Face and Politeness in Pharmacist-Physician Interaction

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Abstract—This study used Brown and Levinson's theory of politeness to gain a better understanding of the factors that influence pharmacists' messages to physicians. Specifically, perceived differences in power and social distance between pharmacist and physician were expected to influence the amount of politeness observed in pharmacists' messages. The effects of age, sex, and practice context were also examined. Written messages were gathered from 210 community pharmacists and 112 hospital pharmacists in response to a hypothetical drug allergy scenario. Messages were segmented into independent clauses, and independent clauses were classified according to the politeness strategy used to make allergy reports and alternative drug recommendations respectively. Content analysis of the messages in relation to demographic variables revealed that age and practice context were significantly associated with the overall level of politeness of alternative drug recommendations, but not with overall politeness of allergy reports. Demographic factors were significantly related to perceptions of power and social distance, but, contrary to Brown and Levinson's prediction, these perceptions were not associated with variation in politeness. Regardless of other factors, recommendations were made more politely than reports. Implications for pharmacists' professional roles and identities are discussed.

Key words --Interprofessional relations, role expansion, clinical pharmacy, politeness, pharmacy cognitive services, social distance

INTRODUCTION

This investigation focuses on the interprofessional relationship between pharmacists and physicians. By prescribing and monitoring the effects of drug therapy, physicians have a central role in the safe and effective use of prescription drugs. The role of pharmacists in ensuring drug therapy is complementary to that of the physician. The nature of the pharmacist's role becomes clearer when one considers three related patterns of illness and treatment in industrialized societies. First, most illnesses, including chronic illnesses, are managed primarily at home, where management usually takes the form of self care [1-2]. Pharmacists and pharmacies are geographically well distributed in most communities, and are thus well positioned to provide services to community-dwelling patients who must care for themselves [3]. Second, drug therapy is the most common therapeutic service offered by physicians, and, given the increasing number, complexity, and potency of new drugs that become available each year, pharmacists can be a valuable source of drug information and expertise [4-6]. Finally, the danger of adverse drug effects is great, and pharmacists can, by proper monitoring, counseling, and timely intervention, diminish the risks associated with drug therapy [5-8]. Pharmacists and physicians must communicate effectively with one another in order for patients to reap the benefits of this division of labor.

Pharmaceutical care. There is a movement underway in the United States, driven largely by academicians, toward a model of

practice known as pharmaceutical care. Commitment to pharmaceutical care requires pharmacists to take responsibility for patients' health outcomes, and in order to take responsibility for outcomes, pharmacists are expected to take a more active, clinical role [7]. However, pharmacists' current attempts at role expansion take place against the backdrop of historical tensions between the professions of pharmacy and medicine [9]. Several studies suggest that physicians may not be generally supportive of expanded, clinical roles for pharmacists, although attitudes become more favorable once physicians have direct, positive experiences with clinical pharmacists [10-24]. Support for expanded roles for pharmacists may increase as more pharmacists receive the clinically-oriented doctor of pharmacy degree (Pharm.D.). For the present, though, the issue of expanded roles for pharmacists is complicated by the heterogeneity of pharmacist roles, professional degrees, and practice contexts [10].

Pharmacist interventions. Pharmacists typically intervene when prescribers' instructions are incomplete, incorrect, or unclear, or when drug allergies are detected [25-30]. Although drug allergies are not the most common kind of drug therapy problem, they are among the most severe [27-30]. Since patients' drug allergy histories are often taken by medically untrained personnel (e.g., hospital admission staff), pharmacist involvement in documentation of allergies may improve the accuracy of patient records [27-30]. It is argued here that, by reporting true allergies to prescribers and recommending alternative therapies,

pharmacists may be able to improve the quality of clinical care and patient outcomes [5-8]. This study examined pharmacists' messages to physicians in response to a hypothetical drug allergy scenario.

CONCEPTUAL BACKGROUND

Communication between pharmacists and physicians is both interesting and problematic because each party's professional identity is at stake when the two professionals interact [31]. Especially because pharmacists are attempting to expand their clinical roles, the topics of optimal drug selection and use have become contested ground where the two professions seek to establish their autonomy and assert their authority over decisions about drugs and drug use. Since these questions were once the sole responsibility of physicians, recent attempts to establish pharmacists' legitimate authority may be seen by physicians as unwelcome encroachments. Even if a physician does not feel his or her turf is threatened by a pharmacist, pharmacists' reports of problems and recommendations for alternative drugs may be interpreted as criticism.

Actions that pharmacists must routinely perform if they are to practice pharmaceutical care (e.g., correcting, advising, reminding, recommending, reporting) are intrinsically threatening to physicians' professional identities [31]. A great deal can be learned about pharmacists' own role identities by examining how pharmacists manage threats to physicians' identities. In order to shed light on this process, we rely on Brown and Levinson's [32-

33] analysis of face and politeness, a theoretical framework explicitly designed to explain the management of routine identity-threatening acts.

Face and politeness

The familiar colloquial usage of the word face, as in "losing face" or "saving face," is closely related to the more technical meaning developed here. Face is the "positive social value" a each person claims for himself or herself by taking a particular course of action [34, p.5]. The meaning of the term is similar to that of pride, integrity, dignity, or self-esteem.

Brown and Levinson [32] develop the concept of face in a couple of ways. First, they claim face has two aspects--positive and negative. Second, they treat positive and negative face as persistent wants. According to Brown and Levinson [32], each person has persistent positive and negative face wants. Positive face wants include the desire to be liked and approved of, to have one's own wants shared by others. If I want to think of myself as a valued, accomplished professional, my positive face wants dictate that you also should want me to be valued and accomplished. Negative face wants involve the desire to be left alone, to be able to go about one's business in an unimpeded fashion. The common (and commonly violated) desire to work without interruption is one manifestation of a persistent negative face want.

Politeness strategies. Every language has elaborate mechanisms for expressing thoughts and doing actions that intrinsically

threaten one or both aspects of face. Politeness strategies are a set of conventions for managing routine threats to face. There are four basic politeness strategies for managing a face threatening act (FTA): (a) do the act baldly on the record; (b) do the act on the record with redress (with either positive or negative politeness); (c) do the act off the record; or (d) don't do the act [32]. The strategies are listed in order of increasing politeness, with (a) the least polite and (d) the most polite [32].

Doing an act baldly on the record means doing it directly and unambiguously, without hedging, apologizing, or "beating around the bush" (e.g., "The patient is allergic to the medication you prescribed," "I recommend Amoxicillin as an alternative"). Doing an act on the record with redress means doing it unambiguously, but accompanying it with a verbal attempt to minimize the damage done by the unambiguous commission of an FTA. The two forms of redress correspond to the two types of face wants. Positive politeness redresses a threatening act by including elements to reassure the hearer that his or her wants are shared (e.g., "I'm calling to report this allergy because I know we both want what's best for the patient," "I recommend Amoxicillin, which will achieve the same outcome you were hoping for"). Negative politeness redresses threats by hesitating, hedging, minimizing, or apologizing for the FTA (e.g., "Were you aware that the patient was allergic to this drug?" "Maybe you would consider Amoxicillin as an alternative"). Doing an act off the record means doing it

indirectly, by implication rather than by direct and unambiguous expression (e.g., "Is it normal for this patient to have difficulty breathing?" "That's an interesting choice of medications"). Not doing the act is self-explanatory: the face threat is managed by outright avoidance.

Computing the weightiness of an FTA. According to Brown and Levinson [32] several contextual factors influence the severity of a face threatening act and, hence, the degree of politeness needed for the tactful performance of the act. One must be more polite when borrowing 100 dollars than when borrowing one dollar. More politeness is required in asking a favor of one's boss than in asking a favor of one's employee. And one must be more polite to strangers than to close friends. These three examples reflect three dimensions that are most important in computing the severity, what Brown and Levinson [32] call the weightiness, of an FTA: power, distance and ranking (i.e., W = P + D + R). Note that the speaker's perceptions of power, distance, and ranking are at issue. Power refers to the relative power difference between speaker (S) and hearer (H); as S perceives H to be more powerful, the FTA becomes weightier. Distance refers to the perceived social distance between speaker and hearer; when social distance, as perceived by S, increases, so does the weightiness of the FTA. Ranking refers to the perceived, culture-specific rank-ordering of specific acts in terms of their potential to threaten face. For example, in America, the ranking of a request to borrow money increases with the dollar amount requested. As the overall

perceived weightiness of the FTA increases, the speaker tends to choose a more polite strategy to manage the FTA (with bald on the record the least polite strategy, followed by on the record with redress, off the record, and abstention from the FTA).

PURPOSE OF PROJECT

The purpose of this project is to investigate the effect of demographic factors, relative power, social distance and type of act performed on the verbal politeness strategies used by pharmacists when reporting allergies and making recommendations to physicians. By tracking demographics, manipulating power and social distance, and examining the type of politeness strategies used for different acts (e.g., reports vs. recommendations), the investigation attempts to illuminate pharmacists' beliefs about the scope of their legitimate authority and thus helps to gauge the extent to which different types of pharmacists are comfortable adopting expanded clinical roles [10-11, 31]. The study may also aid in the development of communication skills courses for pharmacists.

HYPOTHESES

Older pharmacists are expected to be more polite to physicians because they are expected to be more firmly committed to traditional roles and power relationships than their younger counterparts. It is not clear what effect gender may have on pharmacist politeness, so the null hypothesis is tested. Pharmacists with the clinically-oriented Pharm.D. degree, by virtue of their doctoral degree and socialization into clinical

roles, should perceive a smaller power differential between themselves and physicians and hence should be less polite than pharmacists with B.S. degrees. Because they work directly with physicians every day and can develop personal relationships with physicians, hospital pharmacists will be less polite than independent pharmacists. This is a straightforward deduction from Brown and Levinson's [32] assertion that politeness should decrease as social distance decreases. The effect of power is also expected to follow Brown and Levinson's prediction [32], with pharmacists being more polite to physicians who are perceived as more powerful. Similarly, social distance should operate as Brown and Levinson suggest, with more politeness accompanying increases in perceived social distance. Finally, recommendations will be made more politely than reports, since recommendations are intrinsically more face threatening than reports. Seven specific hypotheses are enumerated below.

Hypothesis 1: Age has a significant effect on the overall level of politeness of allergy reports and alternative drug recommendations, with older pharmacists being more polite than younger pharmacists.

Hypothesis 2: Sex has no significant effect on the overall level of politeness of allergy reports and alternative drug recommendations.

Hypothesis 3: Degree type (B.S., Pharm.D.) has a significant effect on the overall level of politeness of allergy reports and alternative drug recommendations; pharmacists with the

B.S. degree are more polite than those with the Pharm.D. degree.

Hypothesis 4: Practice context (Community, Hospital) has a significant effect on the overall level of politeness of allergy reports and alternative drug recommendations; independent pharmacists are more polite than hospital pharmacists.

Hypothesis 5: Physician power has a significant effect on the overall level of politeness of allergy reports and alternative drug recommendations; as the perceived power of physicians increases, pharmacists are more polite.

Hypothesis 6: The amount of social distance between the pharmacist and the physician has a significant effect on the overall level of politeness of allergy reports and alternative drug recommendations; as the perceived distance between pharmacist and physician increases, pharmacists are more polite.

Hypothesis 7: The overall level of politeness of alternative drug recommendations is higher than that of allergy reports.

METHODS

Participants

Independent pharmacists. Questionnaires were mailed to n = 382 independent, community pharmacists whose names were obtained from the mailing list of a regional drug wholesaler. Complete responses were received from n = 210 individuals, for a response rate of approximately 55%.

Hospital pharmacists. Questionnaires were mailed to n = 226 hospital pharmacists whose names were taken either from the state membership roster of the American College of Clinical Pharmacy (ACCP) or from the faculty roster of the Department of Pharmacy Practice at a large midwestern college of pharmacy. Complete responses were received from n = 112 individuals, for a response rate of approximately 50%.

For both samples, attempts were made to increase response rate. Post card reminders were sent to each participant one week after the first questionnaires was mailed. A second questionnaire was sent to each non-responder three weeks after the initial questionnaire, and a third questionnaire was sent to those who had not responded after seven weeks. Non-response bias was not assessed because data were not available to do so.

Table 1 about here

Demographics

Table 1 summarizes the demographic characteristics of the sample. The sample consisted of 223 (69.3%) men and 99 (30.7%) women. As Table 2 illustrates, the demographic variables were highly intercorrelated. Point biserial correlation coefficients show age to be significantly negatively correlated with sex, degree type, and practice context. Women, Pharm.D.s, and hospital pharmacists were significantly younger than men, B.S. pharmacists, and community pharmacists respectively. These facts are consistent with recent historical trends in pharmacy education and

employment in the United States. Significant positive phi coefficients between sex, degree type, and practice context suggest that women in this sample tended to be Pharm.D.s and tended to work in the hospital setting. Degree and context were very highly correlated (r=.92, P<.001). As Table 1 shows, in this sample only 6 community pharmacists had the Pharm.D. degree, and only 6 hospital pharmacists did not. The uneven distribution of degree type across practice contexts made it very difficult to distinguish statistically between the effects of degree type and practice context. Therefore, in subsequent analyses degree type is dropped, and analyses are based on practice context alone. The decision to focus on practice context rather than type of degree is based on the uncertain assumption that practice context exerts a more significant influence on communication behavior than does type of degree. It should be kept in mind when interpreting the effects of practice context that they may be confounded by differences in degree type. This point is reiterated in the limitations section at the end of the essay.

Table 2 about here

Message elicitation

Written messages were elicited in response to the following hypothetical Drug Allergy Situation:

> Assume your role as a(n) [clinical hospital, independent community] pharmacist. This morning you get to work and there is a prescription from Dr. Jones that needs to be

filled. Dr. Jones is a [general practitioner, influential specialist] who serves a [large, small] number of patients in your [community, hospital]. [You have not met or worked with Dr. Jones before; You know Dr. Jones socially and have worked with Dr. Jones before]. During a routine check, you discover that the patient (Pat Smith) is allergic to the prescribed medication (Bactrim). You are unable to fill the prescription as written, but alternative drugs (Amoxicillin and Cipro) are available. You pick up the phone and call Dr. Jones.

What would you say to Dr. Jones? In the space below, write what you would say; DO NOT DESCRIBE THE GENERAL ACTION YOU WOULD TAKE--instead try to PUT IN YOUR OWN WORDS WHAT YOU WOULD ACTUALLY SAY to deal with this situation.

The independent variables representing power and social distance were manipulated by altering the text in the hypothetical scenario. Text in square brackets represents alternative instantiations of various levels of the independent variables. High power physicians were described as influential specialists with large numbers of patients. Low power physicians were described as general practitioners with small numbers of patients. In the high social distance condition, the pharmacist and physician had not met before; in the low social distance condition, the two were acquainted on and off the job.

Table 3 about here

Manipulation checks

Success of the manipulations was checked by analyzing correlations between pharmacist perceptions and dummy variables representing levels of the manipulations. Table 3 displays descriptive statistics for the items used to measure pharmacist perceptions. A two item, Likert-type scale was used to check the success of the social distance manipulation. One item asked whether the respondent felt close to the physician. The other asked whether the respondent felt he or she knew the physician well. Items were reverse-coded so high scores would correspond to greater perceived social distance. These two items were summed to create a social distance scale with Cronbach's α=.86. Table 2 displays the correlations between perceived distance, the distance manipulation, and the other covariates. As intended, the social distance manipulation had a significant effect on the social distance scale, r=.54, P <.001. Pharmacists in the high social distance condition perceived the physician to be more distant than those in the low distance condition. There was a small but significant positive correlation between sex and perceived social distance also, r=.12, P<.05. Women perceived greater social distance between themselves and the physician than men did. There were no other significant effects on the social distance scale.

Three items were used to check the power manipulation (see Table 3). One asked respondents to agree or disagree with the statement that the physician had great power in the situation. The second item assessed agreement with the statement that the

physician could influence the pharmacist's success on the job. The third item assessed agreement with the assertion that the physician was clearly an expert. These three items are analyzed separately because they did not form a very reliable scale, Crohnbach's α = .58.

Great power. Age was significantly positively associated with the perception that the physician had great power in the hypothetical situation (see Table 2). Sex, practice context, and perceived social distance were negatively associated with this dimension of perceived power. Women were less likely than men to agree that the physician had great power in the situation. Independent community pharmacists were more likely than their hospital-based counterparts to agree that the physician had great power. As perceptions of social distance increased, perceptions of physician power decreased. The power manipulation, however, did not have an effect on this aspect of perceived power.

Influence success. Women agreed less strongly than men that the physician could influence the pharmacist's success on the job (see Table 2). Pharmacists who believed the physician could influence their success also tended to believe the physician had great power in the situation. The power manipulation failed to effect this aspect of perceived power.

Clearly expert. This was the only dimension of perceived power (expert power) that was significantly influenced by the power manipulation (see Table 2). Pharmacists in the high power condition agreed more strongly than those in the low power

condition that the physician was clearly an expert. Older, male pharmacists practicing in the community were more likely than their younger, female counterparts in the hospital setting to see the physician as an expert. This dimension of perceived power was positively correlated with the other two power dimensions as well.

Message coding

Handwritten messages were retyped and analyzed in computer-readable format. Transcribed messages were first segmented into independent clauses. An independent clause was defined conventionally as any clause that contained both a grammatical subject and a verb. There was one exception to this rule. Sentences with one subject and a compound predicate (e.g., "I called to let you know about the allergy and to recommend an alternative") were counted as two independent clauses (e.g., "I called to let you know about the allergy," and "[I called to] recommend an alternative"). A system was developed to classify independent clauses. This coding system is a slightly modified version of one used in an earlier study [31]. The system contained 47 substantive idea-types, one miscellaneous category for low frequency elements, and one category for action descriptions and asides (see Table 4).

Table 4 about here

To assess the reliability of the unitizing procedure, two coders independently unitized a sample of 20 messages. Unitizing reliability, according to Guetzkow's [35] U, was .021. Values of

U less than .10 are conventionally regarded as acceptable. The reliability of the coding system for independent clauses was assessed by having two coders independently code 20 previously unitized messages (corresponding to 115 independent clauses). The coders achieved exact agreement in 77% of the cases, Cohen's [36] kappa = .75. Finally, independent clauses were grouped according to the general action they accomplished and the politeness strategy [32] they embodied (see Table 4 and reference 31).

Degree of politeness of reports and recommendations

The overall level of politeness of a given act was determined according to the following procedure. First, each report- or recommendation-relevant clause was assigned a politeness value: (a) bald on the record elements were assigned a value of 0, (b) elements expressed on the record with redress were assigned a value of 1, (c) messages that contained no report-relevant or recommendation-relevant elements were assigned a value of 2. (Note that Brown and Levinson's [32] system includes a category for the off the record politeness strategy. No elements were coded into this category, so it was excluded from the analysis; see also reference 31.) Next, for reports, a message was deemed to be as polite as the most polite report-relevant independent clause in the message. The same procedure was used for recommendations. Table 5 displays the frequency distribution of messages across the three politeness strategies for both reports and recommendations.

Table 5 about here

Analysis plan and model-building strategy

To test hypotheses 1-6, separate logistic regression models were built for report politeness and recommendation politeness respectively. Report politeness was measured on a three-level ordinal scale. Hence, the models for report politeness were actually ordinal logistic regression models [37-38]. Recommendation politeness was treated as a dichotomous variable because no recommendations used the bald on the record politeness strategy (see Table 5). Logistic regression models were built using SAS PROC LOGISTIC according to the strategy recommended by Hosmer and Lemeshow [39]. First, variables were selected based on their significance as predictors in univariate models using the likelihood ratio chi-square as a criterion. If no variables were significant in univariate analyses, modeling ceased. Otherwise, multivariate models were constructed using the selected variables, and potential interaction terms were selected based on their theoretical plausibility and contribution to the model's goodness of fit. Finally, overall goodness of fit of the models was assessed, and model coefficients were interpreted. Significance of multivariate model coefficients was tested by the Wald chi-square statistic [39]. Hypothesis 7, comparing report politeness and recommendation politeness, was tested by the sign test for matched pairs [40].

RESULTS

Reports

In addition to the constant-only model, nine univariate ordinal logistic regression models were fitted to the data. Parameter estimates, point and interval estimates of odds ratios, goodness of fit measures, and associated probabilities are given in Table 6. There were no significant relationships between the independent variables and the overall level of politeness of allergy reports. Therefore, no further models were built for report politeness.

Table 6 about here

Recommendations

Univariate models. In addition to the constant-only model, nine univariate logistic regression models were fitted to the data for recommendation politeness (See Table 7). The addition of sex significantly improved the goodness of fit of the model compared to the constant-only model (χ^2=12.918, P=.0003). Univariate results were also significant for practice context (χ^2=31.407, P=.0001). Although they did not reach conventional levels of significance, age and the great power item were included in the multivariate model because of their theoretical significance and because Hosmer and Lemeshow recommend that any variable with P < .25 be retained in subsequent multivariate models [39]. The effects of power and social distance manipulations were not significant.

Table 7 about here

Multivariate models. A multivariate model was formed that included age, sex, context, and great power. Table 8 displays the details of the model coefficients. The overall fit of the model was quite good (χ^2(4)= 37.978, P=.0001). All possible two-way interactions between age, sex, context, and great power were evaluated one at a time to see if they would improve the goodness of fit of the multivariate model [39]. None produced a significant improvement, so modelling ceased and the coefficients of age, sex, context, and great power were interpreted. The most significant predictor in the multivariate model was context (β=1.7311, χ^2=10.1951, P=.0014). The odds of a hospital-based pharmacist making a recommendation were roughly 6 times greater than the odds of an independent pharmacist making a recommendation (OR=5.647). Age was also a significant predictor (β=0.0355, χ^2=6.4207, P=.0.0113). An increase of ten years in age raised the odds of making a recommendation by a factor of about 1.5 (OR= 1.426). Sex and the perception that the physician had great power were not significant predictors in the multivariate model.

Table 8 about here

Comparison of reports and recommendations

Hypothesis 7 predicted that recommendations would be made more politely than reports. Since politeness was measured on an ordinal scale, and reports and recommendations were being compared within messages, a sign test for matched pairs was used to test

this hypothesis [40]. In three cases recommendations were made less politely than reports. In 190 cases recommendations were made more politely than reports, and in 129 cases reports and recommendations were made equally politely. The sign test was significant (Z=13.39, P<.0000). Recommendations were made more politely than reports.

DISCUSSION

The discussion is divided into three sections, the first addressing effects of demographic variables on reports and recommendations respectively, the second dealing with experimentally manipulated factors, and the third dealing with a direct comparison of reports and recommendations.

Demographic Characteristics

Reports

Age. Hypotheses 1 was not supported. Age had no impact on the level of expressed politeness of reports. Older pharmacists were expected to be more traditional and deferential in dealing with physicians, and younger pharmacists were expected to me more assertive. It is possible that younger pharmacists' enthusiasm about being clinically assertive was counterbalanced by the timidity and low status that comes with youth and lack of experience. Similarly, older pharmacists' willingness to defer to physicians is counterbalanced by the confidence and social status that comes from age and experience. The net result is no relationship between age and report politeness.

Sex, degree type, and practice context. Hypotheses 2, the null hypothesis with respect to the effect of sex on report politeness, was supported. Hypothesis 3 was not tested because degree type was too highly correlated with practice context. Hypotheses 4 and 5 were not supported. The politeness of allergy reports was unaffected by sex and practice context. Allergy reports appear to be routine FTAs (face threatening acts) that the majority of pharmacists, regardless of sex and practice context, are willing to do on the record with redress. The redress that accompanies allergy reports is primarily directed at the physician's negative face wants (i.e., the desire to be left alone).

The frequent use of negative politeness arises from two separate factors. First, pharmacists are hesitant to call physicians because physicians may not respond well to being interrupted. This would account for the frequency of apologies (e.g., "Sorry to bother you"). The second reason for the use of negative politeness in reports is rational and has little to do with giving deference to physicians. A large proportion of hospital-documented and patient-reported drug allergies involve common side effects, not true allergies [27-30]. Realizing that a documented allergy may, in fact, not be a true allergy, pharmacists hedge when they report drug allergies to physicians.

Recommendations

Age. Hypothesis 1 was not supported. The effect of age on politeness was the opposite of what was predicted, with older

pharmacists being more likely to make recommendations than their younger counterparts. This effect persisted even in the multivariate model that included sex, practice context and perceived power. It is not clear how to explain this finding, although one might speculate that older pharmacists have more experience dealing with physicians and are thus more confident and self-assured than their younger, less experienced counterparts.

Sex, degree type, and practice context. In the case of recommendations, Hypothesis 2 was supported. Although univariate models revealed sex to be a significant predictor, this effect disappeared in the multivariate model. Hypothesis 3, about degree type, was not tested. Hypothesis 4 was strongly supported. Practice context had a significant effect on recommendation politeness. As predicted, community pharmacists were more polite (less likely to make recommendations) than hospital pharmacists, even when controlling for age, sex and one aspect of perceived power. These data do not support an unequivocal explanation of this result. According to Brown and Levinson [32], variations in politeness should be accounted for by variation in power, social distance and ranking. It was expected that the effects of practice context would be mediated by context-related differences in perceived power and social distance. As it turned out, perceptions of social distance were not related to practice context, although perceptions of power were. Independent, community pharmacists agreed more strongly than hospital pharmacists that the physician had great power and was clearly an

expert. Contrary to Brown and Levinson [32], however, variation in perceptions of power and social distance was unrelated to the politeness strategy used to make recommendations. Regardless of perceived power or perceived social distance, hospital pharmacists were more assertive than independent community pharmacists.

Manipulations Of Power And Social Distance

Hypotheses 5 and 6 were not supported. As operationalized here, neither power nor social distance was significantly related to report politeness or recommendation politeness. When interpreting the null effects of the power manipulation, it is important to note that the manipulation was only successful in affecting pharmacists' perceptions of physician expertise. Power is a multidimensional construct [41], and perhaps politeness is not as strongly affected by the expertise dimension as by others. The social distance manipulation, on the other hand, did significantly influence perceptions of the social distance between pharmacist and physician. However, as discussed above, variation in these perceptions was not associated with variation in the politeness of recommendations or reports. This pattern of results does not support Brown and Levinson's [32] contention that perceived power and social distance directly influence the amount of politeness used to do an FTA. This is an intriguing and unexpected finding. Further research is needed to determine the precise effects of perceived power and social distance and to explain how demographic factors influence politeness independently of perceived power and social distance.

Reports and recommendations

Hypothesis 7 predicted that, since a recommendation is intrinsically more face threatening than a report, that recommendations would be made more politely than reports. This hypothesis was supported by the data. In the majority of cases, recommendations were made more politely than reports. No pharmacist made a recommendation without redress, whereas more than 13% made reports without redress. In fully 60% of the cases, pharmacists made no recommendation at all, compared to less than 7% who made no report. The comparatively frequent use of politeness in recommendations suggests that pharmacists are cognizant of the face threatening potential of recommendations. Some pharmacists manage the threat to the physician's face by abstaining from the recommendation entirely. Such cases illustrate how concern about professional identities can impact on the process of care. By continuing to make recommendations very politely, pharmacists may be reinforcing existing roles and power relationships with physicians.

LIMITATIONS

The collection of written messages and the use of a hypothetical message elicitation technique (as opposed to audio tapes of real encounters) limit the validity of the findings reported here. Pharmacists might respond differently in real interactions with physicians than they did in the hypothetical situation studied here, but no additional steps were taken to confirm the validity of the responses obtained. The use of a

convenience sample of pharmacists and the relatively low response rate to the mail survey (in spite of repeated follow-ups) require one to be extremely cautious in generalizing the reported results beyond those pharmacists who actually responded. Non-responders may have differed systematically from responders in their views about pharmacist-physician interaction and in the messages they would have produced. Unfortunately, non-response bias was not assessed because data were not available to do so. Neither group of sampled pharmacists was representative of the majority of pharmacists currently practicing in the US, and one must bear this in mind when interpreting these results. Degree type and practice context were so highly correlated in the sample that their independent effects could not easily be assessed. The manipulations of power and social distance were weak, and the set of variables used as predictors may have been incomplete. For example, there was no measure of pharmacists' general propensity to be polite, although this propensity may have accounted for some of the observed variation in politeness. The effects of physician gender and other demographic characteristics were not examined, although physician and pharmacist gender may have interacted to influence politeness. In addition, measures of pharmacists' perceptions were too narrowly focused on the physician in the hypothetical situation. Pharmacists' enduring perceptions about physicians as a group may have been more useful as predictors of politeness.

SUMMARY AND CONCLUSIONS

Overall, Brown and Levinson's [32] account of the antecedents of politeness was only partially supported. Variation in perceptions of power and social distance was not related to variation in politeness, although ranking, operationalized implicitly as the difference between reports and recommendations, was related to politeness. The results are mixed as to the success of pharmacists' attempts at role expansion. Hospital pharmacists tended to assert themselves in hypothetical interactions with physicians, but pharmacists practicing in the community were less likely to make recommendations to physicians when drug allergies were discovered. The likelihood of making a recommendation increased significantly with age. Pharmacists must realize that professional roles and power relationships are constructed and reinforced in the context of mundane, everyday encounters with other health professionals. The way in which one performs routine actions like reporting allergies and recommending alternatives can either reinforce existing roles and relationships or constructively redefine them. To improve our understanding of these processes of identity construction and redefinition, additional quantitative and ethnographic research on pharmacist-physician interaction in naturalistic settings will be required.

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Table 1. Demographic characteristics of community and hospital pharmacists.

	Context		
Variable	Community	Hospital	Total
Age			
M	47.70	32.88	42.55
SD	10.36	6.40	11.57
Sex			
Male	188	35	223
Female	22	77	99
Degree			
B.S.	204	6	210
Pharm.D.	6	106	112
N	210	112	322

Table 2. Correlations between demographic covariates, power and social distance manipulations, and pharmacist perceptions

	1	2	3	4	5	6	7	8	9
1. Age	-								
2. Sex	-0.50[c]								
3. Degree	-0.59[c]	0.60[c]							
4. Context	-0.61[c]	0.60[c]	0.92[c]						
5. Power[d]	-0.09	0.00	0.04	0.05					
6. Distance[e]	-0.02	0.10	-0.10	-0.07	0.03				
7. Perceived Distance[f]	-0.06	0.12[a]	0.02	0.03	0.01	0.54[c]			
8. Great Power[g]	0.19[c]	-0.21[c]	-0.16[b]	-0.21[c]	0.03	0.03	-0.17[b]		
9. Influence Success[h]	0.06	-0.11[a]	0.03	0.01	0.02	-0.01	-0.10	0.31[c]	
10. Clearly Expert[i]	0.14[a]	-0.18[c]	-0.11	-0.15[b]	0.11[a]	-0.10	-0.21[c]	0.36[c]	0.28[c]

[a] $\underline{P}<0.05$.

[b] $\underline{P}<0.01$.

[c] $\underline{P}<0.001$.

[d] Power manipulation (1=low power, 2=high power)

[e] Social distance manipulation (1=low social distance, 2=high social distance)

[f] Two-item social distance scale.

[g] Single item measure of perceived physician power.

[h] Single item measure of perceived physician influence on pharmacist's job success.

[i] Single item measure of perceived physician expertise.

Table 3. Descriptive statistics for scales and scale items used to measure pharmacist perceptions

Dimensions and Scale Items	Mean	S.D.	Alpha
Perceived Distance	3.24	1.22	.86
Know Well (-)	3.16	1.34	
Feel Close (-)	3.33	1.25	
Perceived Power	2.50	0.88	.58
Great Power	2.89	1.31	
Influence Success	2.15	1.20	
Clearly Expert	2.45	1.05	

Note. Items with (-) were reverse coded. All items had five response options (1=strongly disagree, 5=strongly agree).

Table 4. Thematically sorted drug allergy idea-types

Allergy Reports
Bald-on-record
Mr. Smith is allergic to Bactrim.
Mr. Smith experienced symptoms when taking Bactrim.
Positive Politeness
I understand your constraints/situation.
Negative Politeness
Are you aware that Mr. Smith is allergic to Drug X?
It seems Mr. Smith is allergic to Bactrim.
I noticed/discovered Mr. Smith is allergic to Bactrim?
Our records indicate that Mr. Smith is allergic to Bactrim.
Sorry to bother you.
There is a small problem.
Alternative Drug Recommendations
Bald-on-record
I recommend Amoxicillin or Cipro.
Positive Politeness
We could try an alternative.
Negative Politeness
Perhaps you would consider Cipro or Amoxicillin as an alternative.
Amoxicillin and Cipro are good alternatives.
Amoxicillin and Cipro have the same indication as Bactrim.
Mr. Smith can tolerate Amoxicillin and Cipro.
Amoxicillin and Cipro are available.
May I suggest/recommend an alternative?
I would like to recommend an alternative.
I can suggest an alternative.
Requests for Permission
Is this alternative okay with you Dr. Jones?
What do you think?
What do you want to give Mr. Smith?
Can we/I'll change the prescription/order?
Is there another medication you would like to use?
Can Bactrim still be dispensed as written?
Do you want to try something else?
Requests for Alternatives
Would you like me to change the prescription/Would you like an alternative?
What do you think?
What do you want to give Mr. Smith?
Is there another medication you would like to use?
Do you want to try something else?
Refusals
The prescription cannot be filled
Closing Remarks
Thank you Dr. Jones.
Good-bye

Other
I wanted to let you know about this.
Please specify the dosage, quantity and duration.
There must have been an oversight or misunderstanding.
She did not tell you about the allergy.
Amoxicillin is cheaper than Cipro.
The chart needs to be changed.
I am just double-checking.
I will check the culture and sensitivities on Mr. Smith.
What type of infection are you treating?
Do you know what type of allergy it is/Is it a true allergy?
Miscellaneous Other.
Action Descriptions/Asides

Table 5. Frequency of occurrence of politeness strategies for reports and recommendations

	Reports		Recommendations	
Strategy	Number	Percent	Number	Percent
Bald on the record	43	13.4	0	0.0
On the record with redress	258	80.1	128	39.8
Abstention	21	6.5	194	60.2
Total	322	100.0	322	100.0

Note: In this table, an act is as polite as its most polite element.

Table 6 Univariate ordinal logistic regression models for report politeness

Variable	β	$SE(\beta)$	OR	95% CI for OR	-2 Log Likelihood	χ^2	P
Age	0.0058	0.0118	1.006	(0.983, 1.029)	415.813	0.249	0.6178
Sex	-0.3019	0.2918	0.739	(0.417, 1.310)	414.988	1.074	0.3002
Context	-0.0502	0.2845	0.951	(0.544, 1.661)	416.030	0.032	0.8591
Power	-0.4325	0.2751	0.649	(0.378, 1.113)	413.559	2.502	0.1137
Distance	-0.1469	0.2719	0.863	(0.507, 1.471)	415.769	0.292	0.5888
Perceived Distance	0.0397	0.0559	1.041	(0.932, 1.161)	415.553	0.508	0.4759
Great Power	-0.0876	0.1042	0.916	(0.747, 1.124)	415.358	0.703	0.4017
Influence Success	-0.0191	0.1135	0.981	(0.785, 1.225)	416.033	0.029	0.8659
Clearly Expert	0.1164	0.1301	1.123	(0.871, 1.450)	415.285	0.777	0.3781

Note. Odds ratio, $OR=e^{\beta}$. Chi-square tests have 1 degree of freedom.

Table 7. Univariate logistic regression models for recommendation politeness

Variable	β	$SE(\beta)$	OR	95% CI for OR	-2 Log Likelihood	χ^2	P
Age	-0.0164	0.0100	0.984	(0.965, 1.003)	430.053	2.709	0.0998
Sex	0.8822	0.2469	2.416	(1.489, 3.920)	419.845	12.918	0.0003
Context	1.3516	0.2465	3.864	(2.383, 6.264)	401.355	31.407	0.0001
Power	0.1239	0.2279	1.132	(0.724, 1.769)	432.467	0.295	0.5868
Distance	-0.1763	0.2280	0.838	(0.536, 1.311)	432.164	0.599	0.4390
Perceived Distance	0.0132	0.0469	1.013	(0.924, 1.111)	432.683	0.079	0.7782
Great Power	-0.1417	0.0881	0.868	(0.730, 1.031)	430.152	2.611	0.1062
Influence Success	0.1061	0.0950	1.112	(0.923, 1.340)	431.517	1.246	0.2644
Clearly Expert	-0.0029	0.1087	0.997	(0.806, 1.234)	432.762	0.001	0.9790

Note. Odds ratio, $OR=e^{\beta}$. Chi-square tests have 1 degree of freedom.

Table 8. Multivariate logistic regression model for recommendation politeness

Variable	β	$SE(\beta)$	Wald χ^2	P > χ^2	OR	95% CI for OR
Constant	-2.7497	0.9082	9.1670	0.0025	0.064	(0.011, 0.379)
Age	0.0355	0.0140	6.4207	0.0113	1.426	(1.084, 1.876)
Sex	0.2560	0.3336	0.5887	0.4429	1.292	(0.672, 2.484)
Context	1.7311	0.3654	22.4411	0.0001	5.647	(2.759,11.558)
Great Power	-0.0551	0.0962	0.3278	0.5670	0.946	(0.784, 1.143)

-2 Log-likelihood=394.784, χ^2 =37.978 with 4 DF (P=0.0001)

Note. Odds ratio, OR=e^{β}. Point and interval estimates of odds ratio for age are for an increase of 10 years.