropriate treatment

plan for the original condition assignments were chosen because real patients with these

conditions would need a treatment plan reflective of their actual situation (cancer,

depression, and/or poverty), not what information the provider gathered based on their

probing.

For the baseline condition, the unexplained weight loss should have prompted the

physician to test for cancer.  The symptoms associated with depression should prompt the

physician to outline a mental health treatment plan.  For the poverty condition, the

physician should address the financial difficulties by making a social service referral. The

exact plans found to be appropriate for each condition are listed in Table 14.

Table 14. Appropriate treatment plan based on condition.

| | Treatment Plans | | |
| --- | --- | --- | --- |
| *Condition* | colonoscopy, chest X-ray, &/or other tests to evaluate for malignancy | screen for suicide risk, initiate anti-depressive therapy &/or refer for counseling | obtain a social work evaluation, recommend tests to screen for malnutrition &/or probe for causes of financial hardship |
| Weight Loss | X | | |
| Weight Loss & Depression | | X | |
| Weight Loss & Low SES | | | X |
| Weight Loss, Depression & Low SES | | X | X |

**Potential Covariates**

The following were calculated and tested as covariates in the models.

**Standardized patient characteristics.** Because three different actors portrayed "Mr. Garrison," the patient, a variable was created that identifies the actor participating in the encounter. The race of the standardized patient (black or white) was tested as a covariate also. Race was not included as an independent variable because of the limited effects of race in the pilot study and in other research using the data (Weiner et al., 2010).

**Physician characteristics.** Physicians' self-reported basic demographic information was measured (age, gender, race, major in college, medical school location, professional degrees, communication training, years since residency, job title, years in current job, annual income, and average number of half days of clinic per week in the last year). Given the research showing females use patient centered communication more than males, gender was tested as a covariate.

CHAPTER SEVEN

STUDY TWO RESULTS

**Sample Characteristics**

A total of 99 encounters were included in the study. Four of the encounters were not

included because the quality of the recording did not allow for coding. More males

(51.6%) were represented than females (48.4%) (N=95). Ninety-one participants

responded with their age and race/ethnicity. 14.3% physicians reported being between the

ages of 25-34; 57.1% were between the ages of 35-44; 18.7% were between 45-54; and

9.9% were between the ages of 55-64. No one reported being age 65 or older. White,

non-Hispanic individuals made up 59.3% of the sample followed by Asian (28.6%),

White, Hispanic (4.4%), Multiracial/Other (3.3%), American Indian (2.2%), and Black

(2.2%). The encounters took place at 21 different sites. Of the 68 encounters with site

documentation, 26.5% were Veterans Affairs hospitals and clinics and the remaining

were non-VA hospitals or clinics. The average number of doctor utterances was

300.68(146.18) with a range of 61 to 873 per encounter.

**Physician Probing Behavior**

Encounters with patients assigned to the depression or the depression and low

socioeconomic (SES) condition had a higher rate of probing for depression than the non-

depressed condition. In the depression only condition, 21 of the 23 doctors probed the

depression cue. In the depression and SES condition, 23 of the 24 doctors probed for

depression. For the baseline condition, with 26 total encounters, 13 doctors probed for

depression and 13 did not probe. For SES only

condition, 13 of the 22 providers probed for depression. A chi-square testing differences

between cells with one four-level independent variable representing each condition was

found to be significant ($X^2 =19.69(3)$, $p<.001$).

A similar pattern was found for encounters with the patient assigned only a low

SES. The providers probed 15 out of the 22 patients in the assigned low SES condition,

opposite of the expected cell count distribution. This pattern was reversed in the baseline

condition, with 5 out of 26 providers probing the low SES cues, and in the depression

condition with 15 out of 23 providers probing the cues. In 24 encounters with the

assigned depression and low SES patients, the providers probed the low SES cues

equally. A chi-square testing differences between cells with one four-level independent

variable representing each condition was found to be significant ($X^2 =12.84(3)$, $p<.01$).

## Correlational Analyses

### Intercorrelations between Dependent Variables

To test whether the dependent variables appear to be measuring distinct

constructs, bivariate correlation analyses were run for 6 key dependent variables: Patient-

Centered Talk, Rapport Building, Provider Engagement, Verbal Dominance, Length of

Visit and Global Positive Affect. As shown in Table 15, Patient-Centered Talk and

Provider Engagement were significantly positively correlated with a small effect size as

judged by Cohen's standards (1992). This relationship is unsurprising as Provider

Engagement is one variable used in the calculation of the composite measure, Patient-

Centered Talk. Verbal Dominance negatively correlated with Patient-Centered Talk

indicating that the overall ratio of physician to patient statements was likely to be low

when the content of the encounter was higher in patient-centered talk. The relationship

had a medium effect size. Lastly Patient-Centered Communication and Positive

Affective Rating had a significant medium sized relationship. The relationship was

positive such that the more verbal patient-centered talk the provider used, the more likely

they were to have a non-verbal Global Positive Affective rating.

Table 15. Intercorrelations between dependent variables

| Dependent Variables | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|---|---|---|---|---|---|---|---|---|---|
| 1. Patient-Centered Talk | | | | | | | | | |
| 2. Rapport Building | .12 | | | | | | | | |
| 3. Provider Engagement | .25* | .68*** | | | | | | | |
| 4. Verbal Dominance | -.30** | .18 | .066 | | | | | | |
| 5. Length of Visit | .043 | .62*** | .48*** | .17 | | | | | |
| 6. Positive Affective Rating | .36*** | .55*** | .45*** | -.018 | .38*** | | | | |
| 7. Data gathering - Lifestyle/ Psychosocial | .35*** | .51*** | .40*** | .14 | .58*** | .45*** | | | |
| 8. Patient Education & Counseling – Biomedical | -.18 | .64*** | .34** | .48*** | .62*** | .46*** | .50*** | | |
| 9. Rapport-Building-Emotional | .20 | .84*** | .52*** | .27** | .52*** | .63*** | .42*** | .69*** | |

Notes: *=p<.05; **=p<.01; ***=p<.000

Provider Rapport Building had a large, positive relationship with three variables:

Provider Engagement, Length of Visit and Positive Affective Rating. The strong

significant relationship between Rapport Building and Provider Engagement could

indicate the variables measure the same construct, which matches the closely related

nature of the variables described previously.  The length of the visit and the non-verbal positive affect displayed by the physician, both non-verbal measures, are likely to increase as the uses more rapport building statements, a verbal measure.

Both Provider Engagement and Positive Affective Rating were significantly positively related to all of the variables, except for Verbal Dominance.  Length of Visit and Positive Affective Ratings had a medium sized relationship with Provider Engagement.  Positive Affective Rating also had a medium sized relationship with these two variables.  Of note, the only significant relationship found for Verbal Dominance was with Patient-Centered Talk, as described above.  The numerous correlations may indicate that these variables are capturing similar constructs, found in both verbal and non-verbal communication.

**Intercorrelations between Post-Hoc Dependent Variables**

Bivariate correlational analyses were also run for the dependent variables tested post-hoc (See Table 15).  As with the original dependent variables, there were a number of large, significant correlations. Data gathering-lifestyle/psychosocial had a significant and large correlation with rapport building, length of visit, biomedical patient education and counseling and emotional rapport building.  Patient-centered talk, provider engagement, and positive affective rating all had a medium significant relationship. Biomedical patient education & counseling had a large relationship with rapport building and length of visit.  Patient centered talk, provider engagement and positive affective rating had a medium sized relationship with biomedical patient education & counseling. Lastly emotional rapport building had a large relationship with overall rapport building, provider engagement, length of visit, and positive affective rating. Provider engagement,

verbal dominance, and positive affective rating had a medium sized relationship with

emotional rapport building.  The large number of correlations is in part indicative of the

possibility that the variables are capturing parts of a single construct.

**Correlations between Dependent Variables and Covariates**

Given past research, a number of potential covariate variables were measured to

test if they should used as controls when testing the research hypotheses.   These include

patient race (0=White, 1=Black), patient identity (1=Actor A, 2=Actor B, 3= Actor C),

provider race (0=White, 1=Non-White) and provider gender (0=male, 1= female).  Below

are the results of the correlation analyses between the dependent variables and the

potential covariates.

**Patient-centered communication scale.**  There was a significant difference

between actor identities for the patient-centered communication scale ($F$ (2, 87)

=5.68, $p<.01$).  Contrast showed that the difference was driven by the difference

between Actor 1 ($M=.45$; $SD=.16$) and Actor 2 ($M=.62$; $SD=.24$) and Actor 1 and

Actor 3 ($M=.72$; $SD=.29$)

**Rapport building.**  Rapport building positively correlated with physician gender

($r=.280$, $p<.01$).

**Provider engagement.** No covariates were significantly related to provider

engagement.

**Verbal dominance.**  There was a significant difference between actor identities

for the verbal dominance scale ($F$ (2, 87) =52.26, $p<.001$).  Contrast showed that

the difference was driven by the difference between Actor 1 ($M=2.47$; $SD= .575$)

and Actor 2 ($M=1.24$; $SD=.27$) and Actor 1 and Actor 3 ($M=1.48$; $SD=.746$).

Verbal dominance negatively correlated with actor race ($r=-.602, p<.001$).

**Positive affect.** No covariates were significantly related to positive affect.

**Length of visit.** No covariates were significantly related to length of visit.

**Correlations between Post-Hoc Dependent Variables and Covariates**

To further explore the communication styles, a number of dependent variables were created and those that were considered reliable were included in the analyses.

**Data-gathering – lifestyle/psychosocial.** There was a significant relationship between data-gathering-lLifestyle/psychosocial and sex of doctor ($r-.23, p<.05$).

**Patient education & counseling – biomedical.** There was a significant relationship between patient education & counseling – biomedical and patient race ($r=-.243, p<.05$). There was also a significant difference between actor identities for the patient education & counseling –biomedical scale ($F_{(2, 87)} =4.80, p<.05$). Contrast showed that the difference was driven by the difference between Actor 1 ($M=99.24; SD= 84.77$) and Actor 2 ($M=57.12; SD=34.86$).

**Rapport-building - emotional.** No covariates were significantly related to rapport building- emotional.

## Analysis of Variance/Analysis of Covariance

An analysis of variance, and where appropriate an analysis of covariance, was used to test the effect of depression and low SES on the dependent variables. ANOVA and ANCOVA results are divided by related indices shown in Tables 16-24.

**Patient Centered Communication Analyses across Samples**

When testing the effect of depression and low SES, the covariate, actor identity, showed a significant effect and thus it was left in the model. The two components of the scale, patient centered talk ($\alpha$=.80) and doctor centered talk ($\alpha$=.69), had acceptable levels of reliability calculated using Cronbach's coefficient alpha. The overall average score on the scale was 0.76(.32) indicating that overall there was more doctor centered talk than patient centered talk. Patient centered communication showed a main effect for depression. This was in the opposite direction of the original prediction. There was neither a main effect for SES nor a two-way interaction. The main effect was found in the Assigned Sample, the Revealed Sample and the Excluded Sample (See Table 16).

Table 16. Effects of depression and SES on patient centered communication.

|  | Assigned | | | | Revealed | | | | Excluded | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | SS | df | MS | F | SS | df | MS | F | SS | df | MS | F |
| Actor Identity | .83 | 1 | .83 | 10.17** | .86 | 1 | .86 | 9.85** | 1.06 | 1 | 1.06 | 10.96** |
| Depression | 1.47 | 1 | 1.47 | 17.91*** | .88 | 1 | .88 | 10.12** | .54 | 1 | .54 | 5.57* |
| SES | .00 | 1 | .00 | .020 | .34 | 1 | .34 | 3.89+ | .15 | 1 | .15 | 1.53 |
| Depression & SES | .27 | 1 | .27 | 3.32+ | .01 | 1 | .01 | .068 | .068 | 1 | .068 | .70 |

Notes: *=$p$<.05; **=$p$<.01, ***=$p$<.001,+=$p$<.10

**Assigned sample patient centered communication analyses.** When controlling for actor identity, physicians used more patient centered communication for the patient with depression (*M*=.90, *SE*=.042) than the person not diagnosed with depression (*M*=.64, *SD*=.044). This was in the opposite direction of the original prediction. No

differences were found for the patient with a low SES (*M*=.78, SE=.046) and without a

low SES (*M*=.77, *SD*=.044). No interaction was present either.

**Revealed sample patient centered communication analyses.** When controlling

for actor identity, physicians used more patient centered communication for the patient

with depression (*M*=.92, *SE*=.051) than the person not diagnosed with depression

(*M*=.69, *SD*=.049). This was in the opposite direction of the original prediction. No

differences were found for the patient with a low SES (*M*=.88, SE=.059) and without a

low SES (*M*=.74, *SD*=.037) though it did approach significance. No interaction was

present either.

**Excluded sample patient centered communication analyses.** When controlling

for actor identity, physicians used more patient centered communication for the patient

with depression (*M*=.92, *SE*=.053) than without depression (*M*=.73, *SD*=.059). This was

in the opposite direction of the original prediction. No differences were found for the

patient with a low SES (*M*=.78, SE=.048) and without a low SES (*M*=.88, *SD*=.062).

No interactions were present.

**Rapport Building Analyses Across Samples**

When testing the effect of depression and low SES on rapport building, the

covariate, provider gender, showed a significant effect and thus it was left in the model

(See Table 17). The scale had acceptable levels of reliability calculated using Cronbach's

coefficient alpha ($\alpha$=.50). There were no effects for rapport building. The overall

average number of rapport building utterances was 61.20 (37.31).

Table 17. Effects of depression and SES on rapport building

| | Assigned | | | | Revealed | | | | Excluded | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SS | df | MS | F | SS | df | MS | F | SS | df | MS | F |
| Physician Gender | 8545.64 | 1 | 8545.64 | 6.61* | 8038.48 | 1 | 8038.48 | 6.04* | 11045.68 | 1 | 11045.68 | 8.10** |
| Depression | 343.09 | 1 | 343.09 | .27+ | 201.92 | 1 | 201.92 | .15 | 2360.96 | 1 | 2360.96 | 1.73 |
| SES | 3686.65 | 1 | 3686.65 | 2.85 | 421.46 | 1 | 421.46 | .32 | 2211.39 | 1 | 2211.39 | 1.62 |
| Depression & SES | 3.16 | 1 | 3.16 | .002 | 496.71 | 1 | 496.71 | .37 | 292.62 | 1 | 292.62 | .22 |

Notes: $*=p<.05$; $**=p<.01$, $***=p<.001$,$+=p<.10$

**Assigned sample patient centered communication analyses.** When controlling for physician gender, physicians used equivalent levels of rapport building communication with the patient with depression ($M=59.07$, $SD=5.27$) and the person not diagnosed with depression ($M=62.9$, $SE=5.23$). Marginal differences were found for rapport building communication such that the patient with a low SES ($M=54.68$, $SE=5.33$) received less rapport building than the patient without a low SES ($M=67.30$, $SD=5.18$). This was in the predicted direction. No interaction was present.

**Revealed sample rapport building analyses.** When controlling for physician gender, physicians used equivalent levels of rapport building communication with the patient with depression ($M=58.45$, $SD=6.17$) and the person not diagnosed with depression ($M=61.70$, $SE=5.37$). No differences were found for rapport building communication with the patient with a low SES ($M=57.67$, $SE=7.17$) and the patient without a low SES ($M=62.47$, $SD=4.46$). No interaction was present.

**Excluded sample rapport building analyses.** When controlling for physician

gender, physicians used equivalent levels of rapport building communication with the

patient with depression (*M*=58.61, *SD*=6.25) and the person not diagnosed with

depression (*M*=70.41, *SE*=6.44).  No difference was found for rapport building

communication with the patient with a low SES (*M*=58.71, SE=7.30) and the patient

without a low SES (*M*=58.71, *SD*=5.36).  No interaction was present.

**Provider Engagement Analyses across Samples**

When testing the effect of depression and low SES on Provider Engagement, no

covariates showed significant effects and thus they were excluded from the model.  The

scale had unacceptable levels of reliability calculated using Cronbach's coefficient alpha

($\alpha$=.33) and thus should be interpreted with caution. The overall average number of

utterances reflecting Provider Engagement was 40.39 (23.87).  There were main effects

of Provider Engagement for SES in the assigned and excluded samples after the data was

transformed to account for the homogeneity of variance assumption violation (See Table

18).

Table 18. Effects of depression and SES on provider engagement.

| | Assigned (Transformed) | | | | Revealed | | | | Excluded (Transformed) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SS | df | MS | F | SS | df | MS | F | SS | df | MS | F |
| Depression | .065 | 1 | .065 | .93 | 1260.27 | 1 | 1260.27 | 2.22 | .25 | 1 | .25 | $3.55^{+}$ |
| SES | .87 | 1 | .87 | $12.51^{**}$ | 773.31 | 1 | 773.31 | 1.36 | .43 | 1 | .43 | $6.02^{*}$ |
| Depression & SES | .025 | 1 | .025 | .36 | 481.87 | 1 | 481.87 | .85 | .00 | 1 | .00 | .007 |

Notes: *=*p*<.05; **=*p*<.01, ***=*p*<.001,$^{+}$=*p*<.10

**Assigned sample provider engagement analyses.** A log transformation of

provider engagement communication was performed because the homogeneity of

variance assumption was violated according to Levine's Test ($F(3,91) = 1.77$, $p<.05$).

With the transformation, physicians used equivalent levels of engagement

communication with the patient with depression ($M=1.55$, $SE=.038$) and the person not

diagnosed with depression ($M=1.50$, $SE=.038$). As predicted, significant differences were

found for engagement communication such that the patient with a low SES ($M=1.43$,

$SE=.039$) received less engagement communication than the patient without a low SES

($M=1.62$, $SE=.038$). There was no significant interaction.

**Revealed sample provider engagement analyses.** Physicians used equivalent

levels of engagement communication with the patient with depression ($M=34.69$,

$SE=4.03$) and the person not diagnosed with depression ($M=42.80$, $SE=3.66$). No

differences were found for engagement communication between the patient with a low

SES ($M=35.57$, $SE=4.61$) and the patient without a low SES ($M=41.92$, $SE=2.89$). There

was no significant interaction.

**Excluded sample provider engagement analyses.** A log transformation of

Provider Engagement communication was performed because the homogeneity of

variance assumption was violated according to Levine's Test ($F(3,74) = 2.92$, $p<.05$).

With the transformation, physicians used equivalent levels of engagement

communication with the patient with depression ($M=1.47$, $SE=.045$) and the person not

diagnosed with depression ($M=1.59$, $SE=.046$). As predicted significant differences were

found for engagement communication such that the patient with a low SES ($M=1.45$,

SE=.052) received less engagement communication than the patient without a low SES

(*M*=1.61, *SE*=.039).  There was no significant interaction.

**Verbal Dominance Analyses Across Samples**

When testing the effect of depression and low SES on Verbal Dominance, the

covariates, actor identity and actor race, showed a significant effect.  However actor race

and actor identity were highly correlated.  In addition including the covariate, actor race,

violated the homogeneity of regression assumption for all samples.  The covariate, actor

identity, violated the homogeneity of regression assumption for the assigned sample.

Therefore the model for the assigned sample was run without any covariates, and the

revealed and excluded samples were run with actor identity as the only covariate.  The

scale had acceptable levels of reliability calculated using Cronbach's coefficient alpha

($\alpha$=.50). The average score on Verbal Dominance was 1.53(.65) indicating an overall

higher number of doctor utterances to patient utterances. A main effect of SES was found

for verbal dominance in the excluded sample (See Table 19).  This effect was in the

opposite direction of the original prediction.

Table 19. Effects of depression and SES on verbal dominance.

| | Assigned | | | | Revealed | | | | Excluded | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SS | df | MS | F | SS | df | MS | F | SS | df | MS | F |
| Actor Identity | - | - | - | - | 9.28 | 1 | 9.28 | 29.88*** | 9.41 | 1 | 9.41 | 31.55*** |
| Depression | .11 | 1 | .11 | .27 | .002 | 1 | .002 | .006 | .026 | 1 | .026 | .086 |
| SES | .24 | 1 | .24 | .57 | 1.17 | 1 | 1.17 | 3.76+ | 1.20 | 1 | 1.20 | 4.04* |
| Depression & SES | .43 | 1 | .43 | 1.01 | .11 | 1 | .11 | .36 | .075 | 1 | .075 | .25 |

Notes: *=*p*<.05; **=*p*<.01, ***=*p*<.001,+=*p*<.10

**Assigned sample verbal dominance analyses.** Physicians had equivalent levels of verbal dominance with the patient with depression (*M*=1.57, *SE*=.065) and the person not diagnosed with depression (*M*=1.50, *SE*=.094). No differences were found for verbal dominance for the patient with a low SES (*M*=1.58, SE=.096) and the patient without a low SES (*M*=1.48, *SE*=.093). No interaction was present.

**Revealed sample verbal dominance analyses.** When controlling for actor identity, physicians had equivalent levels of verbal dominance with the patient with depression (*M*=1.44, *SD*=.095) and the person not diagnosed with depression (*M*=1.46, *SE*=.092). Marginally significant differences were found for verbal dominance such that the patient with a low SES (*M*=1.32, SE=.11) encountered less verbal dominance than the patient without a low SES (*M*=1.58, *SD*=.069). This was in the opposite direction of the original prediction. No interaction was present.

**Excluded sample verbal dominance analyses.** When controlling for actor identity, physicians used equivalent levels of verbal dominance with the patient with depression (*M*=1.45, *SE*=.093) and the person not diagnosed with depression (*M*=1.49, *SE*=.10). A significant difference was found for verbal dominance with the patient with a low SES (*M* = 1.33, *SE* = .11) being less verbally dominated than the patient without a low SES (*M* = 1.61, *SE* = .084). This was in the opposite direction of the original prediction. No interaction was present.

**Positive Affect Analyses across Samples**

When testing the effect of depression and low SES on positive affect, no covariates showed significant effects, and thus they were excluded from the model. The scale had acceptable levels of reliability calculated using Cronbach's coefficient alpha ( α

= .76). The average positive affect score was 11.88 (*SD*=1.94), a relatively high level of

positive affect. Main effects were found for positive affect in the Assigned sample, but no

significant results were found for other samples (See Table 20).

Table 20. Effects of depression and SES on positive affect.

|  | Assigned | | | | Revealed | | | | Excluded | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | SS | df | MS | F | SS | df | MS | F | SS | df | MS | F |
| Depression | 15.99 | 1 | 15.99 | 4.56* | 8.93 | 1 | 8.93 | 2.42 | 2.96 | 1 | 2.96 | .78 |
| SES | 19.81 | 1 | 19.81 | 5.64* | .81 | 1 | .81 | .22 | .063 | 1 | .063 | .017 |
| Depression & SES | .14 | 1 | .14 | .039 | 1.72 | 1 | 1.72 | .47 | .018 | 1 | .018 | .005 |

Notes: *=*p*<.05

**Assigned sample positive affect analyses.** Physicians exhibited higher levels of

positive affect with the patient with depression (*M*=12.29, *SE*=.27) than the person not

diagnosed with depression (*M*=11.47, *SE*=.27). This was in the opposite direction of the

original prediction. As predicted, significant differences were found for positive affect

such that the patient with a low SES (*M*=11.42, SE=.28) received less positive affect than

the patient without a low SES (*M*=12.33, *SE*=.27). There was no significant interaction.

**Revealed sample positive affect analyses.** Physicians exhibited equivalent levels

of positive affect with the patient with depression (*M*=12.30, *SE*=.33) and the person not

diagnosed with depression (*M*=11.61, *SE*=.30). No differences were found for positive

affect between the patient with a low SES (*M*=12.06, SE=.37) and the patient without a

low SES (*M*=11.85, *SE*=.23). There was no significant interaction.

**Excluded sample positive affect analyses.** Physicians exhibited equivalent levels of positive affect with the patient with depression ($M=12.30$, $SE=.33$) and the person not diagnosed with depression ($M=11.88$, $SE=.34$). No differences were found for positive affect between the patient with a low SES ($M=12.06$, SE=.38) and without a low SES ($M=12.12$, $SE=.28$). There was no significant interaction.

## Length of Visit Analyses across Samples

When testing the effect of depression and low SES on length of visit, no covariates showed significant effects and thus were excluded from the model. The average length of visit was 23.57(10.03) minutes. As predicted, a main effect of depression was found for length of visit in the Excluded sample (See Table 21).

Table 21. Effects of depression and SES on length of visit.

|  | Assigned | | | | Revealed | | | | Excluded | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | SS | df | MS | F | SS | df | MS | F | SS | df | MS | F |
| Depression | 91.76 | 1 | 91.76 | .89 | 65.67 | 1 | 65.67 | .64 | 421.85 | 1 | 421.85 | 4.52[*] |
| SES | 18.33 | 1 | 18.33 | .18 | .67 | 1 | .67 | .007 | 186.30 | 1 | 186.30 | 1.995 |
| Depression & SES | 2.11 | 1 | 2.11 | .021 | 154.47 | 1 | 154.47 | 1.51 | 1.27 | 1 | 1.27 | .014 |

Notes: *=$p<.05$; **=$p<.01$, ***=$p<.001$,[+]=$p<.10$

**Assigned sample length of visit analyses.** Physicians spent an equivalent amount of time with the patient with depression ($M=22.37$, $SE=1.47$) and the person not diagnosed with depression ($M=24.34$, $SE=1.47$). No significant differences were found for length of visit for the patient with a low SES ($M=22.92$, SE=1.50) and the patient without a low SES ($M=23.80$, $SE=1.45$). There was no significant interaction.

**Revealed sample length of visit analyses.** Physicians spent an equivalent amount

of time with the patient with depression (*M*=22.35, *SE*=1.71) and the person not

diagnosed with depression (*M*=24.20, *SE*=1.55).  No significant differences were found

for length of visit for the patient with a low SES (*M*=23.18, SE=1.96) and the patient

without a low SES (*M*=23.37, *SE*=1.23).  There was no significant interaction.

**Excluded sample length of visit analyses.** Physicians spent less time with the

patient with depression (*M*=22.35, *SE*=1.64) than the person not diagnosed with

depression (*M*=27.32, *SE*=1.67).  This was in the opposite direction of the original

prediction. No significant differences were found for length of visit for the patient with a

low SES (*M*=23.18, SE=1.87) and the patient without a low SES (*M*=26.49, *SE*=1.40).

There was no significant interaction.

## Post-Hoc Analysis of Variance/Analysis of Covariance

## Data-Gathering –Lifestyle/Psychosocial Analyses across Samples

When testing the effect of depression and low SES on lifestyle/psychosocial data-

gathering by the doctor, physician gender was included in the model as a covariate.

However, the covariate did not have a significant effect for any of the samples, and thus

the final model was run without physician gender.  The overall average number of

lifestyle and psychosocial data-gathering utterances was 25.12(16.52). The scale had

acceptable levels of reliability calculated using Cronbach's coefficient alpha ($\alpha$=.64).  No

main effects or interactions were found for lifestyle/psychosocial data gathering (See

Table 22).

Table 22. Effects of depression and SES on data-gathering-lifestyle/psychosocial.

| | Assigned | | | | Revealed | | | | Excluded | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SS | df | MS | F | SS | Df | MS | F | SS | df | MS | F |
| Depression | 443.64 | 1 | 443.64 | 1.65 | 355.43 | 1 | 355.43 | 1.34 | 16.87 | 1 | 16.87 | .059 |
| SES | 774.45 | 1 | 774.45 | 2.89 | 92.50 | 1 | 92.50 | .35 | 520.21 | 1 | 520.21 | 1.82 |
| Depression & SES | 50.16 | 1 | 50.16 | .19 | 403.70 | 1 | 403.70 | 1.52 | 27.87 | 1 | 27.87 | .097 |

**Assigned sample data-gathering-lifestyle/psychosocial analyses.** Physicians gathered an equivalent amount of lifestyle/psychosocial data with the patient with depression (*M*=27.98, *SE*=2.39) as the person not diagnosed with depression (*M*=22.26, *SE*=2.37).  No significant differences were found for lifestyle/psychosocial data gathering for the patient with a low SES (*M*=22.95, SE=2.42) and the patient without a low SES (*M*=27.28, *SE*=2.35).  There was no significant interaction.

**Revealed sample data-gathering-lifestyle/psychosocial analyses.** Physicians gathered an equivalent amount of lifestyle/psychosocial data with the patient with depression (*M*=26.98, *SE*=2.76) as the person not diagnosed with depression (*M*=22.67, *SE*=2.51).  No significant differences were found for lifestyle/psychosocial data gathering for the patient with a low SES (*M*=23.73, SE=3.16) and the patient without a low SES (*M*=25.92, *SE*=1.98).  There was no significant interaction.

**Excluded sample data-gathering-lifestyle/psychosocial analyses.** Physicians gathered an equivalent amount of lifestyle/psychosocial data with the patient with depression (*M*=26.98, *SE*=2.86) as the person not diagnosed with depression (*M*=25.99, *SE*=2.92).  No significant differences were found for lifestyle/psychosocial data gathering

for the patient with a low SES (*M*=23.73, *SE*=3.16) and the patient without a low SES

(*M*=29.24, *SE*=3.28).  There was no significant interaction.

**Patient Education & Counseling- Biomedical Analyses across Samples**

When testing the effect of depression and low SES on biomedical patient

education and counseling, the covariates, actor identity and actor race, showed a

significant effect.  Actor race and actor identity were highly correlated; however, they

both significantly contributed to the final model and thus were included. The overall

average number of lifestyle and psychosocial data-gathering utterances was 50.25(24.92).

The scale had acceptable levels of reliability calculated using Cronbach's coefficient

alpha ($\alpha$=.66; See Table 23).

Table 23. Effects of depression and SES on patient education & counseling-biomedical.

|  | Assigned | | | | Revealed | | | | Excluded | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | SS | df | MS | F | SS | df | MS | F | SS | df | MS | F |
| Actor Identity | 12645.62 | 1 | 12645.62 | 5.18* | 8564.96 | 1 | 8564.96 | 3.44 | 18568.26 | 1 | 18568.26 | 6.87* |
| Actor Race | 11134.63 | 1 | 11134.63 | 4.56* | 12487.55 | 1 | 12487.55 | 5.02* | 6673.68 | 1 | 6673.68 | 2.47 |
| Depression | 1970.13 | 1 | 1970.13 | .81 | 882.53 | 1 | 882.53 | .36 | 5660.01 | 1 | 5660.01 | 2.09 |
| SES | 3106.51 | 1 | 3106.51 | 1.27 | 1017.02 | 1 | 1017.02 | .41 | 5649.74 | 1 | 5649.74 | 2.09 |
| Depression & SES | 2196.78 | 1 | 2196.78 | .90 | 1973.82 | 1 | 1973.82 | .79 | 10.79 | 1 | 10.79 | .004 |

Notes: *=*p*<.05; **=*p*<.01, ***=*p*<.001,+=*p*<.10

**Assigned sample patient education & counseling- biomedical analyses.**

Physicians communicated using biomedical patient education and counseling

equivalently for the patient with depression (*M*=61.45, *SE*=7.63) and the person not

diagnosed with depression (*M*=71.05, *SE*=7.66).  No significant differences were found

for biomedical patient education and counseling for the patient with a low SES

(*M*=59.79, SE=7.97) and the patient without a low SES (*M*=72.71, *SE*=7.55).  There was

no significant interaction.

**Revealed sample patient education & counseling- biomedical analyses.**

Physicians communicated using biomedical patient education and counseling

equivalently for the patient with depression (*M*=68.42, *SE*=8.21) and the person not

diagnosed with depression (*M*=61.32, *SE*=8.56).  No significant differences were found

for biomedical patient education and counseling for the patient with a low SES

(*M*=61.02, SE=10.17) and the patient without a low SES (*M*=68.71, *SE*=6.23).  There

was no significant interaction.

**Excluded sample patient education & counseling- biomedical analyses.**

Physicians communicated using biomedical patient education and counseling

equivalently for the patient with depression (*M*=59.75, *SE*=9.79) and the person not

diagnosed with depression (*M*=79.11, *SE*=9.79).  No significant differences were found

for biomedical patient education and counseling for the patient with a low SES

(*M*=59.61, SE=10.60) and the patient without a low SES (*M*=79.25, *SE*=8.12).  There

was no significant interaction.

**Rapport-Building–Emotional Analyses Across Samples**

When testing the effect of depression and low SES Emotional Rapport Building,

no covariates showed significant effects, and thus they were excluded from the model.

The overall average number of emotional rapport-building utterances was 17.61(13.85).

The scale had acceptable levels of reliability calculated using Cronbach's coefficient

alpha ($\alpha$=.57). A main effect of SES was found for the Assigned sample in the predicted

direction.  No other effects were found (See Table 24).

Table 24. Effects of depression and SES on emotional rapport-building.

| | Assigned | | | | Revealed | | | | Excluded | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SS | df | MS | F | SS | df | MS | F | SS | df | MS | F |
| Depression | 55.37 | 1 | 55.37 | .30 | 12.40 | 1 | 12.40 | .065 | 41.89 | 1 | 41.89 | .20 |
| SES | 1094.76 | 1 | 1094.76 | 5.92* | 318.96 | 1 | 318.96 | 1.66 | 712.07 | 1 | 712.07 | 3.41 |
| Depression & SES | 88.60 | 1 | 88.60 | .48 | 165.20 | 1 | 165.20 | .86 | 5.52 | 1 | 5.52 | .026 |

Notes: *=$p$<.05; **=$p$<.01, ***=$p$<.001,$^+$=$p$<.10

**Assigned sample rapport-building–emotional analyses.** Physicians

communicated using emotional rapport building equivalently for the patient with

depression ($M$=18.33, $SD$=1.98) and the person not diagnosed with depression

($M$=16.80, $SE$=1.97).  As predicted, physicians communicated used emotional rapport

building less for the patient with a low SES ($M$=14.16, SE=2.01) than the patient without

a low SES ($M$=20.96, $SE$=1.95).  There was no significant interaction.

**Revealed sample rapport-building–emotional analyses.** Physicians

communicated using emotional rapport building equivalently for the patient with

depression ($M$=17.18, $SE$=2.35) and the person not diagnosed with depression ($M$=16.37,

$SE$=2.13).  No significant differences were found for emotional rapport building for the

patient with a low SES ($M$=14.73, SE=2.68) and the patient without a low SES

($M$=18.82, $SE$=1.68).  There was no significant interaction.

**Excluded sample rapport-building–emotional analyses.** Physicians

communicated using emotional rapport building equivalently for the patient with

depression ($M$=17.18, $SE$=2.45) and the person not diagnosed with depression ($M$=18.74,

*SE*=2.50).  No significant differences were found for emotional rapport building for the

patient with a low SES (*M*=14.73, *SE*=2.80) and the patient without a low SES

(*M*=21.19, *SE*=2.09).  There was no significant interaction.

**Multiple Analysis of Variance/Analysis of Covariance Models**

Mixed model MANOVA/MANCOVA analyses were run to test whether the independent

variables, SES and depression, had different effects on dependent variables that appeared

to be capturing related constructs.  All models were tested on each of the three versions

of the data, assigned, revealed and excluded.  Each model contained three independent

variables, depression and SES, both two-level between-subject independent variables,

and a two level within-subject variable, labeled DVTYPE, composed of the two

dependent variables in the model.  The models tested the independent variables effect on

two dependent variables where were all combinations of the following five variables:

patient-centered talk, rapport building, provider engagement, verbal dominance and

positive affect – yielding 10 tests. Models that included either the patient-centered talk or

verbal dominance dependent variable were run with actor identity as a covariate because

of the significant relationship described earlier.  Physician gender was included as a

covariate in models with rapport building as a dependent variable.  No other variables

were included as covariates.  Provider engagement was run as the transformed variable

for the assigned condition and the excluded condition because of the violation of the

heterogeneity of variance assumption.  The MANOVA or MANCOVAs produce three

interactions of interest, depression by DVTYPE, SES by DVTYPE and depression by

SES by DVTYPE.  These results show whether the two dependent variables included in

the model were affected differently by the individual independent variable or the interaction of the independent variables.

A number of MANOVA models produced non-significant effects for all three interactions across each of the three samples. These include models with the following dependent variables: patient-centered talk and rapport building, patient-centered talk and verbal dominance, patient-centered talk and positive affect, provider engagement and verbal dominance, rapport building and verbal dominance, and lastly rapport building and positive affect. However, the following models showed significant effects.

**Provider Engagement and Patent-Centered Communication Model**

In the Assigned sample, the depression by DVTYPE interaction was significant indicating that the depression effect significantly differed when comparing patient-centered talk to provider engagement ($F=14.50, p<.001$). While the depression assignment produced more patient centered talk than the condition without depression, provider engagement was equivalent for both depression conditions. Neither the SES by DVTYPE interaction nor the depression by SES by DVTYPE interaction was significant. No effects were significant for the Revealed sample.

In the Excluded sample, the depression by DVTYPE interaction was significant indicating that the depression effect significantly differed when comparing patient-centered talk and provider engagement ($F=8.67, p<.01$). As with the Assigned sample, depression produced more patient centered talk than the condition without depression, while provider engagement was not affected by depression status. In addition the SES by DVTYPE interaction was significant indicating that the socioeconomic effect significantly differed when comparing patient-centered talk to provider engagement

($F$=6.69, $p$<.05). A patient identified with low SES prompted less patient centered communication than the patient not identified as having a low SES, whereas the effect on provider engagement was in the opposite direction. The depression by SES by DVTYPE interaction was not significant for the Excluded sample.

**Provider Engagement and Rapport Building Model**

In the Assigned sample, the SES by DVTYPE interaction was significant indicating that the socioeconomic effect significantly differed when comparing rapport building and provider engagement ($F$=4.07, $p$<.05). A patient assigned a low SES prompted less provider engagement communication and less rapport building than the patient not identified as having a low SES. However, the difference between conditions for rapport building and was larger than the difference for provider engagement. Neither the depression status by DVTYPE interaction nor the depression by SES by DVTYPE interaction was significant. No effects were significant for the Revealed sample and the Excluded sample.

**Provider Engagement and Positive Affect Model**

In the Assigned sample, the depression by DVTYPE interaction was significant indicating that the depression effect significantly differed when comparing provider engagement to positive affect ($F$=5.95, $p$<.05). A patient assigned to depression elicited more positive affect than the patient not assigned depression, whereas provider engagement was equivalent for both depression condition assignments. In addition the SES by DVTYPE interaction was significant indicating that the socioeconomic effect significantly differed when comparing provider engagement to positive affect ($F$=4.07, $p$<.05). A patient assigned a low SES prompted less provider engagement and positive

affect than the patient not assigned a low SES.  However the difference between

conditions for positive affect was larger than for provider engagement.  No effects were

significant for the Revealed sample or the Excluded sample.

**Verbal Dominance and Positive Affect Model**

In the Assigned sample, the SES by DVTYPE interaction was significant

indicating that the socioeconomic effect significantly differed when comparing verbal

dominance and positive affect ($F$=4.03, $p$<.05).  The physician verbally dominated the

patient assigned with low SES more than the patient not assigned to the low SES

condition, whereas the physician had less positive affect with the patient assigned with a

low SES than the patient without a low SES.  Neither the depression status by DVTYPE

interaction nor the depression by SES by DVTYPE interaction was significant. No effects

were significant for the Revealed sample and the Excluded Revealed sample.

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**Meditational Analyses**

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Models testing the communication variables as a mediator between the patient's

condition and the physician's choice of the correct treatment plan were run by testing the

relationship between the independent variable and the dependent variable, the

independent variable and the mediator, and the mediator and the dependent variable.  One

communication variable, provider engagement, was appropriate for a meditational

analysis.  However, no significant results were found.

CHAPTER EIGHT

STUDY TWO DISCUSSION

The original hypotheses predicted that depression and low socioeconomic status (SES) would engender stigmatizing verbal and non-verbal communication. Overall, there was mixed support for the hypotheses. Many of the SES predictions were supported, however, the majority of the depression predictions were unsupported and surprisingly in the opposite direction. There was no evidence to show that multiple stigmas resulted in less positive verbal and non-verbal communication. The data suggests that few physicians detected both low SES and depression leaving a small sample size, which could account for the findings. The results indicate that depression and SES produce markedly different communication patterns wherein low SES results in more negative communication and depression results in more positive communication.

**Low Socioeconomic Status as a Stigmatized Condition**

While there was no effect of SES on the overall patient-centered communication variable, individual non-verbal and verbal components of patient-centered communication outlined in Mead and Bower's model (2000) were affected by the patient SES, specifically provider engagement, emotional rapport building and verbal dominance as well as non-verbal positive affect. Providers were less likely to engage the patient with low SES by asking their opinions and including them in decisions. They were also

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less likely to participate in emotional rapport building by showing empathy, reassurance, concern, and partnership, a construct closely related to engagement. These findings match the behavior predicted by the Stereotype Content Model and BIAS Map wherein they do not actively hurt the patient. However the physicians are uninterested in patient opinions likely because they view them as incompetent. Additionally they can maintain cognitive distance by not investing emotional energy or creating a partnership, thus supporting Lott's distancing models of discrimination of the poor (2002).

Non-verbal positive affect also showed differences based on the assigned SES condition. Like its verbal counterparts, the provider's tone of voice and non-verbal delivery conveyed less positive affect for the man assigned to the low SES condition. This is particularly interesting because the non-verbal measures captured not just specific statements but the overall tone of the encounter. While not all statement categories differed, it appears that the tone of the statements shifted based on the patient's SES.

While largely the verbal dominance measure showed no support for the hypotheses, one test supported that SES had the opposite of the predicted effect. For the excluded sample, the provider was less likely to verbally dominate the patient with a low SES than the patient who was not identified as such. While this appears to contradict the previous findings, verbal dominance may not be a viable way to capture stigma in communication given the limited effects of depression and SES. In addition the correlational analyses and the MANOVA analyses showed that verbal dominance was unrelated or weakly related to the other measures. Therefore verbal dominance may have been capturing another construct.

The difference in verbal dominance also may represent the sense of helplessness providers felt in assisting the patient. As evidenced by the limited number of times SES was addressed in comparison to depression, providers either consciously or subconsciously seem to have avoided discussion of socioeconomic issues. Without giving advice, providing intervention, or, in many cases, acknowledging the issue, there would be less for the provider to say to the patient. In addition providers did not engage the patients or use emotional rapport building as much for low SES patients, again reflecting reduced provider talk used in the encounter. So in this instance, the lower ratio of doctor talk may indicate mean they are speaking less because they feel there is a limited amount of information or advice they can provide.

For patients without a low SES, the correct treatment plan was to have laboratory tests for cancer. This would require more information giving from the provider and thus more speaking. Rather than promoting more discussion and soliciting opinions from the patient, fewer statements from the provider likely resulted from the combination of feeling that they are unable to assist the low SES patient and need for further testing from the patient without a low SES. Typically more provider talk is seen as evidence that they are not allowing patient discussion or seeking their opinion, but these findings could be evidence that less provider talk does not necessarily suggest a more patient-centered experience.

## Depression as Protected Status

Surprisingly the effects of depression on verbal communication were in the opposite direction of the predicted results. Physicians used patient-centered communication at a higher rate for patients with depression than non-depressed patients

for the assigned, revealed and excluded samples.  Furthermore global positive affect, a non-verbal communication measure, was found to be higher for the patient assigned to the depression condition than the patients not assigned to the depression condition.  Thus depression appears to have a positive effect on both verbal and non-verbal communication in patient-provider encounters.

Confirming the length of visit hypothesis, depression diagnosis impacted the length of visit in the excluded sample.  Physicians spent less time with the patient when they probed for depression in a "depressed" patient.  The hypothesis was that the visit would be shorter because the providers wished to distance themselves from the patients though there may be alternative explanations.  Instead, physicians may have needed less time in the encounter because of the relative diagnostic simplicity of depression.  Physicians can easily and quickly prescribe anti-depressants and suggest a follow-up visit, appropriate treatment for depression.  Without a need to perform tests in the office or coordinate outside laboratory work, the provider would need less time with the patient.  In addition, when a physician is uncertain about the cause of symptoms they likely need more time to consider plausible causes and assess their explanatory value.  This adds a level of complexity to the encounter that a depression diagnosis does not.  Therefore longer encounters may reflect the physician's uncertainty in a potentially complicated situation rather than differences in a desire for social distance.

Overall depression seems to act as a protective factor wherein providers are more engaged and express more empathy in their comments and tone of voice.  While people with depression are negatively stereotyped as less competent, there is little attribution of responsibility for disease onset or course to the self within medicine.  This may be

evidence that attributions of responsibility rather than negative stereotypes drive

physician behavior toward people with depression.  Brickman and colleagues' models of

helping and coping predict the type of helping behavior based on the degree of

responsibility for the problem and solution attributed to the individual in need of help

(1982).  When responsibility attributions to the self are low for both the problem and the

solution, the person is deemed ill.  They are expected only to accept their condition while

an expert solves the problem through treatment.   Because depression is considered a

medical problem caused by a chemical imbalance, physicians expect to solve imbalance

through medical treatment, specifically pharmaceuticals.  Therefore the patients are

incompetent by default because medical expertise is required to successfully solve the

problem.  Brickman aptly calls this the medical model because of the pervasiveness this

framework in medicine.

Depression may have had a humanizing effect in which the physician felt inclined

to assist the patient because they pitied them.  This pity may have been brought about the

by lack of attribution of responsibility.  Corrigan and colleagues found that the degree of

control a person had over the onset of schizophrenia predicted the level pity and anger the

perceiver felt for the individual (2003).  In turn, the presence of pity predicted whether

the person would help the man with schizophrenia.  For the medical encounter, the

physician may see them as someone to help and because they feel empathy, which was

exhibited in their non-verbal tone.  Instances of depression providing protection also have

been found in the policing field, such that mental illness leads to fewer arrests (Engel &

Silver, 2001) and does not lead to police use of force, despite erratic behavior (Kerr,

Morabito, & Watson, 2010).

Alternatively patient centered communication could represent a paternalistic way of speaking where a provider expresses sympathy but that does not necessarily engage the patient in their treatment or ensure that all necessary information is being discussed because they do not feel that the patient could handle it.  In a situation where the doctor discusses why the person is depressed, sympathizes with them and legitimizes their feelings, but does not discuss the brain mechanisms that are associated with depression, side effects of medicine, or negative physical effects of depression, then they would have a higher patient-centered talk ratio.  While empathizing and engaging behaviors are important, they are none-the-less harmful in that they could lead to disempowerment of the patient, less likelihood of adherence, or missing a key physical health issue – such as when patients are not warned that some anti-depressants increase chances of suicide. Depression seems to protect the patient from some negative communication but may signify the physicians' paternalistic attitude toward the patient.

In the current studies patient centered communication did not mediate the relationship between depression or low SES and treatment plan.  Because of the limited number of correct treatment plans, the power for the study may have been too low to detect a relationship.  The only variable that showed no differences was provider rapport building.  The gender of the physician did act as a covariate, supporting previous research that found female physicians used more patient-communication, like rapport-building, than their male counterparts (Bertakis, 2009; Roter & Hall, 2004).

### Assigned, Revealed and Excluded Samples

Interestingly, the majority of significant results were in the assigned and excluded samples whereas the revealed sample only showed one significant relationship. It was

predicted that the assigned condition would yield no differences because the providers

would probe equally for depression and SES across conditions.  However the physicians

did not probe cues at the same rate and likely did not acknowledge all detected cues

either consciously or subconsciously.  The standardized patients were trained to behave

in the same manner and to provide the same cues to all providers regardless of their

assigned condition.  The only differences were supposed to occur after the provider

probed for either depression or a low SES.  However, the providers probed the cues

corresponding to the assigned condition at a rate greater than would be expected given

the distribution of conditions.  Overall the providers probed for depression more often

than not across all conditions.  However the findings were skewed such that depression

was probed in almost all of the conditions assigned with depression and fewer in those

not assigned with depression.

Conversely the providers were expected to probe for the socioeconomic cue less

often than probing.  The opposite effect occurred for the assigned low SES condition with

more physicians probing the patient assigned with low SES than not probing.  The pattern

closely resembled the probing patterns of depression.  There were also a greater number

of probes than expected for low SES in the assigned depression and low SES condition.

Physicians probed the patient in exactly half of the conditions.

These findings suggest that the standardized patient gave more obvious cues or

altered their behavior to lead the provider to probe for depression or low SES at a greater

rate.  The assigned conditions not only lead to more probing of the "correct" issue, but as

discussed, previously verbal and non-verbal communication was different for both

depression and low SES in the assigned condition as well.  This further supports that the

standardized patients' acting produced dissimilar physician reactions in the assigned and non-assigned conditions. All actors portrayed all versions of the scenario so there appeared to be a systematic difference in how all the actors behaved in the encounter.

Under the assumption that providers who recognized socioeconomic issues would probe for them, the results in the assigned condition are surprising given the relatively low level of probing for financial problems. The providers were very successful in investigating the depression cues; only 3 providers did not probe in an assigned depression condition or a depression and socioeconomic condition. However far fewer providers probed for low SES, yet they communicated differently. Because the differences were seen in both assigned and excluded conditions, it is possible that the providers who did not mention SES still made an assumption of low SES given the patient's dress and presentation. The physician also could have subconsciously detected the characteristic, which activated the stereotypes and emotions that triggered the differences in communication. Because of the significant differences found for the assigned condition despite no explicit discussion of financial issues, it seems that probing behavior alone cannot be relied on to tap into categories activated by patients. As with other settings and relationships, the physicians in a medical encounter are likely to be subject to conscious and subconscious stereotype activation. Future studies should focus on the extent to which this occurs, how it affects patient health outcomes and ultimately how an intervention can improve care.

### Similarity of Constructs

Numerous, strong relationships between the dependent variables, both those hypothesized and those tested post-hoc, seem to suggest that the variables are measuring

very similar concepts. However, SES and depression consistently showed different effects on provider engagement in comparison to other variables in the assigned sample. For example there were consistently larger differences between SES and depression conditions for rapport building and positive affect than for provider engagement.

Provider engagement, which consists of asking questions, paraphrasing and clarifying, may have differed from the other variables because it is not as influenced by stereotypes. Provider engagement may reflect systematic processes because it involves addressing the information given and asking further questions. Systematic processing tends to reduce reliance on stereotypes because people are assessing the individual situation instead of relying on heuristics (Brewer, 1988). For more emotional communication, such as rapport building which involves empathy statements, personal remarks, joke telling and compliments, and positive affect, which involves non-verbal tone of voice, is based more on heuristics such as stereotypes (Bodenhausen, 1993). Physicians are said to use both systematic and heuristic processing in their decision-making (Crosskerry, 2009).

In the assigned condition, positive affect also showed a different pattern of results than verbal dominance for the SES conditions. However this was be expected as it suggested that when there was low positive affect, there was high verbal dominance, which was originally predicted. What is surprising about these findings is that the verbal dominance pattern of results was in the opposite direction of the revealed and excluded samples. As discussed earlier, this is likely related to the differences in "acting" when the patient was assigned to SES. It appears that they talked more when assigned to the SES condition. Patient in the assigned condition that were not probed for SES seem to

have talked less than the physician. When the sample was rearranged so that the non-probed were put with the non-assigned (Revealed sample), who also talked less than the physician, then it showed that the low SES assigned and probed patients were talking more than the physician. The pattern was repeated in the Excluded sample because the assigned, non-probed patients were removed.

The patient centered communication ratio also includes more of the socioemotional utterances in patient-centered talk and more task-focused utterances in doctor-centered talk. The pattern of differences for patient centered communication and provider engagement may also show that provider engagement does not strongly factor into the Roter measure of patient-centeredness. Question asking and engagement are considered key components of the patient centered experience. Thus these findings may call into question the validity of the RIAS patient centered communication scale as a robust measure of patient-centeredness. Researchers have not convened on a single definition of patient-centered care and communication, and no current measure is universally accepted as adequately capturing the concept (Epstein et al., 2005; Weiner et al., 2013). The differences show that further work needs to be done to create measures that fully and consistently capture all components of patient centered communication.

**Limitations**

While the Roter Interaction Analysis System successfully identifies separate elements of communication, there is mixed support for its use as a patient-centered communication measure (Weiner et al., 2013). Weiner and colleagues' recent work suggests the RIAS does not contextualize the patient-centered encounter and thus gives a biased view of the communication. When looking at a wider array of encounters, they

found the RIAS categories did not predict the appropriateness of the treatment plan. These findings bring into questioning the adequacy of the RIAS categories in conceptualizing patient centered communication, which integrates the whole patient to address their medical concerns by taking into account the biomedical and psychosocial factors.

For the current study, depression findings for the patient-centered communication variable also may be a product of the measurement tool. Any utterances that concern psychosocial issues are considered patient-centered. When providers identified depression, a psychosocial issue, they were more likely use psychosocial talk (e.g. giving information, receiving information or asking questions about emotions), which is classified as patient-centered. If a patient did not show signs of depression, then providers appropriately spent less time discussing psychosocial issues. By default they have a lower number of patient-centered utterances. Consider an encounter with a patient newly diagnosed with diabetes. This would require a significant amount of medical talk from both the patient and the doctor. This encounter would likely show less patient-centered communication than an encounter with a depressed patient. However given the medical differences, it expected that there would be more psychosocial discussion with the depression patient. Thus the RIAS patient-centered communication scale does not seem to fully capture the appropriateness of the discussion based on the numerous factors that determine what content is addressed in an encounter.

The current study also found no support for patient-provider communication as a mediator for the relationship between stigmatizing characteristics and appropriate treatment plan. One limitation to this finding is the large sample size needed for the

Baron and Kenney meditational analysis approach to be appropriately used (1986). Fritz and MacKinnon found that a sample size between 20,886 and 1,184 were needed for adequate power assuming a small relationship between the mediator and the outcome variables and depending on the strength of the relationship between the predictor and mediator variables (2007). The sample size in the current study consisted of 93 (assigned and revealed distribution) and 74 (excluded distribution), much smaller than the recommended size. According to Fritz and MacKinnon, adequate statistical power could only be achieved for the assigned or revealed sample sizes if there were large relationships between the both the predictor and mediator and mediator and outcome variables. The effect size of the relationship between communication and treatment plan is likely small given the numerous factors that impact medical treatment planning and the findings of Weiner and colleagues (2013). Therefore, the effect size and sample size in the current study makes the Baron and Kenny method, along with the Sobel and Bootstrapping approaches, inappropriate to test for complete mediation (Fritz & MacKinnon, 2013). Future work should include a much larger sample size to adequately test a meditational model.

In general, unannounced standardized patients portray medical cases very well and are considered the gold standard for assessing medical encounters (Peabody, Luck, Glassman, Dresselhaus, & Lee, 2000). In this study, the standardized patients appear to do a "better" acting job portraying depression or low SES when they were assigned the condition. This changed probing behavior and may have affected physician communication to a greater extent than equivalent acting performances. There were no

thorough assessments that differentiated the range of the actors' portrayal, and future studies should consider measuring and controlling for any unintended differences.

Standardized patients often are used to assess medical communication. Given their regular encounters, there is concern that standardized patients navigate the physician-patient relationship more skillfully than a real patient (Srinivasan et al., 2006). Some research shows that standardized patients communicate with providers differently than real patients (Fiscella, Franks, Srinivasan, Kravitz & Epstein, 2007). In the current study, the actors' experience with medical interactions may have led to communication styles that provided more opportunities for the physician to probe the patient. For example, Groopman suggests patients probe their physician by asking, "Could it be anything else?" (2008). This sort of question is supposed to lead providers to branch their thoughts away from the standard causes to other possibilities. If a savvy standardized patient used these techniques, the findings from the current study may not be as generalizable to the average patient. However using unannounced actors allowed control of outside variables that would not be feasible for real patients.

The actor identity impacted the communication and had to be controlled for in a number of the results. The variance based on the actors' identity in the current study, regardless of condition, suggests that the patient, even when following a script, has an impact on the tone of the encounter. The literature has called for integration of patient and provider communication measurements because communication is an interaction of the two people not one person talking in a vacuum. Future research should create measures that capture the nuances of patient impact on doctor communication and how this can be used to the advantage of the patient.

The current study focused on an older man which possibly activated stereotypes of the elderly. This may have lead to more warmth and less negativity but more paternalism overall. Future research should be done to see if the patterns differ for younger adults to understand the impact ageism has on communication. It would be interesting to explore the intersection of stigmatizing characteristics and gender as well. Physician use more psychosocial communication with female patients while male patients participate in biomedical and procedural discussions (Roter & Hall, 2002). In addition depression symptoms tend to be different for women and men, and women encounter less stigma than men when seeking help for depression (Mackenzie, Gekoski & Knox, 2006). The combinations of these differences could show variations in patterns of stigmatizing behavior, which would have an impact on communication training for doctors and patients. Despite limitations, the current study supports that stigmatizing characteristics have an impact on patient centered communication both when they are discussed and when they are not.

CHAPTER NINE

GENERAL CONCLUSIONS AND FUTURE DIRECTIONS

The current project fills the gap in research on the effect of multiple stigmatized characteristics of health in primary care encounter communication. This research is unique in that it used an experimental design to test the effects of depression and low socioeconomic status (SES) when traditionally only descriptive data or quasi-experimental designs are used. In addition the second study was implemented using an unannounced standardized patient within a real medical encounter, a difficult to access setting that provides a picture closer to reality than the best laboratory design. Together these studies suggest that depression and low SES engender reactions similar to those found in non-medical encounters and direct differences in patient-provider communication.

The pilot study showed participants had similarly negative reactions to the patients with either depression or low SES and more negative reactions to a patient with both characteristics. According to the Stereotype Content Model and BIAS Map, the physician's communication should have been very similar and reflected active facilitation and passive harm brought about by feelings of pity. The second study supported the pilot study in that the presence of a stigmatized characteristic effected communication. However, the direction of the effects showed diverse styles of verbal and non-verbal

communication between the depressed patients and the low SES patients.  As predicted, low SES negatively related to positive affect and patient centered communication. This is striking next to the findings that providers showed more positive affect and patient centered communication with the patient assigned depression than the patient not assigned to the depression condition.

Differences between the two studies could be a function of the vignette and field designs or the sample occupation and training.  Vignette study participants could have filtered their responses to be more socially desirable so that they did not appear to feel negatively toward the low SES patient.  Also the vignettes clearly identified the patient's characteristics, either depressed, low SES or both.  In the field study the physician was responsible for detecting the stigmatizing characteristic.  While they discussed depression often, they were not as successful at integrating low SES into discussions.  In addition, it was not clear whether the provider detected the stigmatizing characteristic but did not mention it.  The differences in communication style in the assigned sample suggest they may have detected financial issues even when they were not addressed, but there were no measures to capture their non-verbalized assumptions.  Future studies of patient-provider communication should do in-depth exploration of category detection and decisions to discuss issues related to the category.

Physicians may form different impressions and have different emotional reactions to patients than the lay person.  Doctors are trained to assess individuals using specific models of thinking (Crosskerry, 2003; Groopman, 2008).  In addition, doctors' roles involve power over patients, and power can alter how individuals view one another (Fiske, 1993; Goodwin, Gubin, Fiske, & Yzerbyt, 2000).  This may lead doctors to notice

certain factors or frame them in ways a non-medically trained person would not. Future work should directly assess medical providers impressions of patients on the warmth and competence dimensions to further understand how the Stereotype Content Model and the BIAS model could drive interventions to improve patient-provider communication.

The Decision Model of Bystander Intervention may clarify differences between the providers probing behavior across variables. According to the model, a person must first notice the problem, next, interpret it as a problem, feel it is their responsibility to help, decide how to help and lastly provide help (Latané & Darley, 1970). The decisions made for someone with depression may be different from those with a low SES. Because depression is considered a medical condition and commonly treated in primary care (AAFP, 2001), depression may be more salient. Also the physician responsibilities and medical solutions may be clearer for depression than low SES patients. For example the physicians who did not probe for SES may have not detected it. However if they did, they may not have probed for financial issues because they did not connect low SES to weight loss, especially if symptoms of depression also explained the weight loss. The physician may have felt it was not their responsibility; a social worker should have been dealing with the problem, not a physician. For those who considered financial issues to be a problem and felt they needed to help, they still may not have probed or otherwise acted because they could not determine an effective solution. The provider may have been unaware that it is appropriate to connect the person to a social worker or community resources. Lastly the provider may have not felt inclined to act because of time pressure and organizational expectations, because the low socio-economic status patient was to

blame for their situation and undeserving of help, or because discussing finances was simply uncomfortable.

Given the key role sympathy and empathy play in patient-centered care and the Stereotype Content Model, it is logical to integrate the model into the study of medical encounters. While empathy may be an important piece of patient-centered communication, empathic conversation has to lead to adequate treatment to be considered patient centered care. According to the BIAS Map, pity would lead to passive harm and active facilitation, such as prescribing anti-depressants but withholding additional information because the physicians view the patient as incompetent in dealing with stress. It is possible that the physicians feel that the person with depression should be protected from additional questioning or uncomfortable information. In addition they may not feel that they should probe for other medical information or elaborate on treatment because they determined the cause of the problem.

However, part of patient centered care is empowering the patient to be involved in their treatment. If a doctor focuses mostly on psychosocial and lifestyle issues in their first encounter with depressed patients, the next question concerns how they behave in later sessions. When do they discuss biomedical topics, such as negative side effects of the medicine or physical effects of depression, and allow their patients to make decisions? Further studies should be done to explore whether primarily psychosocial communication contributes to less patient activation and ultimately higher incidence of comorbidity for conditions such as diabetes, heart disease or cancer. The important next steps for these studies would be to look at communication in follow-up medical encounters where depression or low socioeconomic status may overshadow other medical

problems especially if recurrent problems solidify depression or low socioeconomic status as a patient's social identity.

In conclusion, the current research highlights preliminary evidence that depression and low SES impact impressions and communication within medical encounters. Patients with multiple stigmas engender more stigmatizing reactions though these did not translate into communication differences in the current study. Overall the physicians appear to have different reactions to the two issues, and thus varying intervention methods may be needed. In addition more work should be done to connect the impact on communication with the adequacy of treatment plans. The continued study of communication for patients with depression and low SES in primary care is necessary to ensure that biases do not inhibit equal access to treatment and quality of care for patients.

APPENDIX A

PILOT STUDY SCALES

**Warmth and Competence Scale:**
Please rate the following questions using a 5-point scale (1 =*not at all* to 5 = *extremely*) on the basis of how Mr. Garrison would be viewed by American society. We are not interested in your personal beliefs, but in how you think others would view him.

As viewed by society, how Intelligent is Mr. Garrison?
| 1 | 2 | 3 | 4 | 5 |
Not at all                                              Extremely

As viewed by society, how capable is Mr. Garrison?
| 1 | 2 | 3 | 4 | 5 |
Not at all                                              Extremely

As viewed by society, how well-intentioned is Mr. Garrison?
| 1 | 2 | 3 | 4 | 5 |
Not at all                                              Extremely

As viewed by society, how trustworthy is Mr. Garrison?
| 1 | 2 | 3 | 4 | 5 |
Not at all                                              Extremely

As viewed by society, how confident is Mr. Garrison?
| 1 | 2 | 3 | 4 | 5 |
Not at all                                              Extremely

As viewed by society, how warm is Mr. Garrison?
| 1 | 2 | 3 | 4 | 5 |
Not at all                                              Extremely

As viewed by society, how sincere is Mr. Garrison?
| 1 | 2 | 3 | 4 | 5 |
Not at all                                              Extremely

As viewed by society, how skillful is Mr. Garrison?
| 1 | 2 | 3 | 4 | 5 |
Not at all                                              Extremely

As viewed by society, how good-natured is Mr. Garrison?
| 1 | 2 | 3 | 4 | 5 |
Not at all                                              Extremely

As viewed by society, how competent is Mr. Garrison?
| 1 | 2 | 3 | 4 | 5 |
Not at all                                              Extremely

As viewed by society, how friendly is Mr. Garrison?
| 1 | 2 | 3 | 4 | 5 |
Not at all                                              Extremely

As viewed by society, how efficient is Mr. Garrison?
| 1 | 2 | 3 | 4 | 5 |
Not at all                                              Extremely

**Trait Scale:**
Please rate Mr. Garrison on the following personality traits where 1 does not describe Mr. Garrison at all and 7 describes Mr. Garrison extremely well.

Vulnerable
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Not at all | | | | | Extremely |

Self-pitying
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Not at all | | | | | Extremely |

Proud
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Not at all | | | | | Extremely |

Entitled
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Not at all | | | | | Extremely |

Powerless
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Not at all | | | | | Extremely |

Immoral
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Not at all | | | | | Extremely |

Emotional
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Not at all | | | | | Extremely |

Defensive
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Not at all | | | | | Extremely |

Aggressive
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Not at all | | | | | Extremely |

Repulsive
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Not at all | | | | | Extremely |

Unpredictable
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Not at all | | | | | Extremely |

Demanding
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Not at all | | | | | Extremely |

Dangerous
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Not at all | | | | | Extremely |

**Over All Impression Item:**

Now, using the scale below, please choose a number that best reflects your overall impression of Mr. Garrison

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Completely | | | | | | Completely |
| Negative | | | | | | Positive |

**Outlook Item:**

Using the scale below, please describe the extent to which you see Mr. Garrison's situation worsening or improving.  Circle the number that best matches your description.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Worsening | | | | | | Improving |

**Responsibility Scale:**

Now answer each of the following questions about Mr. Garrison.  Choose the number of the best answer to each question.

I would think that it was Mr. Garrison's own fault that he is in the present situation.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| no, | | | | | | | yes, | |
| not at all | | | | | | | absolutely so | |

How controllable, do you think, is the cause of Mr. Garrison's present situation?

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| not at all under | | | | | | completely under | | |
| personal control | | | | | | personal control | | |

How responsible, do you think, is Mr. Garrison for his present situation?

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| not at all | | | | | | | very much | |
| responsible | | | | | | | responsible | |

**Global Affect Scale:**

For this section of the questionnaire, imagine that you were interacting with Mr. Garrison in this scenario. While previous sections asked you to rate your impressions of Mr. Garrison.

Using the scales below, rate the degree **YOU WOULD FEEL** each of the following towards Mr. Garrison.

angry/irritated
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Not at all | | | | very much |

anxious/nervous
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Not at all | | | | very much |

depressed/sad
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Not at all | | | | very much |

emotional distressed/upset
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Not at all | | | | very much |

dominant/assertive
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Not at all | | | | very much |

interested/attentive
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Not at all | | | | very much |

friendly/warm
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Not at all | | | | very much |

responsive/engaged
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Not at all | | | | very much |

sympathetic/empathetic
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Not at all | | | | very much |

respectful
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Not at all | | | | very much |

Interactive
| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Not at all | | | | very much |

**Personal demographics:**

Age _____

Ethnicity/Race

      Asian

      American Indian/Alaska Native

      Black

      White, non-Hispanic

      White, Hispanic

      Pacific Islander/Hawaii Native

      More than one Race

      Other

Gender

      Male

      Female

      Other

2011 Household Income

      $15000 or less
      $15001-25000
      $25001-35000
      $35001-50000
      $50001-75000
      $75001-100000
      Over $100000

Think of a ladder with 10 steps representing where people stand in the United States. At step 10 are people who are the best off – those who have the most money, the most education, and the most respected jobs. At step 1 are the people who are worst off - those who have the least money, least education, and the least respected jobs or no job.

Where would you place yourself on this ladder?

1     2     3     4     5     6     7     8     9     10

Education

    Less than high school
    High school diploma OR GED
    Some College
    College diploma
    Post College Courses
    Graduate Degree

Marital Status

    Single, not cohabitating with a partner

    Divorced, Separated, or Widowed

    In a Legal Union

    Cohabitating with a partner, not married

    Married

Are you currently employed as a healthcare provider?

    Yes

    No

Were you previously employed as a healthcare provider?

    Yes

    No

APPENDIX B

PILOT STUDY SCENARIOS

Scenario A

Please read the following scenario carefully as you will be asked to answer questions about it:

Mr. Gregory Garrison, a 72-year-old Black man, is worried about unintentionally losing 20 pounds over the last six months. His clothing is quite loose now, particularly around the waistline. He makes an appointment to see Dr. Bauer, a primary care physician, for the first time. Once in the office, Dr. Bauer asks questions to learn about his medical history and current lifestyle. Mr. Garrison reports that he has no major medical problems and does not take prescription or over-the-counter medicines regularly. Mr. Garrison explains that he quit smoking 30 years ago and walks to and from the grocery store for exercise. He does not use recreational drugs and has drunk very little in the past 10 years. Mr. Garrison, widowed 5 years ago, is monogamous with his girlfriend.

Mr. Garrison appears to lack energy and sighs a few times during the examination. Dr. Bauer asks him about his mood, knowing that unexplained weight loss commonly indicates depression. Mr. Garrison replies that he generally feels up beat. Dr. Bauer follows up with questions about his sleep habits and appetite. Mr. Garrison answers that he sleeps well, 6-7 hours per night, and hasn't had any changes in appetite. Dr. Bauer also notes Mr. Garrison's disheveled appearance and wonders if he has trouble accessing food. When asked about his financial situation, Mr. Garrison explains that he used to work as a security guard until 9 months ago. Now he lives off of his retirement fund and social security; between the two income sources, he easily fulfills his basic needs and eats 3 regular meals a day. Dr. Bauer refers Mr. Garrison for lab tests and suspects the weight loss is not due to depression or lack of food.

Scenario B

Please read the following scenario carefully as you will be asked to answer questions about it:

Mr. Gregory Garrison, a 72-year-old White man, is worried about unintentionally losing 20 pounds over the last six months. His clothing is quite loose now, particularly around the waistline. He makes an appointment to see Dr. Bauer, a primary care physician, for the first time. Once in the office, Dr. Bauer asks questions to learn about his medical history and current lifestyle. Mr. Garrison reports that he has no major medical problems and does not take prescription or over-the-counter medicines regularly. Mr. Garrison explains that he quit smoking 30 years ago and walks to and from the grocery store for exercise. He does not use recreational drugs and has drunk very little in the past 10 years. Mr. Garrison, widowed 5 years ago, is monogamous with his girlfriend.

Mr. Garrison appears to lack energy and sighs a few times during the examination. Dr. Bauer asks him about his mood, knowing that unexplained weight loss commonly indicates depression. Mr. Garrison replies that he generally feels up beat. Dr. Bauer follows up with questions about his sleep habits and appetite. Mr. Garrison answers that he sleeps well, 6-7 hours per night, and hasn't had any changes in appetite.

Dr. Bauer also notes Mr. Garrison's disheveled appearance and wonders if he has trouble accessing food. When asked about his financial situation, Mr. Garrison explains that he used to work as a security guard until 9 months ago. Now he lives off of his retirement fund and social security; between the two income sources, he easily fulfills his basic needs and eats 3 regular meals a day.

Dr. Bauer refers Mr. Garrison for lab tests and suspects the weight loss is not due

to depression or lack of food.

Scenario C

Please read the following scenario carefully as you will be asked to answer questions about it:

Mr. Gregory Garrison, a 72-year-old Black man, is worried about unintentionally losing 20 pounds over the last six months. His clothing is quite loose now, particularly around the waistline. He makes an appointment to see Dr. Bauer, a primary care physician, for the first time. Once in the office, Dr. Bauer asks questions to gather his medical history and current lifestyle. Mr. Garrison reports that he has no major medical problems and does not take prescription or over-the-counter medicine regularly. Mr. Garrison's explains that he quit smoking 30 years ago and walks to and from the grocery store for exercise. He does not use recreational drugs and has drunk very little in the past 10 years. Mr. Garrison, widowed 5 years ago, is monogamous with his girlfriend.

Mr. Garrison appears to lack energy and sighs a few times during the examination. Dr. Bauer asks him about his mood, knowing that unexplained weight loss commonly indicates depression. He replies that he's been feeling down lately and isn't sure life is worth living. Dr. Bauer follows up with questions about his sleep and appetite. Mr. Garrison explains that sometimes he hardly sleeps at all. He also says he probably has been eating less than normal because he just doesn't have an appetite most of the time. Further questioning reveals that Mr. Garrison's symptoms appeared soon after his daughter was killed by her husband.

Dr. Bauer also notes Mr. Garrison's disheveled appearance and wonders if he has trouble accessing food. When asked about his financial situation, Mr. Garrison explains

that he used to work as a security guard until 9 months ago. Now he lives off of his retirement fund and social security; between the two income sources, he easily fulfills his basic needs and eats 3 regular meals a day.

Dr. Bauer refers Mr. Garrison for lab tests and suspects that the weight loss is due to depression, but not lack of access to food.

<div align="center">Scenario D</div>

Please read the following scenario carefully as you will be asked to answer questions about it:

Mr. Gregory Garrison, a 72-year-old White man, is worried about unintentionally losing 20 pounds over the last six months. His clothing is quite loose now, particularly around the waistline. He makes an appointment to see Dr. Bauer, a primary care physician, for the first time. Once in the office, Dr. Bauer asks questions to gather his medical history and current lifestyle. Mr. Garrison reports that he has no major medical problems and does not take prescription or over-the-counter medicine regularly. Mr. Garrison's explains that he quit smoking 30 years ago and walks to and from the grocery store for exercise. He does not use recreational drugs and has drunk very little in the past 10 years. Mr. Garrison, widowed 5 years ago, is monogamous with his girlfriend.

Mr. Garrison appears to lack energy and sighs a few times during the examination. Dr. Bauer asks him about his mood, knowing that unexplained weight loss commonly indicates depression. He replies that he's been feeling down lately and isn't sure life is worth living. Dr. Bauer follows up with questions about his sleep and appetite. Mr. Garrison explains that sometimes he hardly sleeps at all. He also says he probably has been eating less than normal because he just doesn't have an appetite most of the

time. Further questioning reveals that Mr. Garrison's symptoms appeared soon after his daughter was killed by her husband.

Dr. Bauer also notes Mr. Garrison's disheveled appearance and wonders if he has trouble accessing food. When asked about his financial situation, Mr. Garrison explains that he used to work as a security guard until 9 months ago. Now he lives off of his retirement fund and social security; between the two income sources, he easily fulfills his basic needs and eats 3 regular meals a day.

Dr. Bauer refers Mr. Garrison for lab tests and suspects that the weight loss is due to depression, but not lack of access to food.

<div align="center">Scenario E</div>

Please read the following scenario carefully as you will be asked to answer questions about it:

Mr. Gregory Garrison, a 72-year-old Black man, is worried about unintentionally losing 20 pounds over the last six months. His clothing is quite loose now, particularly around the waistline. He makes an appointment to see Dr. Bauer, a primary care physician, for the first time. Once in the office, Dr. Bauer asks questions to gather his medical history and current lifestyle. Mr. Garrison reports that he has no major medical problems and does not take prescription or over-the-counter medicine regularly. Mr. Garrison's explains that he quit smoking 30 years ago and walks to and from the grocery store for exercise. He does not use recreational drugs and has drunk very little in the past 10 years. Mr. Garrison, widowed 5 years ago, is monogamous with his girlfriend.

Mr. Garrison appears to lack energy and sighs a few times during the examination. Dr. Bauer asks him about his mood, knowing that unexplained weight loss

commonly indicates depression. Mr. Garrison replies that he generally feels up beat. Dr.

Bauer follows up with questions about his sleep habits and appetite. Mr. Garrison

answers that he sleeps well, 6-7 hours per night, and hasn't had any changes in appetite.

Dr. Bauer also notes Mr. Garrison's shabby appearance; he is dressed as if he

could be homeless. When asked about his employment status, Mr. Garrison explained

that he supports himself on Social Security. Further questioning reveals severe financial

hardship since he lost a job as a security guard about 9 months ago. Mr. Garrison

explains, 'People think I am too old now to hire me.' Mr. Garrison is currently living in

the basement of a friend, paying a little bit of rent, but he's going to have to move out in a

couple of months and doesn't know where he is going next. He has been homeless twice

in the last year. He is still able to eat about three times a week at a soup kitchen at a local

church, but otherwise rarely finds a good meal. At home, he just brings some food from

the grocery that comes in packages or cans that he can eat cold.

Dr. Bauer refers Mr. Garrison for lab tests and suspects that the weight loss is due

to lack of access to food but not depression.

<center>Scenario F</center>

Please read the following scenario carefully as you will be asked to answer questions

about it:

Mr. Gregory Garrison, a 72-year-old White man, is worried about unintentionally

losing 20 pounds over the last six months. His clothing is quite loose now, particularly

around the waistline. He makes an appointment to see Dr. Bauer, a primary care

physician, for the first time. Once in the office, Dr. Bauer asks questions to gather his

medical history and current lifestyle. Mr. Garrison reports that he has no major medical

problems and does not take prescription or over-the-counter medicine regularly. Mr. Garrison's explains that he quit smoking 30 years ago and walks to and from the grocery store for exercise. He does not use recreational drugs and has drunk very little in the past 10 years. Mr. Garrison, widowed 5 years ago, is monogamous with his girlfriend.

Mr. Garrison appears to lack energy and sighs a few times during the examination. Dr. Bauer asks him about his mood, knowing that unexplained weight loss commonly indicates depression. Mr. Garrison replies that he generally feels up beat. Dr. Bauer follows up with questions about his sleep habits and appetite. Mr. Garrison answers that he sleeps well, 6-7 hours per night, and hasn't had any changes in appetite.

Dr. Bauer also notes Mr. Garrison's shabby appearance; he is dressed as if he could be homeless. When asked about his employment status, Mr. Garrison explained that he supports himself on Social Security. Further questioning reveals severe financial hardship since he lost a job as a security guard about 9 months ago. Mr. Garrison explains, 'People think I am too old now to hire me.' Mr. Garrison is currently living in the basement of a friend, paying a little bit of rent, but he's going to have to move out in a couple of months and doesn't know where he is going next. He has been homeless twice in the last year. He is still able to eat about three times a week at a soup kitchen at a local church, but otherwise rarely finds a good meal. At home, he just brings some food from the grocery that comes in packages or cans that he can eat cold.

Dr. Bauer refers Mr. Garrison for lab tests and suspects that the weight loss is due to lack of access to food but not depression.

## Scenario G

Please read the following scenario carefully as you will be asked to answer questions

about it:

       Mr. Gregory Garrison, a 72-year-old Black man, is worried about unintentionally losing 20 pounds over the last six months. His clothing is quite loose now, particularly around the waistline. He makes an appointment to see Dr. Bauer, a primary care physician, for the first time. Once in the office, Dr. Bauer asks questions to gather his medical history and current lifestyle. Mr. Garrison reports that he has no major medical problems and does not take prescription or over-the-counter medicine regularly. Mr. Garrison's explains that he quit smoking 30 years ago and walks to and from the grocery store for exercise. He does not use recreational drugs and has drunk very little in the past 10 years. Mr. Garrison, widowed 5 years ago, is monogamous with his girlfriend.

       Mr. Garrison appears to lack energy and sighs a few times during the examination. Dr. Bauer asks him about his mood, knowing that unexplained weight loss commonly indicates depression. He replies that he's been feeling down lately and isn't sure life is worth living. Dr. Bauer follows up with questions about his sleep and appetite. Mr. Garrison explains that sometimes he hardly sleeps at all. He also says he probably has been eating less than normal because he just doesn't have an appetite most of the time. Further questioning reveals that Mr. Garrison's symptoms appeared soon after his daughter was killed by her husband.

       Dr. Bauer also notes Mr. Garrison's shabby appearance; he is dressed as if he could be homeless. When asked about his employment status, Mr. Garrison explained that he supports himself on Social Security. Further questioning reveals severe financial hardship since he lost a job as a security guard about 9 months ago. Mr. Garrison explains, 'People think I am too old now to hire me.' Mr. Garrison is currently living in

the basement of a friend, paying a little bit of rent, but he's going to have to move out in a couple of months and doesn't know where he is going next. He has been homeless twice in the last year. He is still able to eat about three times a week at a soup kitchen at a local church, but otherwise rarely finds a good meal. At home, he just brings some food from the grocery that comes in packages or cans that he can eat cold.

Dr. Bauer refers Mr. Garrison for lab tests and suspects that the weight loss is due to depression and lack of access to food.

<div align="center">Scenario H</div>

Please read the following scenario carefully as you will be asked to answer questions about it:

Mr. Gregory Garrison, a 72-year-old White man, is worried about unintentionally losing 20 pounds over the last six months. His clothing is quite loose now, particularly around the waistline. He makes an appointment to see Dr. Bauer, a primary care physician, for the first time. Once in the office, Dr. Bauer asks questions to gather his medical history and current lifestyle. Mr. Garrison reports that he has no major medical problems and does not take prescription or over-the-counter medicine regularly. Mr. Garrison's explains that he quit smoking 30 years ago and walks to and from the grocery store for exercise. He does not use recreational drugs and has drunk very little in the past 10 years. Mr. Garrison, widowed 5 years ago, is monogamous with his girlfriend.

Mr. Garrison appears to lack energy and sighs a few times during the examination. Dr. Bauer asks him about his mood, knowing that unexplained weight loss commonly indicates depression. He replies that he's been feeling down lately and isn't sure life is worth living. Dr. Bauer follows up with questions about his sleep and appetite.

Mr. Garrison explains that sometimes he hardly sleeps at all. He also says he probably has been eating less than normal because he just doesn't have an appetite most of the time. Further questioning reveals that Mr. Garrison's symptoms appeared soon after his daughter was killed by her husband.

Dr. Bauer also notes Mr. Garrison's shabby appearance; he is dressed as if he could be homeless. When asked about his employment status, Mr. Garrison explained that he supports himself on Social Security. Further questioning reveals severe financial hardship since he lost a job as a security guard about 9 months ago. Mr. Garrison explains, 'People think I am too old now to hire me.' Mr. Garrison is currently living in the basement of a friend, paying a little bit of rent, but he's going to have to move out in a couple of months and doesn't know where he is going next. He has been homeless twice in the last year. He is still able to eat about three times a week at a soup kitchen at a local church, but otherwise rarely finds a good meal. At home, he just brings some food from the grocery that comes in packages or cans that he can eat cold.

Dr. Bauer refers Mr. Garrison for lab tests and suspects that the weight loss is due to depression and lack of access to food

APPENDIX C

ROTER INTERACTIONAL ANALYSIS SYSTEM (RIAS) PHYSICIAN CODING

CATEGORIES

| *Socioemotional Exchange* | | |
|---|---|---|
| 1. Personal remarks, social conversation | Greetings/conversation not related directly to discussion of health | "It's cold out there. How are you handling the weather?" |
| 2. Laughing, jokes | Friendly jokes, kidding around, laughter | "You're a Cubs fan so you must be used to pain." |
| 3. Shows concern or worry | A statement or non-verbal expression acknowledging the seriousness of an issue, describing negative issues, and indication of concern for feelings | "I'm concerned with the side effects of the medication." |
| 4. Reassures, encourages or shows optimism | Statements that encourage or reassure in an upbeat, positive manner, often in response to indications of others' feelings | "You shouldn't have that problem again." |
| 5. Shows approval - direct | Expressions and exclamations of praise, gratitude or approval directed at someone present | "Good work on the weight loss!" |
| 6. Gives compliments- general | Expressions and exclamations of praise, gratitude or approval directed at another not present | "Our nursing staff is very capable." |
| 7. Shows disapproval-direct | Expressions or defensive statements indicating disapproval, rejection or criticism about someone present | "I thought you said you were going to quit drinking." |
| 8. Shows criticism - general | Expressions or defensive statements indicating disapproval, rejection or criticism about another not present | "I don't like how little your boss lets you take off." |
| 9. Empathy statements | Statements recognizing or identifying the emotions of another | "This must be difficult for you to hear." |
| 10. Legitimizing statements | Statements normalizing the feelings, thoughts or actions of others | "It makes sense that you would think about your kids." |
| 11. Partnership statements | Statements indicating the physician will work with the patient as a team | "We have to work as a team to manage your diabetes." |

| 12. Self-disclosure statements | Personal disclosures by the physician that are relevant to the patient's immediate emotions or medical issues | "It took me a couple of tries to quit smoking too." |
|---|---|---|
| 13. Asks for reassurance | Questions relaying concern and the need for encouragement and reassurance | "Are you sure you want to try medication?" |
| 14. Shows agreement or understanding | Signs of agreement or understanding | "Oh, I see." |
| 15. Back-channel responses | Indication of interest on the part of the listener | "Mm..Hmm" |
| *Task-Focused Exchange* | | |
| 16. Transition words | Statements indicating a change in topic (marked by significant pause) | "Let's see…" |
| 17. Gives orientation, instructions | Introductions to what is about the happen and what to expect; Directive statements | "I'm going to place the stethoscope on your back." |
| 18. Paraphrases/checks for understanding | Restatement or reflection of information confirming accuracy or understanding | "So your knee has been hurting for two weeks?" |
| 19. Asks for understanding | Questions to check that the patient follows the information or is agreement | "Can you understand what I mean?" |
| 20. Bid for repetition | Questions or statements indicating a need for repetition of a statement because of perceptual difficulty (not hearing, seeing, etc.) | "Excuse me?" |
| 21. Asks for opinion | Requests for perspective, opinions or points-of-view of the patient in relation to aspects of the medical encounter | "Do you think physical therapy is a good option?" |
| 22. Asks for permission | Request for permission to proceed or to provide information | "May I see the mole?" |
| Medical Condition | Utterances concerning the medical condition, such as symptoms, diagnosis, family history, allergies; includes basic demographics for charting | |
| 23. Gives information – medical condition | Statements of facts or opinions | "Your temperature is 99.3." |

| 24. Asks questions (closed-ended) – medical | Direct questions that ask for a specific category of answer | "Do you drink more than 2 drinks per week?" |
|---|---|---|
| 25. Asks questions (open-ended) – medical condition | Questions requesting non-specific responses or meant to probe for addition information or clarification | "How have you been eating?" |
| Therapeutic Regimen | Utterances concerning the ongoing and future treatment plan, such as maintenance prescriptions, daily exercises, up-coming appointments | |
| 26. Gives information – therapeutic regimen | Statements of facts or opinions | "You should take the prescription until the entire bottle is gone." |
| 27. Asks questions (closed-ended) – therapeutic regimen | Direct questions that ask for a specific category of answer | "Do you have time to see an audiologist next week?" |
| 28. Asks questions (open-ended) – therapeutic regimen | Questions requesting non-specific responses or meant to probe for addition information or clarification | "How will you remember to take your pills?" |
| 29. Counsels or directs behavior – medical condition or therapeutic regimen | Statements that suggest a decision or action to be taken by another with the intent to influence or instill behavior change | "Keep your knee iced for no more than 10 minutes." |
| Lifestyle Information | Utterances concerning lifestyle, home or work situations, health regimens and self-care behaviors generally made without judgment | |
| 30. Gives information – lifestyle | Statements of facts or opinions | "The procedure will not require you to take off work." |
| 31. Asks questions (closed-ended) – lifestyle | Direct questions that ask for a specific category of answer | "Do you have someone who can care for you after the operation?" |
| 32. Asks questions (open-ended) – lifestyle | Questions requesting non-specific responses or meant to probe for addition information or clarification | "How do you plan to support yourself during recovery?" |

| Psychosocial Information | Utterances concerning psychosocial issues, such as tension, affective reactions, values and viewpoints | |
|---|---|---|
| 33. Gives information – feelings and emotions | Statements of facts or opinions | "Anxiety and depression often go hand in hand." |
| 34. Asks questions (closed-ended) – feelings and emotions | Direct questions that ask for a specific category of answer | "Have you felt elated in the last week?" |
| 35. Asks questions (open-ended) – feelings and emotions | Questions requesting non-specific responses or meant to probe for addition information or clarification | "What do you do when you feel angry?" |
| 36. Counsels or directs behavior– lifestyle/psychosocial | Statements that suggest a decision or action to be taken by another with the intent to influence or instill behavior change | "Try deep breathing exercises when you feel stressed." |
| Other | Utterances concerning clinical paperwork, exam or study procedures that do not fall in the other categories | |
| 37. Gives information – other | Statements of facts or opinions | "Here is a pen." |
| 38. Asks questions (closed-ended) – other | Direct questions that ask for a specific category of answer | "Where did you sit the paperwork?" |
| 39. Asks questions (open-ended) – other | Questions requesting non-specific responses or meant to probe for addition information or clarification | "Where should I put your coat?" |
| 40. Unintelligible | Utterance unable to be understood by coders due to audio quality. | |

NOTE: Adapted from RIAS Coding Manual (Roter, 1991).

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