

Running Head: OLDER PATIENTS AND DOCTOR VISITS

When will older patients follow doctors' recommendations?

Interpersonal treatment, outcome favorability and perceived age differences

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Abstract

One hundred and four older patients (average age=76) rated their last visit to a doctor. If older patients felt respectfully and honestly treated by the doctor, they were more willing to confide in a medical professional. If they received the information that they needed, they were more likely to follow the doctor's recommendations. However, if older patients perceived their doctor to be closer to them in age, respectful treatment was most closely related to compliance. If they perceived their doctor to be much younger than they were, obtaining needed information was most closely related to compliance. The results illustrate the value of treating age as a salient social category that can shape older patients' reactions to their medical visits.

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Successful medical treatment relies on positive doctor-patient relationships that include honesty and clarity from patients about their symptoms, effective communication from the doctor about treatment plans and patients' compliance with doctor recommendations (Beck, Daughtridge & Sloane, 2002; Ong, De Haes, Hoos, & Lammes, 1995). Yet statistics on compliance and medication adherence by patients suggest that between 40% and 50% of patients fail to comply fully with doctor recommendations (American Heart Association, 2003; Kirchner, 2000; J. Smith, 2001).

What predicts successful medical treatment is even more important for an aging population. Approximately 26.2% of health care expenditures in the United States from 1990 to 2003 were for patients 65 years and older (U.S. Census Bureau, 2006, p.103). Moreover, the number of older Americans is increasing rapidly, and this increase is projected to continue. The US Census Bureau (2006) estimates over twenty percent of the US population will be over 65 in 2050 (p.14). In addition, physicians report a 34% increase in office visits from patients between 45 and 64 and an 18% increase in the 65 and older age group (Cherry, Burt & Woodwell, 2003). In 1991, 42.3% of patients visiting the doctor were over the age of 45, and in 2001, this number increased to 53.1% (Cherry et al., 2003). Older patients also make more frequent visits to physicians than younger patients (an average of 8 visits compared to 5 visits, Beisecker, 1996). If the 65 and older age group continues to grow over the next 30 years, this age group will make

up a larger percentage of overall doctor visits and require more and more medical attention.

The purpose of this paper is to explore how older patients perceive their relationships with their doctor. First, we draw upon recent organizational justice research (Colquitt & Greenberg, 2003; Tyler & Blader, 2000) to identify two factors that might shape older patients' evaluations of their medical visits. On the one hand, older patients might be most sensitive to how a doctor treats them (Hughes & Larson, 1991; Tyler & Lind, 1992). Surveys of citizens, employees and students demonstrate that if people feel they have been treated with respect and honesty by authorities, they are more likely to comply with rules and regulations and are more willing to accept (unfavorable) decisions (see Tyler & Blader, 2000; Tyler & Lind, 1992 for reviews). On the other hand, older patients might be most interested in whether the doctor answers all their questions and gives them all the help that they need (Hall, 2003; Tyler & Lind, 1992). If patients are unable to get the information they want or need from healthcare providers, they tend to be less satisfied and may be reluctant to comply with any recommendations (Hall, 2003; Kiesler & Auerbach, 2003).

Second, we use self-categorization theory (Haslam, 2001; Turner, Hogg, Oakes, Reicher & Wetherell, 1987) as a framework for exploring whether the perceived age differences between older patients and their doctors might shape the relative importance of interpersonal treatment and outcome favorability on older patients' reactions to their visit. Research investigations of organizational authorities (Huo & Tyler, 2001; Tyler & Blader, 2000) suggests the importance of these factors may depend on perceived differences in group membership. When people view an authority as

sharing an important group membership, authority treatment is more closely related to their attitudes in comparison to the decision outcome. When people view an authority as not sharing an important group membership, the decision outcome is more closely related to their attitudes in comparison to authority treatment. Therefore, we predict that older patients who perceive their doctors to be more similar to them in age will be more sensitive to how doctors treat them in comparison to older patients who perceive their doctors to be much younger. In contrast, we predict that older patients who perceive their doctors to be much younger will be more sensitive to whether they obtained all the information they needed in comparison to older patients who perceive their doctors to be closer to them in age.

Patient-provider relationships

Patient satisfaction, willingness to return for further medical care, compliance with physician recommendations, and the pursuit of medical malpractice lawsuits all have been linked to patients' perceptions and expectations of healthcare providers (see Taylor, 2002 for a review). Patients report greater frustration and less willingness to comply with healthcare providers who use jargon, speak baby talk, do not listen, or treat them as a "non-person" (Ong, De Haes, Hoos, & Lammes, 1995; Williams, Weinman, & Dale, 1998; Taylor, 2002). Ong and his colleagues (1995) describe these qualities as affective or socio-emotional physician behavior. We believe that this list of factors closely resembles the ratings of respect, honesty and fair treatment that form judgments of interactional or relational justice (Colquett & Greenberg, 2003; Tyler, 1999).

Patient satisfaction and compliance with physician recommendations also are associated with whether patients feel that all their questions are answered or they receive

all the information that they need (Hall, 2003). Ong and his colleagues (1995) describe these qualities as instrumental or task oriented physician behavior. Within organizational research (Colquitt & Greenberg, 2003; Tyler, 1999), researchers often contrast a desire for favorable outcomes or control over decision-making processes (e.g., outcome favorability) with interpersonal treatment. In this paper, we also will distinguish between older patients' perceptions of interpersonal treatment and outcome favorability.

Although these judgments tend to be positively correlated (see Colquitt & Greenberg, 2003; Tyler & Blader, 2000), this distinction enables us to explore if and when either factor is more closely related to medical visit outcomes. Given circumstances in which medical information is unknown or ambiguous, it could be quite useful to know when interpersonal treatment or outcome favorability matters more or less to patients.

Finally, the age of patients and healthcare providers might shape patients' evaluations of their medical visits. Observations of medical visits indicate that older patients ask fewer questions, disagree less with physicians and allow physicians to make health-related decisions for them in comparison to younger patients (Beiseker, 1996). Older patients, particularly those born before 1940, appear to view the physician as having more control and themselves as having less control over health issues than younger patients (Beiseker, 1996). They also appear to view the doctor-patient relationship in more authoritarian terms (Haug, 1994; 1996). The age of physicians has not been studied extensively (see Hall, 2003). However, there is some evidence that younger doctors are more ageist and less respectful than are older doctors (Adelman, Greene, & Charon, 1992).

Interestingly, reviews of provider-patient research suggest that the relationship of provider and patient socio-demographic characteristics to patients' attitudes and behavior is small and sometimes inconsistent (Hall, 2003; Jackson & George, 1998). The lack of simple socio-demographic effects suggests the value of investigating the ways in which the demographics of providers and patients are matched or mismatched (Hall, 2003, see also Kulik & Holbrook, 2000). For example, Hall and her colleagues (1994, 2003) find that communication patterns between female patients and female physicians are distinctly different from communication patterns between male patients and female physicians.

Self-categorization theory (Haslam, 2001; Turner, Oakes, Haslam & McGarty, 1994) offers a psychological framework for understanding how the matched or mismatched socio-demographic characteristics of patients and healthcare providers might shape older patients' evaluations of medical visits. Self-categorization theory begins with the premise that we can view ourselves in terms of unique personal characteristics (personal identity) or as representatives of any number of social categories (social identity). When we view ourselves as a representative of a particular social category, we view ourselves and other members of the same category as interchangeable members who share the same norms, goals and needs. When particular social categories (e.g., age, ethnicity, gender) are salient, we accentuate the similarities among members of the same category and differences between members of different categories. We are more likely to trust, communicate effectively and cooperate with people who we view as sharing a salient social category in comparison to people who represent a different social category (see Haslam, 2001 for a review).

If patients perceive a healthcare provider as part of the same social category, they might place greater importance on interpersonal treatment and less importance on favorable outcomes. They may view the healthcare provider as more likely to share their interests and concerns. However, if patients perceive a healthcare provider as part of a different social category, they might place greater importance on outcomes and less importance on interpersonal treatment. They may not trust the healthcare provider to share their concerns and they may look to immediate outcomes to determine whether everything is okay. Surveys of public sector employees, bank customers, U.S. citizens and university students show that when respondents shared the same ethnicity as a relevant authority, judgments of the authority's treatment shaped their willingness to cooperate or accept a decision to a much greater extent than did outcome favorability (Huo, Smith, Tyler, & Lind, 1996; Huo & Tyler, 2001; Kulik & Holbrook, 2000). But when respondents did not share the same ethnicity as the authority, outcome favorability was much more important than authority treatment for predicting the willingness to accept the authority's decisions. To our knowledge, no one has explored whether the same patterns will occur if the relevant social category is age rather than ethnicity, but these data suggest that respectful treatment may be more important (and expected) when patients perceive the healthcare provider to share the same social category (e.g., doctor and patient are close in age) than when the healthcare provider does not share the same category (e.g., the doctor is much younger).

As part of a mail survey of 104 recently widowed older patients, we asked respondents to recall and evaluate their last visit with a doctor. This sample represents a unique population of older patients who have experienced and coped with a very stressful

life event with the help of a local community organization. Because of their experiences in a mutually supportive elder organization, we knew that they would be articulate and thoughtful about their experiences with doctors.

We explore four questions. First, we summarize respondents' answers to a question about any changes in the way that health professionals treated them in comparison to twenty years ago. We designed this question to increase the salience of age as a social category. A close look at respondents' answers could indicate whether age or other issues were relevant to respondents' reactions to medical visits. Second, we confirm whether it is appropriate to treat interpersonal treatment and outcome favorability as distinct evaluations of medical visits. Third, we explore whether interpersonal treatment or outcome favorability predict older patients' comfort in confiding in medical professionals, their view that the visit was successful and their compliance with their doctor's recommendations. Finally, we test whether the relative importance of interpersonal treatment and outcome favorability changes when respondents estimate the age difference between themselves and their doctors to be either large or small. If the age difference is large, we assume that respondents are less likely to perceive the doctor as sharing the same demographic category but if the age difference is small, we assume that respondents are more likely to perceive the doctor as sharing the same demographic category. We predict that interpersonal treatment will be more important to older patients if they perceive the doctor as close to them in age in comparison to older patients who perceive the doctor as much younger. We also predict that outcome favorability will be more important if respondents perceive their doctor as

further from them in age in comparison to respondents who perceive their doctor as more similar to them in age.

Method

In the spring of 2001, we invited graduates of two elder support groups to complete mail surveys about their experiences with losing a spouse and participating in a local support organization. One hundred and four respondents responded (67.1% response rate). As part of this mail questionnaire, we asked respondents to take a few minutes to think about the last visit that they had with a doctor. We began this section by asking respondents whether they felt that health professionals treated them differently in comparison to twenty years ago. We asked respondents who indicated yes to explain how their treatment was different.

Outcome variables

We asked respondents three questions that we felt captured important outcomes within this setting. First, we asked whether respondents felt that they had regular contact with a medical professional in whom they could confide, rated from strongly disagree (1) to strongly agree (4). Second, we asked respondents to rate if they felt that their visit was successful from very unsuccessful (1) to very successful (4). Finally, we asked respondents to what extent they followed their doctor's recommendations from not at all (1) to everything (4).

Predictors

Interpersonal treatment. To measure interpersonal treatment, we combined respondents' answers to three questions (Cronbach's $\alpha=.85$). Respondents rated how respectfully they felt the doctor treated them from very disrespectful (1) to very

respectful (4), how honestly they felt the doctor treated them from very dishonest (1) to very honest (4) and how much consideration the doctor gave to their views from no consideration (1) to a lot of consideration (4).

Outcome favorability. To measure outcome favorability, we combined respondents' answers to two questions (Cronbach's $\alpha=.81$). Respondents rated whether they had all their questions answered from not at all (1) to everything (4). Respondents also rated whether they got the help that they wanted from absolutely not (1) to everything (4).

Perceived age difference. Respondents recorded their own age and estimated the age of their doctor. We created a difference score for each respondent to represent the perceived age difference.

Self-perceptions of health. Respondents described their current health situation as either 1) I am a healthy and mobile person, 2) I have mild health problems but I still get around on my own, 3) I have health problems that require me to rely on someone else to get around, 4) I rely on assistance from a caregiver with my daily activities.

Depression. To measure depression, we included two questions first used by Rosenberg (1979). Respondents indicated how they felt most of the time from sad (1) to happy (4) and how often they felt downcast and rejected from never (1) to always (4) (reverse coded, Cronbach's $\alpha=.36$).

Results

An examination of the bivariate correlations revealed that gender and estimated age of the doctor, self-perceptions of health and time since the loss of their spouse were not closely related to any of the three outcome variables (*average effect size*=.01).

Therefore, we did not include respondents' self-perception of health, gender and estimated age of the doctor and time since the loss of their spouse in the analyses that we describe below. We include participant gender, the estimated age range between doctor and respondent, number of visits with this doctor and depression as part of the multiple regression analyses, in part because they were reliably related to at least one of the outcome variables. We also included respondent age in all analyses. Summary statistics and intercorrelations for all the variables included in the analyses are presented in Table 1. All variables were treated as continuous and centered before they were included in the analyses. Because of our theoretical predictions, we limited our analyses to bilinear interactions.¹

Demographic characteristics

All but one participant described himself or herself as Caucasian. Previous occupations ranged from homemaker, teacher, office staff member, businessperson to workers in the health services, entertainment and service industries. Most respondents reported monthly incomes that range from \$1500 to \$2500 dollars. Age of the respondents ranged from 63 to 90 ($M=76.8$, $SD=6.29$). Ten respondents were men and the other 90 respondents were women (four respondents did not indicate their sex). Most respondents completed high school and 13.5% of the respondents reported completing graduate work. Ten respondents reported being born outside of the United States.

Descriptions of doctors

The estimated ages for doctors ranged from 30 to 67 years old, with an average age of 48 years old. Respondents reported themselves as being from 4 to 53 years older than their doctor ($M=28.7$ years older). For 81% of the respondents, this was not their

first visit to this particular doctor. Respondents reported knowing the doctor from less than a year to 24 years, with an average of 6.6 years. The number of visits with the particular doctor that respondents rated ranged from 1 to 75 visits with 6 visits as the average.

One of the ten male respondents and 33 of the 90 female respondents described visits to a female doctor. Respondents estimated female doctors to be younger ($M=42$, estimated ages ranged from 30 to 58 years old) than male doctors ($M=51$, estimated ages ranged from 35 to 67 years old). The unequal distribution of men and women and the potential confound of doctor gender and age prevents us from exploring gender differences in this study (but see Hall, Irish, Roter, Ehrlich & Miller, 1994; West, 1993).

Fifty-one percent of the respondents reported that their doctors treated them differently in comparison to how doctors treated them twenty years ago (10.4% of the respondents' comments did not refer to changes in doctor or medical treatment). Two coders coded each respondent's answer into one of six categories (*Cohen's kappa*=.90). Many respondents mentioned the reduced amount of time doctors now have (29.7%), doctors' increased friendliness and willingness to help (20.7%) and negative changes due to Health Maintenance Organizations (15.5%). Respondents also mentioned a lack of respect for older patients (15.5%). One respondent wrote "They talk to my daughter like I am not in the room". The number of respondents who mentioned age as relevant to a change in treatment increased our confidence that age was a salient social category for our respondents.

Confirmatory factor analysis.

We conducted a confirmatory factor analysis (using the maximum likelihood model of estimation, Hu & Bentler, 1995) to determine whether interpersonal treatment could be distinguished from outcome favorability. An examination of the goodness of fit indices for the two-factor solution yielded a non-significant chi square, $X^2(8)=12.41$, *ns*, and values for the Bentler-Bonett Normed Fit Index of 0.96 and Comparative Fit Index of 0.98. Both values are above 0.90, a convention generally reflecting a good fit to the data (Pedhazur & Schmelkin, 1991).² Therefore, we felt that it was appropriate to treat interpersonal treatment and outcome favorability as separate factors in the regression equations.

What predicts successful interactions?

The first question is whether interpersonal treatment or outcome favorability is more closely related to successful doctor-patient interactions. As shown in Table 2, respondents who felt that the doctor treated them more respectfully reported greater willingness to confide ($\beta=.48$, $p<.01$). Although no other predictors were reliable, the final equation was statistically significant, $F(7,79)=6.73$, $p<.01$, accounting for 31.8% of the adjusted variance in willingness to confide in a doctor. Respondents who reported more respectful treatment ($\beta=.23$, $p<.05$), better outcomes ($\beta=.67$, $p<.01$) and had seen their doctor more frequently ($\beta=.09$, $p=.09$) also viewed their visit as more successful. The final equation was statistically significant, $F(7,78)=47.00$, $p<.01$, accounting for 79.1% of the adjusted variance in visit success. Finally, respondents who reported better outcomes reported that they followed the doctor's recommendations ($\beta=.35$, $p<.05$). Interestingly, respondents who have seen their doctor more frequently reported being *less*

likely to follow the recommendations ($\beta = -.25, p < .05$). The final equation was statistically significant, $F(7,79) = 3.76, p < .01$, accounting for 18.3% of the adjusted variance in compliance with doctor recommendations.

Does it matter how similar in age doctor and respondents are?

The second question is whether perceived age difference shaped the relative importance of interpersonal treatment and outcome favorability for the three outcome variables. We included two interaction terms in the second step of a hierarchical multiple regression procedure (see Aiken & West, 1991; Pedhazur & Schmelkin, 1991). The first interaction term between interpersonal treatment and perceived age difference tests whether interpersonal treatment is more closely related to the outcome variables for respondents who perceived the doctor to be closer in age in comparison to respondents who perceived the doctor to be much younger. The second interaction term between outcome favorability and perceived age difference tests whether outcome favorability is more closely related to the outcome variables for respondents who perceived the doctor to be much younger in comparison to respondents who view the doctor to be similar in age.

As shown in Table 2, the two interaction terms were not reliable predictors of respondents' willingness to confide in medical professionals or their ratings of the visit's success. However, the interaction terms were statistically significant when following the doctor's recommendations was the outcome variable. The regression coefficient for the two-way interaction term between age difference and outcome favorability was statistically significant ($\beta = -.81, p < .05$). The regression coefficient for the two-way interaction term between age difference and interpersonal treatment also was statistically

significant ($\beta=.70$ $p<.01$). Including the two interaction terms in the equation results in a statistically significant improvement in prediction over and above the effects of the other terms, change in $R^2=7.4\%$, $F(2, 77)=4.21$, $p<.05$. The final equation was statistically significant, $F(9, 77)=4.09$, $p<.05$, with the eight predictors together accounting for 24.5% of the variance in following the doctor's recommendations.

Because the interaction terms were statistically significant, simple slopes analyses were conducted to better illustrate the nature of the interaction (Aiken & West, 1991; Cohen, Cohen, West & Aiken, 2003). To illustrate the interaction between interpersonal treatment and perceived age difference, we plotted the simple slopes of compliance on outcome favorability if the value for age difference represented one standard deviation above (large age difference) and one standard deviation below (small age difference) the mean age difference (see Figure 1). For respondents who saw themselves as much older than their doctor, having their questions answered predicted their willingness to follow recommendations ($\beta=.94$, $p<.05$) but for respondents who did not see the age difference to be as great, having their questions answered was not predictive of compliance ($\beta=-.13$, *ns*).

Next, we plotted the simple slopes of compliance on interpersonal treatment if the value for age difference represented one standard deviation above (large age difference) and one standard deviation below (small age difference) the mean age difference (see Figure 1). For respondents who saw themselves as much older than their doctor, respectful treatment did not predict their willingness to follow recommendations ($\beta=-.20$, *ns*) but for respondents who did not see the age difference to be as great, respectful treatment did predict their willingness to follow recommendations ($\beta=.86$, $p<.05$).

Although we did not predict any other interactions, we checked to see whether the interaction between outcome favorability and interpersonal treatment or the three way interaction were reliable predictors of visit outcomes. They were not. We also explored the possible contribution of gender as a categorical cue. We limited our analyses to the 90 female respondents and included doctor gender as a predictor.³ Doctor gender did not reliably predict the three outcome variables, nor did it moderate the relationship between interpersonal treatment, outcome favorability and the three outcome variables. Most importantly, when we included doctor gender as a predictor, it did not change the reliability of the two interactions with perceived age differences.

Discussion

If older patients felt respectfully and honestly treated during their most recent medical visit, they were more likely to confide in a medical professional and view the visit as successful. Older patients also viewed their visit as more successful and reported more compliance if they received the information and help they wanted. Interestingly, the relationship between interpersonal treatment, outcome favorability and compliance was moderated by older patients' perception of the relative age difference. If they perceived doctors to be much younger, favorable outcomes were more important in comparison to respectful treatment for predicting compliance, but if they perceived doctors to be closer to them in age, respectful treatment was more important in comparison to favorable outcomes for predicting compliance. This pattern of results suggests that in this context, age congruence or incongruence, like ethnicity congruence or incongruence in previous studies of authority relations, can shape people's sensitivity to interpersonal treatment and outcomes.

We think these results are important for two reasons. First, they show how self-categorization theory can help us understand the inconsistent effects of provider and patient demographic characteristics documented in previous patient-healthcare provider research. The key question is what particular social categories are salient in doctor-older patient interactions. Self-categorization theorists have suggested salience of social categories is a product of contextual fit and perceiver readiness (Haslam, 2001; Turner et al., 1987). We believe that older patients' visits to healthcare providers are ripe with cues that prime age as a social category; a conclusion supported by the answers to the open-ended question in the survey and our informal discussions with the respondents.

Second, we think it is useful to know when people will be more or less sensitive to respectful treatment, or more or less sensitive to getting help and questions answered. For example, doctors often do not have immediate answers or anything more than probabilities (Haug, 1994; 1996). If feeling that the doctor has answered their questions and given them the help that they need predicts patient compliance, it suggests that there might be unsolvable discordant agendas. However, these results suggest that outcome favorability is important to older patients when the doctor is perceived to be considerably younger than they are, but when perceived ages are closer, interpersonal treatment is a better predictor of patient compliance. Doctors seeking patient compliance might choose the appropriate communicative behavior based on their age and the age of their patients. Moreover, although answers aren't easy to provide when an element of uncertainty exists, a doctor may wish to give answers that simply reveal the uncertainty in an attempt to help the patient feel that they have received the help that they sought.

Our choice to study medical visits motivated us to include a question about patients' willingness to confide in their doctor. Our results indicate that respondents' willingness to confide is closely related to interpersonal treatment and not outcome favorability. Not only does this pattern confirm the general value of respectful treatment, it also reminds us that most decision-making processes include outcomes and "inputs". Although the problems that might occur if people are unwilling to confide in doctors may seem more obvious, incomplete information can be a problem in many other decision-making contexts. We think a consideration of the "inputs" as well as the "outcomes" of authority interactions is an important direction for any future research on authority relations.

Of course, it is important to recognize the limitations of this project. Although this survey of recently widowed older patients offered us a unique opportunity to ask an older population of adults about their medical visits, our conclusions are based on respondents' self reports, not their behavior. We do not know whether respondents' reports and their actual behavior were the same. Still, we think that our respondents were particularly honest in their answers. This survey was not sponsored by any medical organization or school and several members of the community group who sponsored the survey reviewed and critiqued an early draft of the survey.

We also can not use this correlational data to confirm causal relationships. In future research, it will be important to determine whether the same patterns emerge if we first prime older adults to view a doctor as similar or dissimilar in age and then ask them to judge the doctor's behavior. Without experimental data, it is difficult to know whether older patients' expectations shape doctors' behavior, or if doctors' behavior shapes their

expectations. However, data from two studies of university authorities offer some causal evidence for our argument. In a laboratory experiment, participants' willingness to help with further studies depended upon how respectfully a graduate student running the study treated them when she represented their university. When the graduate student represented a rival university, participants' willingness to help depended upon outcome favorability (Tyler & Smith, 1999). A separate study of first year students' interactions with campus authorities indicates that students' degree of identification with the university before they arrived shaped the relative importance of interpersonal treatment and outcome favorability to their end-of-term academic adjustment. For students who arrived more closely identified with the university, respectful treatment from campus authorities (representatives of a shared social category) during their first two weeks predicted their academic success three months later. Students who arrived less closely identified with the university focused on whether they were able to get what they wanted or needed from campus authorities (representatives of a different social category). For them, favorable outcomes during the first two weeks predicted their academic success three months later. These patterns occurred even after accounting for students' expectations for how campus authorities would behave (Smith, Olson, Agronick & Tyler, 2006). Although these data come from a university context, they give us some confidence in our analysis.

Also, due to limited space in the mail questionnaire, many variables were measured with single question and other potentially interesting questions could not be included. For example, we did not measure how much older patients trusted their doctors. Trust is a factor identified as important within patient-provider research

(Gallagher, Hartung & Gregory, 2001) and procedural justice research (Tyler & DeGoey, 1995). Trust may be assumed when communicating within social categories (see Haslam, 2001), but trust across social categories may require more work to achieve.

A second question is whether these patterns represent older patients' expectations for older and younger doctors. Perhaps older patients expect less respect from younger doctors. Therefore, they may feel that respect matters less from younger doctors, but getting answers and help means that the doctor's advice is competent and worth following. If the doctor is older, older patients might expect respectful treatment and if that expectation is violated, it may be more difficult to trust any recommendation. Interestingly, comparisons of mean ratings for close and large age ranges did not reveal any statistically significant differences. However, including direct assessments of trust and expectations will be important additions for future research in this area.

Finally, our respondents included many more women than men, and women, as a group, may be sensitive to respectful treatment by medical professionals. Similarly, the emphasis on respectful treatment may reflect a generational norm not shared by younger respondents. However, our results do not suggest that gender or age alone explains when respectful treatment is important. More importantly, the gender balance in this sample reflects the gender balance in the United State's older population (US Census Bureau, 2006). Even if the emphasis on interpersonal treatment reflects gender related expectations, there are more older women in comparison to older men.

These results confirm that patient treatment matters, just as proponents of a patient-centered model of medical training propose (The Association of Program Directors in Internal Medicine, 2004; Coulter, 2002; Epstein, 2000). However, by

decomposing judgments of the interaction into interpersonal treatment and outcome favorability, we can suggest what aspects of interpersonal communication might be most important (respectful treatment or more information) and when (whether communication occurs within an important social category or across social categories.)

Given the growing demand for physician services by an aging population, the relationship between physician and older patient is very important. Researchers estimate that approximately 10% of hospital admissions and 23% of nursing home admissions are due to patients' failing to follow drug prescriptions properly (American Heart Association, 2003). Both the American Geriatric Society (1996) and the National Institute of Health (1998) express concern about the training physicians receive to work with the geriatric population. We believe that self-categorization theory offers a psychological framework that researchers and healthcare providers can use to gain more insight into how older patients might react to medical visits.

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Footnotes

¹As shown in Table 1, outcome favorability and interpersonal treatment are closely related ($r=.76, p<.05$) but regression diagnostics show that the tolerances are above .40 (Allison, 1999). The high correlation between these two judgments means that 1) statistically significant differences will be more difficult to detect and 2) small differences among the bivariate relationships can be "magnified" into larger differences between regression coefficients (Allison, 1999).

²A close look at the different response categories for these two questions suggests why the scale reliability is lower than we expected. We repeated all the reported analyses using the first question. The general pattern of the results remained the same.

³An examination of the goodness of fit indices for a one factor solution yielded a larger chi square, $X^2(9)=22.09, ns$, and values for the Bentler-Bonett Normed Fit Index of 0.92 and Comparative Fit Index of 0.95.

⁴We thank a reviewer for this suggestion.

References

- Adelman, R.D., Greene, M.G. & Charon, R. (1992). The content of physician and elderly patient interaction in the medical primary care encounter. *Communication Research, 19*, 370-380.
- Aiken, L.S., & West, S.G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage Publications, Inc.
- Allison, P.D. (1999). *Multiple Regression: A Primer*. Thousand Oaks, California: Pine Forge Press.
- American Geriatric Society (1996). *Curriculum guidelines on the care of the elderly for internal medicine residency training programs*. Retrieved August 27, 2003 from <http://www.americangeriatrics.org/products/positionpapers/resident.shtml>
- American Heart Association (2003). *Statistics you need to know*. Retrieved on September 15, 2003 from <http://www.americanheart.org/presenter.jhtml?identifier=107>
- Association of Program Directors in Internal Medicine (2004). Behavioral medicine/psychosocial dimensions of primary care. Retrieved on April 26, 2004 from <http://www.im.org/APDIM/ec/behavrlm.htm#2>.
- Aruguete, M.S. & Roberts, C.A. (2000). Gender, affiliation, and control in physician-patient encounters. *Sex Roles, 42*, 107-118.
- Beck, R.S., Daughtridge, R., & Sloane, P.D. (2002). Physician-patient communication in the primary care office: A systematic review. *Journal of the American Board of Family Practice, 15*, 25-38.
- Beisecker, A.E. (1996). Older Persons' Medical Encounters and Their Outcomes. *Research on Aging, 19*, 9-31.

- Cherry, D.K., Burt, C.W. & Woodwell, D.A. (2003). National Ambulatory medical care survey: 2001. *National Center for Health Statistics: Advance data report number, 337*. Retrieved on August 27, 2003 from <http://www.cdc.gov/nchs/data/ad/ad337.pdf>
- Cohen, J., Cohen, P., West, S.G. & Aiken, L.S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Hillsdale: Erlbaum.
- Colquitt, J.A. & Greenberg, J. (2003). Organizational justice: A fair assessment of the state of the literature. In J. Greenberg (Ed), *Organizational behavior: The state of the science* (2nd ed., pp. 165-210). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Coulter, A. (2002). After Bristol: putting patients at the centre. *Quality & Safety in Health Care, 11*, 186-188.
- Epstein, R.M. (2000). The science of patient-centered care. *Journal of Family Practice, 49*, 805.
- Gallahger, T.J., Hartung, P.J. & Gregory, S.W. (2001). Assessment of a measure of relational communication for doctor-patient interactions. *Patient Education & Counseling, 45*, 211-218.
- Hall, J.A. (2003). Some observations on provider-patient communication research. *Patient Education and Counseling, 50*, 9-12.
- Hall, J.A., Irish, J.T., Roter, D.L., Ehrlich, C.M. & Miller, L.H. (1994). Gender in medical encounters: An analysis of physician and patient communication in a primary care setting. *Health Psychology, 13*, 384-392.

- Haug, M.R. (1994). Elderly patients, caregivers and physicians: Theory and research on health care triads. *Journal of Health and Social Behavior*, 35, 112.
- Haug, M.R. (1996). Elements in Physician/Patient Interactions in Late Life. *Research on Aging*, 18, 32-51.
- Haslam, S. A. (2001). *Psychology in Organizations*. Thousand Oaks, CA: Sage Publications.
- Hu, L.T. & Bentler, P.M. (1995). Evaluating model fit. In R.H. Hoyle (Ed), *Structural equation modeling: Concepts, issues, and applications* (pp. 76-99). Thousand Oaks, CA: Sage Publications, Inc.
- Hughes, T.E. & Larson, L.N. (1991). Patient Involvement in Health Care: A Procedural Justice Viewpoint. *Medical Care*, 29, 297-303.
- Huo, Y.J., Smith, H.J., Tyler, T.R., and Lind, E.A. (1996). Superordinate identification, subgroup identification, and justice judgments: Is separatism the problem, is assimilation the answer. *Psychological Science*, 7, 40-45.
- Huo, Y. J., & Tyler, T. R. (2001). Ethnic diversity and the viability of organizations: The role of procedural justice in bridging differences. In J. Greenberg & R. Cropanzano (Eds.), *Advances in organizational justice* (pp. 213-244). Palo Alto, CA: Stanford University Press.
- Kiesler, D.J. & Auerbach, S.M. (2003). Integrating measurement of control and affiliation in studies of physician-patient interaction: the interpersonal circumplex. *Social Science & Medicine*, 57, 1707-1722.

- Kirchner, J.T. (2000). Patient Compliance in Filling New Prescriptions. *American Family Physician, 62*, 201.
- Kulik, C.T. & Holbrook, R.L. (2000). Demographics in Service Encounters: Effects of Racial and Gender Congruence on Perceived Fairness. *Social Justice Research, 13*, 375-402.
- Jackson, P.B. & George, L.K. (1998). Racial differences in satisfaction with physicians: a study of older adults. *Research on Aging, 20*, 298-317.
- National Institute of Health (1998). Health-care encounters between elderly patients, physicians, and other care providers. *NIH Program Announcement, PA-98-059*. Retrieved on September 17, 2003 from <http://grants1.nih.gov/grants/guide/pa-files/PA-98-059.html>
- Ong, L.M.L., De Haes, C.J.M., Hoos, A.M. & Lammes, F.B. (1995). Doctor-Patient Communication: A Review of the Literature. *Social Science & Medicine, 40*, 903-913.
- Pedhazur, E.J. & Schmelkin, L.P. (1991). *Measurement, design, and analysis: An integrated approach* (Student Ed.). Hillsdale, NJ, England: Lawrence Erlbaum Associates, Inc.
- Rosenberg, M. (1979). *Conceiving the Self*. New York: Basic Books.
- Smith, H.J., Olson, G., Agronick, G. & Tyler, T. (2006). *Everyday interactions with university authorities: Authority treatment quality, outcome favorability and first year students' university adjustment* Unpublished manuscript, Sonoma State University.

- Smith, J. (2001). Patients' failure to adhere to prescriptions accounts for 10% of hospital admissions. *Health Care Strategic Management, 19*, 10.
- Taylor, S.E. (2002). *Health Psychology (5th Edition)*. New York: McGraw Hill.
- Turner, J.C., Hogg, M.A., Oakes, P.J., Reicher, S., & Wetherell, M.S. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford: Blackwell.
- Turner, J.C., Oakes, P.J., Haslam, S.A., & McGarty, C. (1994). Self and collective: Cognition and social context. *Personality and Social Psychology Bulletin, 20*, 454-463.
- Tyler, T.R., & Lind, E.A. (1992). A relational model of authority in groups. In M. Zanna (Ed.), *Advances in Experimental Social Psychology, 25*, 115-191.
- Tyler, T.R. (1999). Why people cooperate with organizations: An identity-based perspective. *Research in Organizational Behavior, 21*, 201-246.
- Tyler, T.R. & Blader, S. (2000). *Cooperation in groups: Procedural justice, social identity and behavioral engagement*. Philadelphia, PA: Psychology Press.
- Tyler, T.R. & Degoey, P. (1995). Collective restraint in social dilemmas: Procedural justice and social identification effects on support for authorities. *Journal of Personality and Social Psychology, 69*, 482-497.
- Tyler, T.R. & Lind, E.A. (1992). A relational model of authority in groups. In M. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 25, pp. 115-191). New York: Academic Press.

Tyler, T.R. & Smith, H.J. (1999). Justice, Social Identity and Group Processes. In Tyler, T.R., Kramer, R., & John, O. (Eds.,) *The Psychology of the Social Self*. New Jersey: Lawrence Erlbaum.

West, C. (1993). Reconceptualizing gender in physician-patient relationships. *Social Science and Medicine*, 36, 57-66

Williams, S., Weinman, J., & Dale, J. (1998). Doctor-patient communication and patient satisfaction: A review. *Family Practice*, 15, 480-492.

U.S. Census Bureau (2006). *Statistical Abstract of the United States: 2006*.

Washington, DC: U.S. Census Bureau. Retrieved on July 10, 2006 from <http://www.census.gov/prod/2005pubs/06statab/health.pdf>

Table 1.

Correlations among interpersonal treatment, outcome favorability and evaluations of the medical visit.

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Visit success	3.33	0.66	-								
2. Compliance	3.52	0.68	.44*	-							
3. Confide in doctor	3.22	0.86	.47*	.34*	-						
4. Outcome favorability	3.33	0.68	.86*	.44*	.48*	-					
5. Interpersonal treatment	3.42	0.55	.78*	.43*	.56*	.76*	-				
6. Age difference	28.72	9.79	-.15	-.03	-.13	-.05	-.02	-			
7. Respondent gender	-	-	-.04	-.20+	-.11	-.09	.01	-.19+	-		
8. Depression	3.13	0.46	.21*	.20*	.24*	.20*	.25*	-.07	-.15	-	
9. # previous visits	5.88	11.32	.26*	-.05	.16	.18	.17	-.18+	-.05	-.04	-
10. Respondent age	76.8	6.29	-.08	.08	.16	.04	.08	.57**	-.35**	.10	-.03

** $p < .01$, * $p < .05$, + $p < .10$

Note. N=104. Higher scores indicate respondents felt the visit was more successful, complied with the doctor's recommendations, were more willing to confide in a medical professional, felt more questions were answered, felt more respectfully treated, larger age difference, male respondents and more depression.

Table 2.

Summary of Hierarchical Regression Analyses for Predicting Older Patients' Evaluations of Medical Visits.

Predictors	Follow Doctor's recommendations		Visit was successful		Willing to confide	
	β	Adj R ²	β	Adj R ²	β	Adj R ²
Step 1		18.3%		79.1%		31.8%
Respondent age	.06		-.10		.10	
Number of visits	-.25*		.09+		.11	
Depression	.07		.004		.13	
Participant Gender			-.03		-.001	
Estimated Age difference (A)	-.14		-.05		.09	
Interpersonal treatment (B)	.10		.23*		.48**	
Outcome favorability (C)	.35*		.67**		.04	
Step 2		24.5%		78.9%		32.5%
A X B	.70*		.14		-.07	
A X C	-.81**		-.17		-.09	

Note. N=104. Entries are standardized regression coefficients.

** $p < .01$, * $p < .05$, + $p < .10$

Figures

Figure 1.

The relationship between predicted compliance, relational and outcome favorability when the perceived age difference between doctor and patient is larger or smaller.

