

GEOGRAPHIC DISTANCE, CONTACT, AND FAMILY PERCEPTIONS
OF QUALITY NURSING HOME CARE

Jennifer L. Dillman, Ph.D. *,¹
ACU Box 27890
Abilene Christian University
Abilene, Texas 79699
325-674-2432
jennifer.dillman@acu.edu

*Note: Please address all correspondence to Dr. Jennifer L. Dillman

Dale E. Yeatts, Ph.D.²
P. O. Box 311157
University of North Texas
Denton, Texas 76203-1157
940-380-0009
yeatts@unt.edu

Cynthia M. Cready, Ph.D.²
P. O. Box 311157
University of North Texas
Denton, Texas 76203-1157
940-369-8791
cready@unt.edu

Abstract

Purpose of the study: The effect of frequency of nursing home (NH) contact on family perceptions of quality care is the focus of this research. A family member characteristic, such as geographic distance from the NH, affects frequency of contact with the NH. Frequency of contact, in turn, affects family perceptions of the care a loved one receives in the NH. The theoretical framework for this study is based on Allport's intergroup contact theory, which posits that when four contact conditions - institutional support, equal status, common goals, and intergroup cooperation - are present in an intergroup situation, a reduction in anxiety and an increase in positive attitudes is likely to occur.

Design and Methods: Regression analysis tested the hypotheses using survey data collected from 275 family members of residents in 10 Dallas-Ft. Worth area NHs.

Results: Findings support Allport's premise that the amount of contact alone between groups – i.e., family members and NH staff - is insufficient for increasing *or* decreasing positive perceptions between groups. Additionally, three of the four contact conditions were statistically supported by the data. **Implications:** This research provides NHs with an empirically tested model for improving family perceptions of quality NH care.

Key Words: Family, Nursing Home, Organizational and Institutional performance, Quality of care

Introduction

The purpose of this study is to provide nursing home (NH) organizations with a model for understanding how geographic distance interacts with a variety of factors to affect family perception of quality NH care. The study proposes that (1) geographic distance affects the frequency of NH contact between the family member and his/her resident and (2) this frequency of NH contact interacts with four other factors to affect the family member's perception of quality NH care. Distinctive to this study is the application of G. W. Allport's intergroup contact theory (*The Nature of Prejudice*, 1954) which provides a theoretical framework for understanding how the *right kind of contact* can positively influence perceptions between different types of groups.

A review of the long-term care literature found limited research exclusively examining the effect of geographic distance and NH contact on family perception of NH care. Though the literature has examined family perception of NH care from multiple perspectives, the inclusion of "geographic distance" and/or "contact" as independent variables is far less evident in research specific to nursing home institutions.

Despite this obvious gap in the literature, three studies were identified that appeared to support the purpose of this study. First, an early study conducted by Hook, Sobal, and Oak (1982) included geographic distance as a potential predictor of NH visitation, and not surprising, found that family members who lived geographically closer were more likely to visit the resident. A similar study by Zarit, Orr, and Zarit (1985) found that family members who lived far away, and had limited contact with the NH, experienced heightened levels of stress due to feelings of isolation; or, generally felt unsupported by the NH organization. Neither study proposed possible solutions for

decreasing such anxiety experienced by geographically separated family members. In the third research study, Shugarman and Brown (2006) asked NH resident family members to rank the criteria they considered most important when selecting a NH facility. Results indicated that the majority of family members ranked location as the single most important criteria for selecting a NH. The second most important criteria was that NH staff administer quality care to all residents.

A review of the literature, found common themes related to perceptions of NH quality. These include a focus on the deficiencies of NHs and their inability to provide older adults with choice, control and independence (Gaugler, 2005a, p. 377). Persistent problems such as low pay, high staff turnover, staff shortages and poor communication between families, physicians and staff are listed as causes for this low quality care. As a response to problems with NH quality, NH care has been shifting away from the traditional medical model of care to a new, more social models, such as client-centered care (Keating, Fast, Connidis, Penning, & Keefe, 1997); resident-centered care (Bond, Fiedler, Keeran, Ogden, & Richardson, 1996); person-centered care (Rantz & Flesner, 2004); consumer-directed care (Geron, 2000); and, the "pioneer movement" (Gold, 2001). The literature suggests that family members are highly favorable of these individualized approaches to NH care (Phillips, 2001).

Despite the NH industry's increased focus on family perception of care, the literature indicates that, in many cases, family perceptions of care do not match family expectations (Marziali, Shulman, & Damianakis, 2006). This suggests that NHs would be well advised to review, renew, and/or revise their current methods by which they maintain contact with and shape the perceptions of family members. The purpose of this

study is to examine factors that have been hypothesized to interact with geographic distance to affect family perceptions.

Theoretical Framework

Formally introduced in *The Nature of Prejudice* (1954), Allport's intergroup contact theory is considered a revolutionary effort in the study of contact as a means of reducing negative group perceptions. Though Allport's original work was largely a response to blatant racial prejudice in a segregated American society, it has since been applied in a variety of settings; broadening its applicability by examining a variety of prejudice, attitude and contact effects toward a wide range of target groups - the elderly (Drew, 1988), homosexuals (Herek & Capitano, 1996), the mentally ill (Desforges, Lord, Ramsey, Mason, & Van Leeuwen, 1991), and victims of AIDS (Werth & Lord, 1992). Pettigrew & Tropp's (2006) meta-analysis of 515 contact studies found intergroup contact to be effective in reducing prejudice across a variety of intergroup situations; and, in contexts involving different target groups, age groups, geographical areas, and contact settings.

The applicability of Allport's theory to this study is his observation that when two groups have close contact, their perceptions are more similar than when the two groups are more geographically distant. "...The shift here is from a fear-sustained perception to one sustained by a friendly point of view" (p. 272). The ability to be in close contact, Allport proposed, provides increased opportunity to form friendly relations. Thus, in the context of NHs and the family members of NH residents, Allport's theory suggests that geographic distance will affect family member perceptions of care. Allport also proposed

four additional factors affecting perceptions. These included:

- Formal institutional support of group relationships
- Equality between groups
- Common goals between groups
- Cooperative striving for common goals

Allport's Contact Model: Integrating Family Perception of Care

As this study is the first to expand Allport's theory to contact encounters between groups specific to NHs, the following literature review is intended to show how each contact condition can be applied to the factors of care found important to family members of NH residents.

According to Montgomery, Jordens, and Little (2008), the institutional mission of the NH "seeks to find the most effective ways to provide support and assistance, in the goal of restoring a sense of security to the individual(s)" (p. 636). As mentioned earlier, mounting literature notes the growing popularity of the person-centered approach to care, perceived by families as providing the resident with a "feeling of home" (De Veer & Kerkstra, 2001). This shift in "institutional mission" is due, in large part, to the increasing discomfort reported by both residents and family members concerning the unsavory living conditions found primarily in traditional type "medical model" NHs (Shield et al., 2005). Considering that many family members recognize the value of the personalized amenities offered by person-centered NHs, Allport's theory would contend that NH administrators who commit to supporting an institutional change modeling the person-centered philosophy of care, would likely see an increase in family perception of care.

Allport's theory also proposed that both groups in a relationship should expect and perceive equal status. Contact interactions should encourage each group to respect the other's. In the case of NHs, family members who perceive nursing staff as treating the resident's as equals are expected to have more positive perceptions of NH care (Bowers, 1988).

According to Allport (1954), common goals are important to reducing anxiety between groups and improving perceptions. In the case of NHs, family members often expect to work with the NH staff in developing resident goals. This typically requires family members to share personal knowledge of the resident with the expectation that the staff would subsequently deliver care that is consistent with the personal information shared.

Another component of Allport's theory is the importance of cooperation. Allport believed that one of the keys to a successful relationship between two groups is for both sides to cooperate jointly when performing tasks. When applied to NHs and family members, the literature suggests that the perception of high quality NH care depends on a collaborative relationship between residents, family members, and NH staff (Ryan & Scullion, 2000). For example, when family members are invited to share personal knowledge of the individual resident, staff are then able to deliver care that is consistent with the resident's past life and current wants and needs, ultimately leading to a consistent and trusting care giving relationship (Talerico, O'Brien, & Swafford, 2003).

Considering the above discussion, a summary of the four conditions of contact are defined as follows:

1. Institutional support: Family expectation that the NH provides care for the resident within a home-like environment, modeling the philosophy of person-centered care.
2. Equal status: Family expectation that the NH treats the resident with respect, fosters resident dignity and personhood, and honors resident privacy.
3. Common goals: Family expectation that the NH formally develops and supports resident goals and desires and encourages resident independence and choice.
4. Intergroup cooperation: Family expectation that the NH employs a sufficient number of qualified nursing personnel who exhibit positive and caring attitudes and who work cooperatively with the resident and family to achieve common goals.

Theoretical Model and Hypotheses

While Allport's four conditions of contact have been empirically demonstrated in a variety of intergroup contact situations, no known study has applied Allport's (1954) theory to the relationship between family geographic distance, frequency of NH contact, and family perception of NH care (Figure 1).

Insert Figure 1 about here

As the model suggests, the family's geographic distance from the NH is expected to affect the family's frequency of contact with NH staff. Frequency of contact, in turn, is expected to affect family member perception of NH care. Further, as Allport's theory suggests, the effect of family contact on the family's perception of care depends on the extent to which each of the four contact conditions are believed to be present. The

higher the perceived presence of the conditions the more positive the perception of the NH. This leads to the following hypotheses:

H1: Family member geographic distance negatively affects frequency of NH contact, controlling for type of family member relationship and gender of family member.

H2: Family member perception of care is affected by frequency of NH contact.

H3: The direction and strength of the effect of frequency of NH contact on family member perception of care depends on the degree to which the four contact conditions—institutional support, equal status, common goals and intergroup cooperation—are perceived to be present. That is, the effects of contact on family member perception of care will be positive and strongest at higher perceived levels of each of the four contact conditions.

Design and Methods

A secondary data analysis research design was selected in order to examine the interacting relationships between geographic distance, contact, and family perception of NH care. The data collection instrument – Family Member Survey - and data for this analysis are extracted from the first wave of a larger longitudinal study on employee empowerment in NHs (Yeatts & Cready, 2007). This larger study was reviewed and approved by the University of North Texas Institutional Review Board. Although details of this larger study's design and methods are presented elsewhere (Yeatts & Cready, 2007), a brief description of the ten NHs included in the study is provided. All of the NHs were located in the Dallas-Ft. Worth area and at the time of the study were best

characterized as being primarily managed in the “medical model” tradition. The smallest of the NHs had around 60 beds, and the largest nearly 200. All but one NH participated in both the Medicare and Medicaid programs. Most (6) were for-profit, and five (5) had at least some beds in a designated special care unit for Alzheimer’s and dementia care.

To survey family members, management in each of the ten NHs provided a mailing list that consisted of one family member (or significant other) for each resident. Of the 995 total residents in the NHs, eighteen did not have a family member (or significant other), thereby reducing the possible number of survey responses to 977. A total of 977 individuals were mailed a questionnaire form with an addressed, stamped envelope to be mailed back to the researchers.

The number of family members (or significant others) who returned the survey totaled 586, resulting in an overall response rate for the Family Member Survey of 60%. However, as family members are the primary unit of analysis in this study, the 22 respondents who indicated a non-family relationship to the resident were excluded from the sample reducing the number of cases to 564. After listwise deletion of cases with missing values, the total number of cases included in the final dataset is 275. The typical resident family member or loved one represented by the final dataset was white (99%), female (84%), on average 84 years old ($sd = 9$ years) and had resided in the NH an average of 31 months ($sd = 9$ months; $md = 24$ months).

Interestingly, the single most influential variable in loss of cases due to missing values was the geographic distance item. That is, family members who were “missing” on this variable were more likely to be “missing” on only this one variable. Thus, if a family member’s missing value on the variable can be replaced with a valid one, he or

she is more likely to be added back to the sample. Many of the family members who were “missing” on the distance variable gave their response to the question, “how far must you travel to get to the NH?,” in minutes rather than miles. In sensitivity analysis (not shown), self-reported minutes for these family members were converted to miles and the regression models re-estimated with a “new” distance reflecting this recoding and a dummy variable indicating whether distance in miles was estimated or not. The sample size increased only modestly to 298 (23 respondents), the dummy variable was not statistically significant, and the other results did not differ substantially from those generated when the distance variable was based solely on self-reported miles. Therefore, for the sake of consistent measurement of the distance variable, the results using the distance variable based solely on self-reported miles are presented.

Measurement of Variables

Items were selected from the Family Member Survey that corresponded conceptually with Allport’s four contact conditions and the dependent variable in the study, family perception of care. Factor analysis and Cronbach’s alpha (based on standardized items) assessed the ability of selected items to adequately measure the conceptual constructs of institutional support, equal status, common goals, intergroup cooperation, and family perception of care. Descriptive statistics for all indexed items used in the study is reported in Table 1. Descriptive statistics for the four constructed moderating variables and the dependent variable, family perception of care, is provided in Table 2.

Insert Table 1 and Table 2 here

Independent Variables: Frequency of Contact, Geographic Distance

Frequency of NH contact is measured by the item – “How often do you visit her/him?”. This study adopts the definition of contact used by Pettigrew (1998) which states, “Actual face-to-face interaction between members of clearly defined groups.” As such, this study defines contact as a face-to-face interaction between residents, family members, nursing staff, NH administrators, or some combination thereof. Based on the frequency distribution for this item, 72% of the family members included in this sample visit the NH at least once a week.

As mentioned earlier, geographic distance is measured by the item – “How far must you travel to get to the NH?”. This study defines “long-distance trip” according to the Bureau of Transportation which states, “Trips of 50 miles or more from home to the farthest destination traveled and include the return component as well as any overnight stops and stops to change transportation mode” (Research and Innovative Technology Administration, 2009). A dummy variable coded 1 represents family members who live 50 or more miles away from the NH, and coded 0 for family members who live less than 50 miles away from the NH. According to the frequency distribution for the recoded geographic distance dummy variable, only 39 or about 14% of family members reported living more than 50 miles away from the NH.

Dependent Variables

Frequency of contact also served as the dependent variable in the first regression analysis and is measured by the one survey item described above. The

dependent variable in the second regression analysis is family perception of care. This variable is an index of four items:

1. Overall, are you satisfied with her/his freedom to make her/his own choices?
2. Overall, are you satisfied with the care he/she receives from the employees?
3. Overall, are you satisfied with the friendliness of the employees?
4. Would you recommend this NH to a family member or friend?

The original response categories for these survey items were: 1 = *yes, always*; 2 = *yes, sometimes*; 3 = *unsure, cannot decide*; 4 = *no, not usually*; and, 5 = *no, never*.

For this study, these were reverse coded so that higher values indicated more positive perceptions of care by family members. To calculate the family perception of care index, responses to the four items were added together and the resulting sum was divided by the number of items in the index. This calculation allowed the index score to remain in the original range of the items. All constructed indexes used in the study were calculated in the same manner.

Moderating Variables

Only one survey item was found that clearly reflected perceived institutional support - "Does the facility provide a home-like environment?" Though measuring a theoretical concept with a single item is not ideal, the item's direct reference to *facility*, coupled with the value of a *home-like environment* for NH residents and family members, lends theoretical support for including this item as the measure for assessing family perception of institutional support.

To create indexes for the remaining three moderating variables: equal status,

common goals, and intergroup cooperation, a total of 15 items from the Family Member Survey were selected. Factor analysis and Cronbach's alpha were conducted to determine if the conceptual assignment of the 15 items loaded into a three-factor solution. Principle component analysis (PCA) (Hendrickson & White, 1964) using a Promax rotation ($k = 4$) was selected as the factor extraction method because of its ability to rotate solutions while allowing for correlations among the factors (Tabachnick & Fidell, 2001). Results indicated that one item – “Eats a meal whenever wants” – solely created a four-factor solution. Due to the ambiguous nature of this item, it was eliminated from the group. A second PCA was conducted on the remaining 14 items, generating a three-factor solution.

Control Variables

This study controls for two demographic variables – “family member gender” and “family member relationship to the resident”. Both control variables are measured by the same item – “What is your relationship to her/him?”. To identify male and female family members, a dummy variable coded 1 was created to represent female family members and 0 for male family members. A second dummy variable was created to distinguish between nuclear family member relationships and extended family relationships. Nuclear family members (wife, husband, daughter, son) were coded 1, and extended family members (stepdaughter, mother, aunt, granddaughter-in-law, sister, brother, niece, daughter-in-law, stepson, granddaughter, grandson, nephew, brother-in-law) were coded 0. Frequency distributions for the two control variables indicated that nuclear family members comprised the bulk of the sample totaling 224 (82%). Female

family members represented the majority of the sample with 164 (60%) respondents.

Data Analysis

To test the first hypothesis (geographic distance affects frequency of NH contact), two regression models were estimated. The first examined the effect of geographic distance on frequency of NH contact. The second examined this effect, adjusting for the effects of the control variables: type of family member relationship and gender of family member (Table 3).

The second hypothesis (NH contact affects family member perceptions) and the third hypothesis (effect of contact on perception depends on contact conditions) were tested by analyzing four regression models. The first model examined the effect of contact on family perception of care. The second model examined the main effects of contact and the four moderating variables, or four contact conditions, on family perception of care. The third model added interaction terms. Interaction terms were products of the contact variable with each of the contact condition variables. Finally, the fourth model omitted statistically insignificant interaction terms. All regression models were estimated using Stata 10 xtreg. Using the fixed effects (fe) and variance-covariance estimator (robust) options, this procedure simultaneously controls for the unique effects of each NH and adjusts the standard errors for any clustering effects of family members within each NH (Table 4).

Results

Effects of Geographic Distance and Control Variables on Frequency of Contact

Model 1 (Table 3) indicates that family geographic distance significantly reduced

frequency of NH contact (Table 3, Model 1, $p < 0.001$). This inverse relationship suggests that as family geographic distance increases, frequency of NH contact decreases. An examination of the regression coefficient ($B = -2.002$) shows that, on average, family members who live 50 miles or more away from the NH scored about two levels lower on frequency of contact than family members who live less than 50 miles away from the NH. Levels for frequency of contact range from *almost never* to *every day*, with seven total levels. About 31% ($R^2 = .306$) of the variation in family member's frequency of contact is explained by their geographic distance from the NH facility.

Model 2 (Table 3), adds the two control variables: family member relationship and gender of family member. Neither control variable was found to be significant and geographical distance remained statistically significant. Taken as a whole, the regression results indicate that family geographic distance is a strong negative predictor of frequency of NH contact. This would suggest that the effect of geographic distance, even at seemingly short distances of 50 miles, limits NH contact for both nuclear and extended family members, and both male and female family members. Therefore, Hypothesis 1 is supported.

Insert Table 3 here

Effects of Contact and Four Contact Conditions on Family Perception of Care

Frequency of contact was found to be an insignificant predictor of family perception of care when included alone in the regression model (Table 4, Model 1). This finding suggests that family perception of care does not depend on the frequency of

contact with the NH (while frequency of contact shows a significant negative effect in Table 4 model 4, this is reflecting the interaction relationship rather than an independent effect) . Thus, Hypothesis 2 is not supported.

Model 2 (Table 4) examined the main effects of contact and the four contact conditions on family perception of care. When controlling for the effects of the four contact conditions, frequency of contact remained an insignificant predictor of family perception of care ($p > .05$). The addition of the four moderating variables increased the total explained variance in family perception of care from 10% to 55% ($R^2 = .549$). Two of the four contact conditions, institutional support ($p < .05$) and intergroup cooperation ($p < .001$), had statistically significant positive effects on family perception of care. That is, all else being equal, family members who viewed the NH as having higher levels of institutional support and perceived higher levels of cooperation also perceived a higher level of care.

A comparison of the main effects model (Table 4, Model 2) with the interaction effects model (Table 4, Model 3) provides a test of Hypothesis 3. Some support for this hypothesis was found. The four interaction terms, entered as a set, were statistically significant ($F(4,9) = 8.91; p < 0.05$), indicating that the effect of contact on family perception of care depended on the level of at least one of the four contact conditions. An examination of the p -values associated with the t -tests for the individual interaction terms revealed that the effect of contact of family perception of care depended specifically on only one of the four contact conditions, the level of common goals ($p < .05$). For parsimony's sake, the model was re-estimated including only the statistically significant interaction term and omitting the other three statistically insignificant

interaction terms (Table 4, Model 4).

As the results indicate, all else being equal, at the lowest level of common goals (1 = *no, never*), a one-level increase in contact reduces family perception of care by .098 points ($-.098 = -.134 + (.036 \times 1)$). On the other hand, at the highest level of common goals (5 = *yes, always*), a one-level increase in contact improves family perception of care by .046 points ($.046 = -.134 + (.036 \times 5)$). In short, as the level of common goals increases, the effect of contact on family perception of care becomes more positive. Conversely, contact where staff fail to support the goals of resident independence and choice may result in more negative family perceptions of care.

As in Model 2, Model 4 indicates that institutional support ($p < .05$) and intergroup cooperation ($p < .001$) were positively related to family perception of care. That is, holding frequency of contact constant, as levels of institutional support and intergroup cooperation increase, family perception of care improves. In sum, Hypothesis 3 is partially supported by a positive interaction between frequency of NH contact and common goals on family perception of NH care; as well as, significant positive main (direct) effects of institutional support and intergroup cooperation on family perception of NH care.

Insert Table 4 here

Discussion

The purpose of this study has been to provide NHs with a model for understanding how family geographic distance interacts with NH contact to affect family perception of quality NH care. Although there was insignificant statistical support for hypothesis 2, the data do support Allport's (1954) basic theoretical premise - that

contact alone is insufficient for developing positive perceptions between groups. This finding suggests that NHs should be cautious in assuming that frequent casual, even cordial, contact encounters between staff, residents, and family members is sufficient for developing positive family perceptions of the NH and/or the care it delivers.

Instead, the study indicates that the family member-NH staff relationship is much more complex. The theoretical application of Allport's theory to the family member-NH relationship is revised in Figure 2 to reflect the statistical results of this study.

Insert Figure 2 here

Contribution of Findings to Theory

Results of this study build on Allport's theoretical framework by extending its' usefulness to NH organizations in two distinct ways. First, findings support Allport's premise that contact alone between groups – i.e., family members and NH staff - is insufficient for explaining family perceptions of NH care. Second, three of the four contact conditions included in Allport's original theory were found to have statistically significant effects. Common goals was found to interact with frequency of NH contact to effect family perception of care; while institutional support and intergroup cooperation were each found to have a direct effect on family perception of care.

Policy and Practice Implications

Investing the time and money to fully understand the multiple factors affecting family perception of care is certainly a challenging proposition for NHs, especially when considering the highly demanding responsibilities involved in providing daily resident

care. The following discussion considers policy and practice implications for (1) determining ways to ensure geographically separated family members can easily make contact with their loved one as often as they want; (2) engaging in nursing staff-family member contact that emphasizes common resident goals, and (3) understanding how direct positive effects of institutional support and intergroup cooperation can influence family perception of care.

Family Geographic Distance and NH Contact

This study has shown that relatively short distances of 50 or so miles may limit family member face-to-face contact with the NH. As discussed, limited face-to-face contact between groups can potentially lead to the formation of negative attitudes or false perceptions between groups. Thus, in order for NHs to directly affect positive family perceptions of care, policy and practice protocols should be mindful of both types of family member groups - those who have frequent face-to-face contact with the NH, and those whose geographic distance from the NH restricts more frequent on-site contact. For example, in addition to written and telephone contact, both nursing staff and family members may find the use of communication technologies, such as web-cams, video-conferencing, email, social media (i.e., Facebook), much faster and easier, and more efficient in the delivery and response of resident information.

Family NH Contact and Common Goals

The literature recognizes that goals promoting and enabling individual resident independence and choice is challenging for front-line staff who are responsible for the daily care of multiple residents (Cotterell, 2008). Yet, results of this study indicate that

family member perception of *quality* resident care depends on the level to which contact with NH staff is perceived to include interactions encouraging resident independence and choice. This finding is important for NHs to recognize. NH contact encounters with family members wherein staff formally acknowledge and encourage resident independence and choice will likely result in improved family perception of care.

Institutional Support

Person-centered approaches to NH care have been shown to produce positive effects on family perceptions of care, in part, by reducing uncertainty and anxiety among family members regarding their loved ones (Wanzer, Booth-Butterfield, & Gruber, 2004). As such, NH institutions that desire a *home-like environment*, but do not properly educate, train, involve and assist all levels of nursing staff and support personnel in the transition from a medical-model of care to a person-centered model of care, may ultimately fail to foster positive family perceptions of care.

When considering that perceptions of NH care - good or bad - can be directly affected through the human senses - sight, sound, smell, touch, and taste - it is important for NHs to recognize that direct family contact with the NH facility can be powerful in forming perceptions of *quality*. Whether family members make physical contact with the NH, or by telephone, website, newsletters, or the like, if families perceive the NH as fostering a sense of home, they may be less likely to, according to Allport (1954), “feel a bit on guard” or “feel threatened” (p. 46).

Intergroup Cooperation

The positive effects of intergroup cooperation on family perception of care can likely be attributed, in part, to the unique organizational purpose of the NH. As discussed, frequent NH contact provides family members with opportunities to observe first-hand whether the nursing staff is cooperatively working with the resident to achieve established goals. Yet, in reality, the professional daily practice of accomplishing care goals primarily involves the cooperative efforts of only two groups - residents and NH staff. Therefore, in order to foster positive family perceptions of care, NHs should be continuously aware of family members need to *see while visiting* or *perceive from a distance* staff cooperating with residents to achieve established goals. Family observations of positive cooperative exchanges between resident and staff will likely result in improved attitudes and reduced misperceptions, adding to positive overall family perceptions of the NH (Cross & Rosenthal, 1999).

Study Limitations and Suggestions for Future Research

There are several limitations of this study that should be recognized. First, it is clear that the sample size restricted the scope of the analysis. Additionally, the majority of family members included in the sample identified their race as White/Caucasian, prohibiting the inclusion of race and ethnicity in the statistical analyses. As factors of race and ethnicity are central to Allport's original intergroup contact theory, this study strongly encourages future researchers to include NHs that serve sufficient numbers of diverse racial and ethnic resident populations.

Second, recognizing the Family Member Survey was not designed to examine family perception of NH care through the theoretical lens of Allport's intergroup contact

theory, the number of survey items found statistically valid for measuring the four contact conditions proved somewhat challenging. A survey instrument designed to measure family perception of NH care that incorporates the conceptual elements of Allport's four contact conditions would prove beneficial to future researchers.

In conclusion, by examining how to make the right kind of contact using Allport's (1954) Intergroup Contact Theory, this study provides NHs with a new model for making successful contact encounters with resident family members in an effort to promote friendly relations and increase family perceptions of the quality of care their loved one receives.

To ignore the powerful influence of family perception of care could prove costly for NHs, especially in light of the imminent influx of baby boomer residents. As such, NHs should be mindful of Allport's wise observation:

The way we perceive qualities in others cannot help but have an effect on what qualities others will display. It is not true, of course, that every grim image we have of [different] groups results in the development of hateful traits to confirm our worst expectations. Yet there is likely to be some kind of unpleasant reflex of our unpleasant opinions (1954, p. 159).

Such is the challenge of NHs, to transform the some-what grim image of institutional care into an image more closely aligned with the visions, values, and expectations of all groups involved in the care of residents, both near and far, who are at present, calling for the delivery of quality NH care.

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Table 1. Descriptive Statistics for Indexed Items

Institutional Support ($n = 1$)	n	Range	Minimum	Maximum	Mean	SD
Facility provides a home-like environment	275	4.0	1.0	5.0	3.987	1.147
Equal Status ($n = 2, \alpha = .493$)						
Has privacy whenever wants	275	4.0	1.0	5.0	3.725	1.250
Employees knock on door before entering room	275	4.0	1.0	5.0	3.935	1.172
Common Goals ($n = 4, \alpha = .784$)						
Decides when to go to bed	275	4.0	1.0	5.0	4.015	1.215
Decides when to get up	275	4.0	1.0	5.0	3.513	1.324
Chooses own clothes	275	4.0	1.0	5.0	3.918	1.276
Decides when to take bath/shower	275	4.0	1.0	5.0	2.635	1.274
Intergroup Cooperation ($n = 8, \alpha = .851$)						
Employees talk with resident	275	4.0	1.0	5.0	4.213	.851
Employees listen to what resident says	275	4.0	1.0	5.0	4.069	.943
Employees ever do anything to show they care about resident	275	4.0	1.0	5.0	4.364	.716
Employees check to see if comfortable	275	4.0	1.0	5.0	3.942	1.025
Has to ask employees for help more than once	275	4.0	1.0	5.0	2.711	1.043
Employees spend enough time helping with needs	275	4.0	1.0	5.0	3.965	.986
Something is done about resident's complaints	275	4.0	1.0	5.0	4.002	.979
Something is done about respondent's complaints	275	3.0	2.0	5.0	4.460	.721
Family Perception of Care ($n = 4, \alpha = .840$)						
Overall, satisfied with resident's freedom to make own choices	275	3.5	1.5	5.0	4.467	.691
Overall, satisfied with care resident receives from employees	275	4.0	1.0	5.0	4.429	.718
Overall, satisfied with friendliness of employees	275	4.0	1.0	5.0	4.560	.660
Recommend NH to a family member or friend	275	4.0	1.0	5.0	4.485	.907

Table 2. Descriptive Statistics, Cronbach's Alpha, and Pearson Correlations for Constructed Moderating and Dependent Variable Indexes

	Number of Items	<i>M</i>	<i>SD</i>	α	Institutional Support	Equal Status	Common Goals	Intergroup Cooperation
Institutional Support	1	3.987	1.147		1			
Equal Status	2	3.830	.987	.493	.364***	1		
Common Goals	4	3.520	.989	.784	.090	.219***	1	
Intergroup Cooperation	8	3.966	.641	.851	.560***	.425***	.179**	1
Family Perception of Care	4	4.485	.615	.840	.486***	.339***	.170**	.732***

Note: Range is 1 = no, never to 5 = yes, always.
 $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

Table 3. Effects of Geographic Distance and Control Variables on Frequency of Contact (N = 275)

Variable	Model 1		Model 2	
	<i>B</i>	Robust <i>SE</i>	<i>B</i>	Robust <i>SE</i>
Geographic distance	-2.002***	0.239	-1.999***	0.237
Nuclear family member			0.236	0.290
Female family member			-0.003	0.157
Constant	5.415***	0.034	5.224***	0.230
Adjusted <i>R</i> ²	0.306		0.305	
Model <i>F</i>	70.40***		39.82***	
Model Degrees of Freedom	1, 9		3, 9	

a. *B* = Unstandardized regression coefficient.

b. Models were estimated using Stata 10 xtreg, which simultaneously controls for the unique effects of each NH (using the fixed effects (fe) option), and adjusts the standard error (Robust *SE*) for clustering effects of family members within each NH (using the variance-covariance estimator (robust) option).

p* < .05; *p* < .01; ****p* < .001 (two-tailed test).

Table 4. Effects of Frequency of Contact and Four Contact Conditions on Family Perception of Care (N = 275)

Variable	Model 1		Model 2		Model 3		Model 4				
	<i>B</i>	Robust SE	<i>B</i>	Robust SE	<i>B</i>	Robust SE	<i>B</i>	Robust SE			
Frequency of contact (FOC)	0.000	0.029	-	0.011	0.026	0.139	0.178	-	0.134**	0.041	
Institutional support			0.058*	0.023	0.162	0.117	0.055*	0.022			
Equal status			-	0.006	0.033	0.079	0.112	-	0.009	0.033	
Common goals			0.007	0.018	0.210**	0.051	-	0.178**	0.050		
Intergroup cooperation			0.645**	*	0.070	0.984**	0.260	0.640**	*	0.069	
FOC x Institutional support						-	0.021	0.022			
FOC x Equal status						0.014	0.024				
FOC x Common goals						0.045**	0.011	**	0.036	0.011	
FOC x Intergroup coop.						-	0.067	0.042			
Constant	4.487*	**	0.147	1.750*	**	0.330	0.957	1.094	2.411**	*	0.406
Adjusted <i>R</i> ²	0.096		0.549			0.562		0.554			
Model <i>F</i>	0.000		61.34*	**		8436.55	***	57.89**	*		
Model Degrees of Freedom	1, 9		5, 9			9, 9		6, 9			

a. *B* = Unstandardized regression coefficient.

b. Models were estimated using Stata 10 xtreg, which simultaneously controls for the unique effects of each NH (using the fixed effects (fe) option), and adjusts the standard error (Robust SE) for clustering effects of family members within each NH (using the variance-covariance estimator (robust) option).

p* < .05; *p* < .01; ****p* < .001 (two-tailed test).

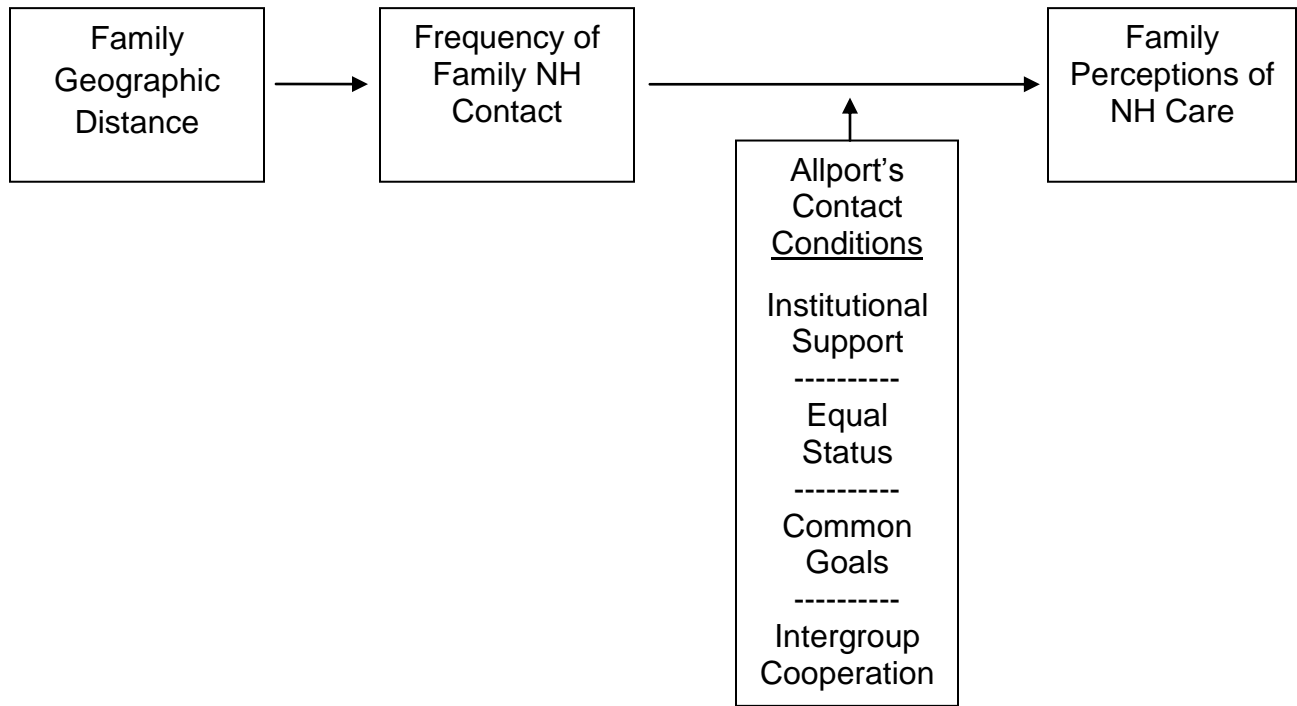


Figure 1. Theoretical model: Application of Allport's intergroup contact theory to the family member-NH relationship.

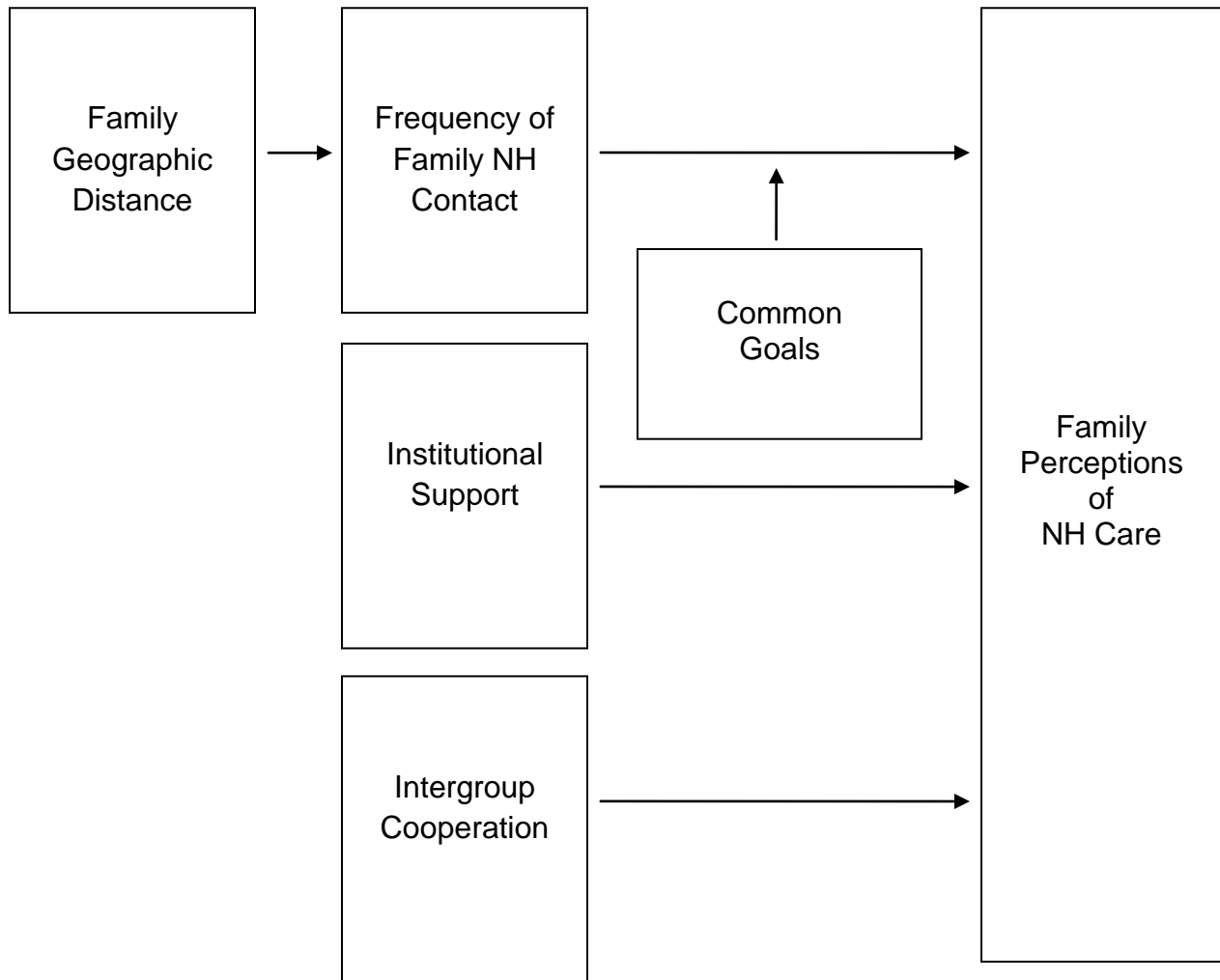


Figure 2: Revised theoretical model: Application of Allport's intergroup contact theory to the family member-NH relationship.