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BY

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TABLE OF CONTENTS

LIST OF FIGURES . . . . . . . . . . . . . iv
LIST OF TABLES . . . . . . . . . . . . . v
ABSTRACT . . . . . . . . . . . . . . . vii
Chapter
   I. INTRODUCTION . . . . . . . . . . . . . 1
   II. METHOD . . . . . . . . . . . . . 28
   III. RESULTS . . . . . . . . . . . . 36
   IV. DISCUSSION . . . . . . . . . . . . 54
   V. SUMMARY . . . . . . . . . . . . 74
PROPOSALS FOR FUTURE RESEARCH . . . . . 81
APPENDICES . . . . . . . . . . . . . 83
BIBLIOGRAPHY . . . . . . . . . . . . 121
LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Male silhouettes for interaction scenes with male student and same-sex friend</td>
<td>117</td>
</tr>
<tr>
<td>2.</td>
<td>Female silhouettes for interaction scenes with female student and same-sex friend</td>
<td>118</td>
</tr>
<tr>
<td>3.</td>
<td>Silhouettes for interaction scenes: female student with father and female student with male professor</td>
<td>119</td>
</tr>
<tr>
<td>4.</td>
<td>Silhouettes for interaction scenes: male student with father and male student with male professor</td>
<td>120</td>
</tr>
<tr>
<td>5.</td>
<td>Comparison of mean interaction distances, in twelfths of an inch by culture (3) and relationship (3)</td>
<td>61</td>
</tr>
<tr>
<td>6.</td>
<td>Comparison of mean interaction distances, in twelfths of an inch across six social interactions by three cultural groups</td>
<td>62</td>
</tr>
<tr>
<td>7.</td>
<td>Comparison of mean interaction distances, in twelfths of an inch, of Native Japanese males and females</td>
<td>67</td>
</tr>
<tr>
<td>8.</td>
<td>Comparison of mean interaction distances, in twelfths of an inch, of American Caucasian males and females</td>
<td>68</td>
</tr>
<tr>
<td>9.</td>
<td>Comparison of mean interaction distances, in twelfths of an inch, of Hawaii Japanese males and females</td>
<td>69</td>
</tr>
<tr>
<td>10.</td>
<td>Comparison of mean interaction distances, in twelfths of an inch, of males by Culture (3) and Relationship (3)</td>
<td>71</td>
</tr>
<tr>
<td>Table</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>1. Analysis of Variance - 2 Within-2 Between Design</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>2. Summary of Means and Standard Deviations of Interaction Distances by Culture (3), Sex (2), Relationship (3), and Conversational Content (2)</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>3. Analysis of Variance on Culture, Sex, Relationship, and Conversational Content</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>4. Newman-Keuls Range Test of Mean Interaction Distances Across Three Cultural Groups</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>5. Summary of t Tests of Mean Interaction Distances of Native Japanese (N=56)</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>6. Summary of t Tests of Mean Interaction Distances of American Caucasians (N=49)</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>7. Summary of t Tests of Mean Interaction Distances of Hawaii Japanese (N=50)</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>8. Newman-Keuls Range Test of Mean Interaction Distances Across Three Relationships</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>9. Summary of t Tests of Mean Interaction Distances, of American Caucasians (N=49), by Relationships (3) and Conversational Contents (2)</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>10. Summary of t Tests of Mean Differences on the Perceived Cultural Influence Scale for Hawaii Japanese and American Caucasians</td>
<td>51</td>
<td></td>
</tr>
</tbody>
</table>
11. Correlations Between Perceived Cultural Influence and Interaction Distances for Hawaii Japanese and American Caucasians .......................... 53
12. Order of Presentation for Interaction Scenes ........................................... 106
Interaction distance between dyads was investigated as a function of relationship, sex, conversational content, and culture. The subjects (Ss) were Native Japanese (NJ), Hawaii Japanese (HJ), and American Caucasians (C). The minimum sample size within culture by sex was 24, with Total N=155.

The instrument for eliciting distance was a modification of Kuethe's (1962) Felt Figure free placement technique. Six scenes of interaction were presented to each S with the order of presentations counterbalanced across Ss. Testing was done primarily in a group setting. Distances between silhouettes were measured in twelfths of an inch. The primary statistical test was ANOVA with 2 Within Ss variables (Conversational Content and Relationship) and 2 Between Ss variables (Culture and Sex).

Of the four variables analysed, relationship was the most powerful determinant of interaction distance. Culture was also significant, but conversational content and sex were not. No interaction effects reached significance.

As predicted, NJ had greater interaction distances than either HJ or C. However, no differences were found between HJ and C which was contrary to anticipated results. Since HJ were primarily of the third generation
acculturation is presumed to be the explanation for this result.

Sex differences among the NJ and C were not significant as predicted. The hypothesis of greater distances for HJ males was not supported. Previous studies had indicated a more rapid rate of acculturation for HJ females, but this research would tend to refute that finding, at least with the population under present study.

NJ and HJ held the same increasing order of distances across relationships: friend, father, professor. No sex differences were found on distance with authority figures for C, nor were there differences between authority figures for the same cultural group.

Conversational content was not a significant determinant of distance. It was asserted that relationship between persons is more important than the content shared in the interaction.

Perceived cultural influence was measured by a modification of Kilpatrick's Self-Anchoring Scale for the HJ and C groups. Previous research had indicated a more traditional stance for the HJ male, but no sex differences were found in the present study. As predicted, no sex differences were found within C.
HJ and C were significantly different on this measure as hypothesized. A final analysis was made on the correlation between perceived cultural influence and interaction distance. Only two correlations were significant and they were deemed spurious. Since HJ and C were not significantly different on interaction distance, the expressed difference on perceived cultural influence would seem to be a comment on the myth of cultural difference held by these groups in Hawaii.
CHAPTER I

INTRODUCTION

There are students from different cultural groups at the University of Hawaii those from the South Pacific and the Orient being especially well represented. When these students experience problems of adjustment, poor academic progress, loneliness, and personal difficulties, they often seek out the services of the Student Health Center rather than the Counseling Center (Denny, 1966). When they are ultimately directed to the counseling service the counselors report that many of these students desire to continue talking about their physical complaints. In this situation the counselor needs to respond not only to the verbal communication of the student, but also to his nonverbal cues.

While counseling literature is replete with methods for the establishment of rapport, guidelines for making psycho-diagnostic evaluations, and techniques for effecting change, there exists a scarcity of data pertaining to the nonverbal modes of communication, especially in cross-cultural studies.

For example, a native Japanese female student from the East-West Center enters the office of an American male
counselor. During the period of introduction it is noted that they do not shake hands and there appears to be an inordinate distance between them. When the woman is invited to be seated she selects the chair which is the furthest from the counselor. At this point some tentative hypotheses could be formed concerning the presenting problem of the counselee. Does she attempt to avoid interacting with males? Is her response a function of an unresolved conflict with authority figures? Is she an introverted person who utilizes withdrawal as her basic mode in an interactional situation? Whatever hypothesis is selected for further exploration, one dimension needs to be understood - the meaning of the distance that has been established between the woman and the counselor. Were the counselor to respond independently of the client's meaning of that distance, or be unaware of the meaning, he thereby would increase the probability of misinterpreting the behavior of the counselee.

What is being asserted is that nonverbal cues are important components in communication and the illustration above suggests that distance, the use of space, or territoriality, conveys meaning. To affirm that distance conveys meaning, is to suggest that the counselee is not exhibiting random behavior, but rather that the behavior
she has utilized is composed of structural units that are redundant in her repertoire. In describing counselee behavior Fullmer and Bernard (1964) state, "Individuals develop habitual patterns of responses to interpersonal situations (p. 126)." It is the consistency of these patterns which is the 'meaning' of the counselee's actions. Obviously, a counselor when seeing the client for the first time may lack a temporal perspective from which to assess behavior. This lack may generate ambiguity. In addition to the temporal consideration, there is the cultural variable which can also confound the communication within this dyad, for as Fullmer and Bernard (1964) state "... the context of specific nonverbal behavior is vital to its interpretation (p. 133)." In view of this, it is further suggested that this phenomenon is learned within a cultural context and will vary from one culture to another. Even though a member of a given culture may not be able to verbalize the meanings of particular distances utilized within his own culture, he can and does demonstrate this meaning in his pattern of behavior.

Scheflen (1968) describes the form of human behavior as "a program of behavioral units and progression evolved and transmitted in culture (p. 44)." Here the emphasis is on the programmed nature of behavior and the assumption that
the patterns developed are learned largely out of awareness (Hall, 1963: Little, 1965). Within a given culture, communication is possible because a common behavioral morphology makes it possible for one interactant to be understood by another through this shared meaning. The model suggested by Scheflen stems from a cultural orientation in which multiple modalities are utilized, one of which is nonverbal territoriality. In asking what is transmitted, Scheflen indicates that the answer is to be found in observing behavioral forms and patterning, or as Fullmer (undated) suggests, "Behavior is the communications system used by the individual."

The counselor, then should not limit his concern to the verbal level of communication, but should focus his efforts on the nonverbal modalities as well. Here the emphasis would entail explicating the behavioral pattern of the client, make him aware of the antecedent and consequent conditions, and help him to alter his personal program, through a process of relearning when the goal is behavioral change. To do this it would be necessary, first of all, to map out basic patterns within a given culture which, in turn, would offer a beginning point for understanding client behavior, however conforming or deviant.
The Problem

The primary aim of this study was to investigate and map out basic patterns of territoriality in human behavior, man's use of space in interactional communication. Specifically, perceived interaction distances were measured to determine whether differences might be found between three cultural groups. Type of relationship and conversational content were varied in this experiment to determine what effect each variable had on the distances maintained within each cultural group.

Territoriality in Animal Behavior

While the dimension of territoriality has been largely neglected by the social sciences (Lyman and Scott, 1967), it is a familiar construct, an organizing concept, that has been known and utilized by ethologists for a long time (Carpenter, 1958). From studies of birds, fish, mammals, and primates, an increased understanding of territorial behavior has been accumulated and these data serve as the beginning point for this research with the goal of utilizing these results as an aid to a greater understanding of human behavior.

As an organizing principle, Hediger (1961), sees, as a part of territoriality, characteristic distances which foster the propagation of a given species. Flight distance,
for example, is the term he has coined to indicate the distance that an animal will tolerate between itself and a different animal before fleeing. As would be expected, smaller animals have a lesser flight distance than the larger ones. A cat will flee from an 'enemy' at a greater distance than will a small lizard. Hediger also noted that there is a 'critical' or an attack distance that will characterize a given species. It should be noted that these two types of distances are associated with responses to animals of different species. With animals of the same species, Hediger offers other categories of behavioral patterning: personal and social distances. The former is similar to that described by Horowitz, et al (1964) in their study of the 'body-buffer' zone of humans, that area which "would be regarded as comprising not only an internalized projection of the body's boundary and position but also a sensitized projection of the immediate area around the body (p. 655)." Hediger's concept of social distance for animals is akin to what would be psychological distance in humans, that distance which has to do with the security, and safety needs of the individual.

Territoriality, or use of space, was also an important concept in the work of Tinbergen (1966). Observing the stickleback fish he found a relationship
between space and population control. Under crowded conditions, aggressive behavior of competing males would disrupt the normal signalling process, or communication system, which in turn disrupted the courting-laying eggs-hatching sequence. A similar finding was noted in a study by Christian (1960) of the effects of stress brought about by lack of 'personal' space of Sika deer. Christian had stocked an uninhabited island in Chesapeake Bay with four or five deer. The herd increased in size until approximately 300 deer existed after which he noted that more than 50% died in less than one year, many in less than three months. After performing autopsies it was discovered that the adrenals showed evidence of stress which was the cause of death. He stated that this result was clearly related to the territorial condition of lack of space which increased the level of stress resulting in physiological alterations culminating in death for the majority of the herd.

In another series of studies Calhoun (1962) experimented with the Norway rat. His findings also confirmed the effects of crowding which disrupted the social organization among the colonies of rats and ultimately resulted in a decrease in the size of the population. Pathological behavior was also noted with the development of behavior 'sinks' within the colonies.
Further illustrations of territoriality are to be seen in the investigations of Lorenz (1966) and Ardrey (1966), both presenting several studies to substantiate this principle operating for birds, fish, mammals, and primates.

The value of animal studies, in such areas as territoriality, is that they have provided a method which is applicable to the study of human behavior. In the studies quoted, observations have lead to an understanding of the organism's behavior by the process of mapping out basic patterns of the various species. By identifying these characteristic patterns, prediction of behavior became more accurate. While it would be anthropomorphic to impute meaning to the redundant structural units in the programmed patterns of animal behavior, commonality of responses within a given species does foster propagation and provides a basis for social organization.

An Approach to Territoriality in Human Behavior

In recent years territoriality has entered the domain of psychology as noted in a study in 1964, (Horowitz, Duff, and Stratton) which investigated the meaning of personal space, designated 'Body-Buffer Zone'. In that
research it was hypothesized that "(1) there would be a certain reproducible distance which persons impose between themselves and objects or persons, and (2) in certain schizophrenic patients this distance would be relatively increased (p. 651)." The experimenters found that an individual's body-buffer zone is reproducible. That is, the person conceives a definable area of space surrounding his body as being an extension of his physical body limits. As predicted, schizophrenics had a larger buffer zone than normals. This result is consistent with clinical impressions of schizophrenics exhibiting withdrawal behavior when they maintain a greater distance between themselves and other people than do normals. For Horowitz, et al, space, and its use, was found to be an indication of the psychological state of the person.

Colman (1966) reported on the bizarre behavior of the husband of one of his patients whom the hospital staff had described as being schizophrenic. When Dr. Colman visited the patient at her home he observed a different pattern in the husband's behavior which was now demonstrated in relaxed and confident deportment. In attempting to explain this change Colman asserts that "territoriality and idiosyncratic territorial structuring may provide useful personality support . . . . A shift in dominance with
territoriality. . . certainly was evident in the changed relationship with Mr. Pond (the patient's husband) when we were in my territory (the hospital) versus his" (p. 467).

Barton (1966) asserts that man possesses territorial instincts, that is, he has an innate need for space which is his own. In response to this need, room dividers were brought into hospital wards as a means of establishing individual territories for the patients. While it can be agreed that this change might have been therapeutically beneficial, this is not to say that an innate need was being met.

Later, Altman and Haythorn (1967) studied the development of territorial behavior using Navy men as volunteers who initially were relative strangers. Two groups were formed, one under conditions of social isolation and the other under non-isolation. Each dyad in the isolated group lived in a 12' x 12' room which contained all the necessary facilities. For ten days this group received no outside contact. The non-isolated group performed the same daily tasks but lived in a barracks and were permitted to eat at the base mess and use the base recreational facilities in their free time. The experiments found that the isolated group developed territorial patterns more rapidly than the controls. The index for territorial behavior was "consistent and
mutually exclusive use of chairs, beds, or sides of the table. ... (p. 171).” It was also noted that the isolated men evidenced social withdrawal as the experiment continued throughout the ten day period.

In attempting to assert a biological basis for territorial behavior in man, Ardrey (1966) suggests that this phenomenon satisfies the three basic needs of man: (1) security, (2) stimulation, and (3) identity. He offers this as a tentative hypothesis for man without empirical evidence. Rather, this is a thesis to be examined. While the present study was an attempt to define one aspect of the concept of territoriality in man, namely, interactional distance, it was conducted on the assumption that behavior is formed in cultural or learned contexts and no attempt was made to answer the biological question. It was hypothesized that territorial patterns would vary from one culture to another, they would remain relatively consistent within any one specified group and this consistency could be observed, measured, and categorized. Scheflen (1968) offers a pertinent summary- "...were it not that interactions were patterned, behavior would be unpredictable and unreliable, and it would be impossible to sustain, mediate, and form human relationships, complete coordinated tasks, and transmit a common culture (p. 47)." One of the hypotheses of this study was predicated on Scheflen's position, that interactional distances within a given
culture are consistent and measurable. Further, that the interactional distance conveys meaning because of its consistent and observable nature.

**Interactional Distance: A Form of Territoriality**

In setting forth the concept of human territoriality. Lyman and Scott (1967) begin by asserting, "All living organisms observe some sense of territoriality, that is, some sense - whether learned or instinctive to their species - in which control over space is deemed central for survival (p. 236-237)." As we have noted above there is evidence for this statement when applied to animals, but for human beings we are in the process of acquiring empirical evidence. Lyman and Scott further suggest that man needs to create boundaries and enclosures which will provide a personal territory in which the individual is afforded "opportunities for idiosyncrasy and identity (p. 237)." Observing man's total environment, the authors present four types of territories: (1) Public, which is available to people because of their citizenship, broadly defined, (2) Home, "...where the regular participants have a relative freedom of behavior and a sense of intimacy and control over the area (p. 238)," (3) Body, the most private territory of the individual, and (4) Interactional, which is a mobile dimension denoting the area in which social intercourse occurs. It is this fourth type
of territory with which the present research was concerned. As Lyman and Scott indicate, this type has definite boundaries even though the geographic location for the interaction may be changed, i.e., conversants walking.

Interactional territory is defined by the culture at the formal, informal, or technical level (Hall, 1966). Each level has its appropriate boundaries and enclosures and whenever these lines are encroached upon a reaction is elicited. It is this reaction that 'informs' the reactor that a cultural norm has been violated. Three typical reactions, according to Lyman and Scott (1967), are insulation or barrier formation, whether physical or psychological, linguistic collusion, such as the jargon which separates the Hippie youth from his parents, and the most extreme reaction, turf defense. This latter type "is a response necessitated when the intruder cannot be tolerated (p. 245)." Lorenz (1966) provides many illustrations of this phenomena in the animal kingdom and one common example among humans would be the stereotype of the youth gang that repels all outside youth from their block.

In the literature quoted, there has been an absence of a clear differentiation in the application of the concept of territoriality. Two meanings have been interchanged. Territory as the 'personal' or 'home' space of the organism
and territory as the personal distance that is maintained between organisms. In this study territoriality was used to designate the distance, or space, that a person keeps between himself and others, this distance being a function of cultural background, the social setting, the conversational content, and the nature of the relationship between the interactants.

Sommer (1959) attempted to distinguish between territory and space on the basis of mobility, visible boundaries, and center of focus. However, Cavan (1963) has pointed out in examining home territories that they are not fixed but rather have the capacity for mobility. In the Cavan study of homosexual bars the designation of such a territory could change from 'Public' to 'Home' or it could be completely abandoned. Visible boundaries, as well, do not differentiate between the concepts of space and territory as Tinbergen (1966) has shown with the stickleback. Also, in the Horowitz study (1964) personal space for humans was not defined by visible boundaries even though it was possible to determine, in inches, the limits of the 'body-buffer zone' of both normal and schizophrenic subjects. Sommer maintains that the body is the focus of personal space and the 'home' the center of the territory, but this distinction also seems questionable in view of the change brought about by contextual variation.
Little (1965) offers a rapprochement by asserting that the space between persons, interactional distance, is a form of territory even though it does not possess fixed geographic boundaries, is mobile, and does change under varying conditions. This is consistent with the proposed definition that was utilized in this study.

**Dimensions of Interactional Distance**

One of the most prolific proponents studying the meaning of interactional distance is E. T. Hall who has developed a notational system for proxemic behavior (1963) and has produced two books (1959, 1966) which are devoted to an examination of this problem. In considering the dynamism of distance, he (1966) sees four major divisions: intimate, personal, social and public distances. He suggests that "man senses distance as other animals do. His perception of space is dynamic because it is related to action—what can be done in a given space—rather than what is seen viewing." As men exhibit territorial behavior "they use the senses to distinguish between one space or distance and another. The specific distance chosen depends on the transaction; the relationship of the interacting individuals, how they feel, and what they are doing" (p. 120). Space for Hall (1963) is one of ten delineated components of what he labels the Primary Message System which is operative within
any given culture. This system utilizes both verbal and nonverbal modalities, including space. Thus, space and its use conveys meaning. An illustration of this is offered by contrasting crosscultural speaking distances in a two party conversation. That is, contrasting the 'American' distance with the 'Greek' distance. What for the American is a distance of intimacy would be a common conversational distance for the Greek.

Kuetehe (1962) building on the principles established by Koffka (1935) and Wertheimer (1923) on unit forming factors, asserts that people can be considered as symbols with respect to proximity. When these people-symbols are placed in an arrangement by free placement, the plan or schema utilized can be analyzed from the perspective of the relationship depicted. Further, "When many people use the same schema in organizing a social response there is the implication that comparable experiences have produced the commonality of response. That the same response would be prepotent for many people would also be indicative of the pervasiveness of the tendency in the culture (p. 31)." In his study (1962) the subjects were asked under conditions of free response to place figures on a felt board.

Kuetehe found that the placement of human figures demonstrated an organized configuration, random placements
were rare. While the placement of rectangles of different sizes were ordered according to height, human figures were ordered by relationship, i.e. a child would be placed closer to the mother figure than the father. Thus, commonality of responses was demonstrated.

In a later experiment (1964), Kuethe expanded his inquiry hypothesizing that "a specific social schema is aroused by specific social stimuli and can contribute to the organization of any ensuing responses (p. 248)." He concluded that people do possess schemata for relationships, such as, between man and woman, and these schemata serve to organize the behavior within future relationships. For the normal individual, "His social schemata are readily aroused and are pervasive in the organization of his behavior both verbal and nonverbal (p. 254)." This would include the nonverbal behavior expressed in distance.

Weinstein (1965) using the Felt Figure Technique developed by Kuethe (1962), investigated the perception of interactional distance by free placement of figures by normal and neurotic boys between 8 and 12 years of age. She found that the normals placed child figures closer to the mother than to father figures or peers. The neurotic subjects responded in the reverse order. In a similar study (Fisher, 1967), normal children were compared with those whose school behavior was inappropriate. These
elementary school students were significantly different on distances between human forms, also by free placement. The disturbed children placed the figures at a greater distance indicating feelings of separation. This result had a significant positive correlation with scores of aggression and hostility of the mothers as measured by the Buss-Durkee Hostility Scale.

Little (1965), also used the free response placement of figures, varying the degree of acquaintance and setting. He hypothesized that the interaction distances would decrease with a corresponding increase in the degree of acquaintance. Also, that the distance within three settings (living room, office, and street corner) would vary, again according to the degree of acquaintance. His hypotheses were substantiated with the exception of the interaction between settings by males. The discrepancy was the equality of distance maintained between friends in both the living room and street corner settings. Another important aspect of his research was the comparison of the results obtained in the projective type free placement of figures and the actual placement of live actresses, by the subjects. Both techniques produced significant results and there were no significant differences between these two methods, suggesting that the free response placement may be an adequate and reliable substitute for live placement.
Crosscultural Variations in Interactional Distance

Since the subjects in the 1965 study were all North Americans, Little (1968) introduced the cross-cultural dimension by utilizing United States Americans, Greeks, Southern Italians, Swedes, and Scots. He found that the degree of relationship and affective tone were the two most important variables influencing interactional distances. He further discovered that the overall ordering of distances was similar among the five groups. He accounted for this by noting that all five can be included in the broad category of Western European culture and therefore these results could have been a function of this common factor.

While Little's experimental results provide reliable empirical evidence for differences in interactional distance for people from Western European cultures, supported by Hall (1963) who initially measured the four major distances found among Americans, no research data are available from Oriental cultures. Therefore, one of the central purposes of this study was to map out and demonstrate the consistency of interactional distances within a given culture, in this instance extended to the Japanese culture. A second area of inquiry was an examination of the differences between native Japanese and those of Japanese descent born and raised in Hawaii.
Meredith (1965, 1966) noted that in the 1950s several studies appeared which focused on the acculturation of Nisei Japanese Americans (second generation) but since 1959, the Sansei (third generation) is the group that is receiving the greater emphasis. Fenz and Arkoff (1962) found significant personality differences between the male and female Sansei when compared to mainland normative groups, respectively. Arkoff, Meredith, and Dong (1963) noted that the Sansei male was more tradition oriented, with respect to marriage, than his female counterpart, Caucasian students, and even native Japanese (Arkoff, Meredith, and Iwahara, 1964). Meredith (1966) found that the Sansei males were more inhibited than females as well as more extreme on the introversion dimension. While the present research did not measure personality correlates per se, the studies just cited tend to suggest a sex difference for interaction distance, with the Hawaii-Japanese Sansei male maintaining distances more similar to Native Japanese than would the Sansei female. Further, evidence seemed to indicate that the Sansei female would more closely resemble her Caucasian sister as the rate of acculturation appears to be higher for females than males (Arkoff, Meredith and Iwahara, 1962; Caudill, 1952; DeVos, 1955; Fisher and Cleveland, 1958; Kitano, 1962). One possible contaminating factor is the effect of peer influence which, in Hawaii, is relatively
strong for the Japanese segment of the society. However, the subjects in the studies quoted were subjected to this influence and sex differences were noted.

In summary, then, in the comparison of interaction distances it would seem that those of Hawaii-Japanese Sansei males would correlate moderately with the native Japanese males whereas the Sansei female would attain a lower correlation with respect to native Japanese females.

The third area of interest was the perception of the Hawaii Japanese as to the relative shaping force of traditional Japanese influence versus that of the American Caucasian. Kilpatrick and Cantril (1960) state, "What is perceived is inseparable from the perceiver; perception may be characterized as ongoing extrapolation of the past of the organism as related to sensory excitations (p. 158)." Skim and Dole (1965), in studying the components of expressed social distance, comparing Sansei students with their parents, found a significant difference in four variables including 'National-ethnic origin'. This difference was also noted in the comparison between Nisei students and their parents. The authors raised questions on the representativeness of the sample which would limit the extent of generalizing from the results, but it was noted that the overall difference on sixteen stimulus persons was significantly different for the samples measured. Since these students were drawn from the university population it is
to be assumed that expressed social distances would, in part, be a function of the educational experience; however, since cultural influence, of which education is only one facet, has been shown to have a strong effect upon shaping the behavior of the individual, the question of the actual distance maintained in social situations is still unanswered empirically. Due to the pervasiveness of the social (cultural) schemata (Kuethe, 1964), it was anticipated that their influence would exert a strong shaping effect; therefore in the present study of interactional distance, a comparison was made between the perceived cultural influence and demonstrated cultural influence as measured by the free placement technique.

Summary

This survey began with a question as to the meaning of the distance maintained in a counseling intake interview between a client and counselor who were from different cultures. It was asserted that nonverbal communication was part of their interaction and that ambiguity would exist unless they were able to 'read' the meaning of such 'silent language'. Noting the concept of territoriality and its development, first in animal behavior and then subsequently its application to human behavior, the focus has been on interactional distance as one aspect of territoriality, one way to begin to identify order, first within
a given culture, then crossculturally.

In the research to date only Western European peoples had been studied on this dimension and this investigation was undertaken to expand our understanding to include those from Oriental cultures, in this instance, the Japanese. It was anticipated that the results obtained would be consistent with earlier findings on the reliability of interaction distances within a given culture. It was maintained that this cultural consistency provides a common behavioral morphology which facilitates social behavior within that culture.

Native Japanese, Hawaii Japanese, and American Caucasians were used as subjects to investigate interaction distances as a function of culture, sex, relationship, and conversational content. Basically, the central focus was to map out patterns of behavior within these three groups. Once these basic programs have been explicated several applications seem possible. In the fields of counseling and teaching, knowledge of these basic patterns could be utilized to alter deviancy through a process of relearning. Whether in group counseling or a classroom situation those who are deviant need to learn appropriate cultural norms or rather know how to utilize them for more effective communication as well as to increase their social effectiveness.

The most important aspect of interaction distance,
as stated by Hall, is that it sets the stage for the type of activity that can occur within a given distance. Further, Watzlawick, et al (1967), using the computer in an analogy of human communication, offer the concept of analogic messages to represent nonverbal communication. These analogic messages are "invocations of relationship", that is, they are proposals regarding the nature of the interaction. Thus, once interactional distances, or other nonverbal modalities, have been mapped out for a particular cultural group, knowledge of these analogic messages can then be utilized in therapeutic encounters as well as in teacher-student relationships to help promote behavioral change. In a family where one member is considered a 'problem child', one possible therapeutic approach would be to establish baseline data on the distances that are maintained between this target member and other persons in the family. It would be anticipated that these distances would be other than the personal and intimate distances (Hall, 1959) that a healthy family has for all of its members. It would be predicted that in manipulating existing distances the nature and outcome of the interaction within the family could be altered in the direction of therapeutic change, for the entire family and not only the target person.
Before research can proceed in this direction there is a need to establish baseline data from which hypotheses can be generated. The present study attempts to be that first step for those within the Japanese culture.
Statement of Hypotheses

Hypothesis 1: Native Japanese will have larger interactional distances when compared with the Hawaii Japanese.

Hypothesis 2: The Hawaii Japanese will have greater interactional distances when compared with the American Caucasians.

Hypothesis 3: Males and females among the Native Japanese and American Caucasians will not differ on interactional distances.

Hypothesis 4: Hawaii Japanese males will have greater interaction distances than the Hawaii Japanese females.

Hypothesis 5: Interactional distances will not differ on conversational content.

Hypothesis 6: Interactional distances will differ as a function of relationship: student to father, student to professor, and student to friend.

Hypothesis 7: Native Japanese and Hawaii Japanese will have the following order of increasing distances across relationships: (1) friend, (2) father, and (3) professor.

Hypothesis 8: Caucasian males and females will not differ on interactional distances between father with student and professor with student.
Hypothesis 9: Caucasians will demonstrate greater distances between student with father and student with professor compared to student with friend.

Hypothesis 10: Hawaii Japanese males will differ from females on perceived cultural influence as measured by the "Perceived Cultural Influence Scale", a modification of the Kilpatrick Self-Anchoring Scale.

Hypothesis 11: Caucasian males will not differ from females on perceived cultural influence.

Hypothesis 12: Hawaii Japanese will differ from the Caucasian Americans on the Perceived Cultural Influence Scale.
CHAPTER II

METHOD

Subjects

The subjects (Ss) were from three cultural groups: (1) native born Japanese (NJ) who had come to Hawaii for educational purposes, (2) Japanese (HJ) who were born and reared in Hawaii, and (3) Caucasians (C). Each cultural group was composed of males and females.

The NJ Ss were volunteers from three sources: (1) the University of Hawaii, (2) the Hawaiian Mission Academy, a private school operated by the Seventh-Day Adventist Church, and (3) the Honpa Hongwanji Mission School which is sponsored by the Honpa Hongwanji Temple of Honolulu. The Ss from the latter two sources were taking instruction in English because their level of proficiency did not meet the level required for entrance into other educational institutions (only 5 Ss were recruited from the University of Hawaii). In selecting Ss from these sources it was hypothesized that their average length of time in Hawaii would be minimal and thereby having less effect on the cultural dimension of this study. In this cultural group the males (N=32) had a mean age of 21.68 years and had been in Hawaii an
average of 9.47 months. The females (N=24) had a mean age of 22.13 years and had been in Hawaii an average of 25.67 months.

The RJs were recruited from two classes in a basic course in Educational Psychology and three classes in a general survey course in the Psychology Department. The psychology students were required to participate in experiments during the semester, but had the option of declining to participate in this study. The Ss from Educational Psychology were volunteers, they were not required to participate in experiments as part of the course requirements. The male Ss (N=26) had a mean age of 21.46 years and all but three had lived in the State of Hawaii throughout their lives. The female Ss had a mean age of 19.82 years and all but two had lived their entire lives within the State of Hawaii.

The C Ss were also recruited from the same classes mentioned above, under the same conditions. The male Ss had a mean age of 22.23 years and had been in Hawaii an average of 55.04 months. Only two males had been residents of Hawaii all their lives. The female Ss had a mean age of 22.84 years and had been in Hawaii an average of 30.08 months. None of the females were born in Hawaii and only one S had resided here longer than 7 years.
Materials

The experiment was designed to accommodate either individual or group testing, with most of the Ss responding under the group condition. Fisher (1967), using an adaptation of Kuethe's Felt Figure technique, found a significant correlation of results between subjects tested individually and in groups.

A booklet of seven pages (18" x 24") of coarse white paper was prepared. Page one gave the "General Instructions for the Experiment" (see Appendix A, Page 84). Pages two through seven were blank and were to serve as backgrounds for the six scenes of interaction which were to be completed in sequence, according to instructional sets.

Six pairs of figures were constructed (father figure with male student, father figure with female student, male professor with male student, male professor with female student, male student with male friend, and female student with female friend). The female figures were 5½" in height and the male figures were 5 3/4" high. All figures were full length silhouettes, erect in posture, constructed so that each pair would most logically be placed face-to-face, only one side of each silhouette was blackened. See Appendix E, Pages 117 - 120.
A dispenser of clear scotch tape was provided for each S so that the pairs of figures could be secured on pages two through seven in the booklet.

**Instructional sets**

Six structured situations were typed on sheets of paper 8½" x 11". (See Appendix A, pages 85 through 90.) Basically, each S was asked to imagine the scene presented by the instructional set, place and secure the figures provided and then complete a three question form for each scene telling how the interactants were feeling and how the conversation ended.

All general instructions and instructional sets were translated into Japanese for the NJ group. These materials were then back translated into English by another translator. See Appendix A.

**Procedure**

All but three Ss were tested in a group setting and the following procedure was followed for both types of administration. The booklets and the tape dispensers were distributed and the Ss were told to read the general instructions contained on page one of the booklet. In essence, the Ss were told that we were interested in the level of affect of the characters and the outcome of
each interaction, (see Appendix A, page 83). The Ss were then instructed to turn to page two and remove the envelope which had been taped to that page. The envelope contained the instructional set and two appropriate figures for the scene to be imagined. (The order of presentation was counter-balanced by randomly selecting a 6 x 6 table of random numbers from Fisher and Yates (1955), following which the rows, columns, and numbers were permuted according to Myers (1967), (see Appendix B, page 106).)

After each S had secured the figures he was instructed to complete the three open-ended questions which were included on the same page as the instructional set. Brevity of response was stressed, (see Appendix A; page 83). After each S had completed all six scenes he was asked to complete a personal data form (see Appendix D, page 109). One additional measure was required from the Hawaii Japanese and Caucasian Ss who were asked to complete a "Perceived Cultural Influence Scale" which was a modification of the Kilpatrick Self-anchoring Scale (see Appendix C, page 107). This measure was taken after the booklet had been completed and before the S responded to the personal data form.

When these procedures had been completed the interaction distance between figures on each scene was
measured in twelfths of an inch, from nose to nose between the two figures. Little (1965) found one-twelfth of an inch to approximate one inch of actual interaction distance in live settings. Little (1968) discovered that angle of placement was not a significant factor in the free response placement of figures, therefore that factor was not considered for this research.

Design and analysis

Analysis of variance was performed for the distances between the figure placements by culture (Native Japanese, Hawaii Japanese, and Caucasian), relationship (student with father, male professor with student, and student with same-sex friend), conversational content (discussion about academic progress and discussion about a current event, unspecified), and by sex.

The model used was the 2 Within - 2 Between analysis of variance with independent measures on culture and sex, the two fixed factors, and repeated measures on degree of relationship and conversational content. Lindquist's Type VI extension was the model utilized (Lindquist, 1957). See Table 1, page 35. This design was a 2 (Conversational content) x 3 (Relationship) x 3 (Culture) x 2 (Sex) paradigm.
From the results of the Perceived Cultural Influence Scale, a modification of the Kilpatrick Self-Anchoring Scale, a correlation coefficient was computed for the Hawaii Japanese and the Caucasian Ss.

The .05 level of significance was chosen as the basis for accepting or rejecting the hypotheses in this research.
### TABLE 1
Analysis of Variance, 2 Within - 2 Between Design

<table>
<thead>
<tr>
<th></th>
<th>B₁</th>
<th>B₂</th>
<th>B₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>C₁</td>
<td>D₁</td>
<td>A₁</td>
<td>A₂</td>
</tr>
<tr>
<td></td>
<td>D₂</td>
<td>A₁</td>
<td>A₂</td>
</tr>
<tr>
<td>C₂</td>
<td>D₁</td>
<td>A₁</td>
<td>A₂</td>
</tr>
<tr>
<td></td>
<td>D₂</td>
<td>A₁</td>
<td>A₂</td>
</tr>
<tr>
<td>C₃</td>
<td>D₁</td>
<td>A₁</td>
<td>A₂</td>
</tr>
<tr>
<td></td>
<td>D₂</td>
<td>A₁</td>
<td>A₂</td>
</tr>
</tbody>
</table>

Variables:

A - Conversational Content
- 1 - academic progress
- 2 - a current event

B - Relationship
- 1 - S with father
- 2 - S with male professor
- 3 - S with same sex friend

C - Culture
- 1 - Native Japanese
- 2 - Hawaii Japanese
- 3 - American Caucasian

D - Sex
- 1 - male
- 2 - female
CHAPTER III

RESULTS

In the present study four variables were used in order to establish baseline data for patterns of interaction distances. From previous studies (Little, 1965, 1968) data were obtained on peoples from Western European cultures, but data were unavailable from the Oriental cultures. Therefore, Native Japanese (NJ) and Hawaii Japanese (HJ) were the primary focus of this research with Caucasians (C) utilized as the comparison group.

As previously noted, a 2 x 3 x 3 x 2 design, with repeated measures on the first two factors, was the primary method of analysis. Relationship and conversational content were the variables on which repeated measures were taken. Sex and culture were the two fixed factors. The means and standard deviations of the interaction distances are summarized in Table 2.

Between-Culture Differences

NJ had a mean of 29.34, HJ had a mean of 23.33, and C 24.16. From Table 3 an F of 6.29 is reported
Table 2

Summary of Means and Standard Deviations of Interaction Distances by Culture (3), Sex (2), Relationship (3), and Conversational Content (2).

<table>
<thead>
<tr>
<th></th>
<th>Native Japanese</th>
<th></th>
<th>Hawaii Japanese</th>
<th></th>
<th>American Caucasian</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male N=32</td>
<td>Female N=24</td>
<td>Total N=56</td>
<td>Male N=26</td>
<td>Female N=24</td>
<td>Total N=50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic X</td>
<td>27.5</td>
<td>28.7</td>
<td>28.0</td>
<td>24.0</td>
<td>23.8</td>
<td>23.9</td>
</tr>
<tr>
<td>Progress SD</td>
<td>12.6</td>
<td>15.9</td>
<td>14.2</td>
<td>9.4</td>
<td>11.4</td>
<td>10.4</td>
</tr>
<tr>
<td>Current X</td>
<td>32.8</td>
<td>28.5</td>
<td>30.6</td>
<td>24.2</td>
<td>25.4</td>
<td>24.8</td>
</tr>
<tr>
<td>Event SD</td>
<td>20.3</td>
<td>13.7</td>
<td>17.8</td>
<td>10.7</td>
<td>13.2</td>
<td>11.9</td>
</tr>
<tr>
<td>Academic X</td>
<td>32.3</td>
<td>33.1</td>
<td>32.6</td>
<td>22.7</td>
<td>30.8</td>
<td>26.6</td>
</tr>
<tr>
<td>Progress SD</td>
<td>16.1</td>
<td>12.4</td>
<td>14.6</td>
<td>8.3</td>
<td>13.3</td>
<td>11.7</td>
</tr>
<tr>
<td>Current X</td>
<td>33.4</td>
<td>35.4</td>
<td>34.2</td>
<td>22.0</td>
<td>25.1</td>
<td>23.5</td>
</tr>
<tr>
<td>Event SD</td>
<td>19.7</td>
<td>10.6</td>
<td>16.4</td>
<td>7.6</td>
<td>9.6</td>
<td>8.8</td>
</tr>
<tr>
<td>Academic X</td>
<td>26.5</td>
<td>23.7</td>
<td>25.3</td>
<td>18.5</td>
<td>20.1</td>
<td>19.3</td>
</tr>
<tr>
<td>Progress SD</td>
<td>14.8</td>
<td>10.1</td>
<td>13.1</td>
<td>6.8</td>
<td>10.6</td>
<td>8.8</td>
</tr>
<tr>
<td>Current X</td>
<td>25.4</td>
<td>24.4</td>
<td>25.0</td>
<td>21.0</td>
<td>22.4</td>
<td>21.7</td>
</tr>
<tr>
<td>Event SD</td>
<td>14.4</td>
<td>8.3</td>
<td>12.2</td>
<td>9.7</td>
<td>12.6</td>
<td>11.2</td>
</tr>
</tbody>
</table>

~
Table 3

Analysis of Variance on Culture, Sex, Relationship, and Conversational Content

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>df</th>
<th>Mean Squares</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Between Subjects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Culture (C)</td>
<td>2</td>
<td>3409.25</td>
<td>6.29</td>
<td>.01</td>
</tr>
<tr>
<td>Sex (D)</td>
<td>1</td>
<td>54.75</td>
<td>0.10</td>
<td></td>
</tr>
<tr>
<td>C x D</td>
<td>2</td>
<td>243.81</td>
<td>0.45</td>
<td></td>
</tr>
<tr>
<td>Error (between)</td>
<td>149</td>
<td>541.43</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Within Subjects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Content (A)</td>
<td>1</td>
<td>3.62</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>A x C</td>
<td>2</td>
<td>205.53</td>
<td>1.79</td>
<td></td>
</tr>
<tr>
<td>A x D</td>
<td>1</td>
<td>12.31</td>
<td>0.10</td>
<td></td>
</tr>
<tr>
<td>A x C x D</td>
<td>2</td>
<td>28.56</td>
<td>0.24</td>
<td></td>
</tr>
<tr>
<td>A x S (W)</td>
<td>149</td>
<td>114.56</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Relationship (B)</td>
<td>2</td>
<td>3699.87</td>
<td>23.00</td>
<td>.01</td>
</tr>
<tr>
<td>B x C</td>
<td>4</td>
<td>267.00</td>
<td>1.66</td>
<td></td>
</tr>
<tr>
<td>B x D</td>
<td>2</td>
<td>292.84</td>
<td>1.82</td>
<td></td>
</tr>
<tr>
<td>B x C x D</td>
<td>4</td>
<td>108.00</td>
<td>0.67</td>
<td></td>
</tr>
<tr>
<td>B x S (W)</td>
<td>298</td>
<td>160.79</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>A x B</td>
<td>2</td>
<td>133.71</td>
<td>1.40</td>
<td></td>
</tr>
<tr>
<td>A x B x C</td>
<td>4</td>
<td>99.78</td>
<td>1.05</td>
<td></td>
</tr>
<tr>
<td>A x B x D</td>
<td>2</td>
<td>77.68</td>
<td>0.81</td>
<td></td>
</tr>
<tr>
<td>A x B x C x D</td>
<td>4</td>
<td>66.03</td>
<td>0.69</td>
<td></td>
</tr>
<tr>
<td>AB x S (W)</td>
<td>298</td>
<td>94.98</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Error (Within)</td>
<td>745</td>
<td>125.22</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>929</td>
<td>207.07</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
and with df=2, this is significant beyond the .01 level. Using the Newman-Keuls range of means test it was noted that the variance was primarily accounted for by the HJ-NJ and C-NJ differences.

Hypothesis 1: Native Japanese will have larger interactional distances when compared with the Hawaii Japanese.

The NJ mean was 29.34 and HJ was 23.33. From Table 4, the Newman-Keuls range test confirms a significant difference (.01 level) in the predicted direction, therefore this hypothesis was accepted.

Hypothesis 2: The Hawaii Japanese will have greater interactional distances when compared with the American Caucasians.

The means were 23.33 and 24.16, respectively. These mean scores were opposite from the predicted direction; therefore this hypothesis was not supported.

Within-Culture Differences

Hypothesis 3: Males and females among the Native Japanese and American Caucasians will not differ on interactional distances.

In the NJ group, interactional distances were not
Table 4

Newman-Keuls Range Test of Mean

Interaction Distances Across Three Cultural Groups

<table>
<thead>
<tr>
<th></th>
<th>Hawaii Japanese</th>
<th>American Caucasian</th>
<th>Native Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>23.33</td>
<td>24.16</td>
<td>29.34</td>
</tr>
</tbody>
</table>

** .01 significance level
significantly different across sex. The male mean was 29.59 and the female mean 29.00. With df=54, $t$ was .07. In Table 5 the means and $t$ tests of mean differences are listed for the six interactions, none approached significance. Hypothesis 3, no differences between sexes, was supported for the NJ sample.

The C males had a mean of 23.84 and the females 24.47. With df=49, $t$ was .09. This result also supported the hypothesis of no differences across sex. See Table 6 for the summary of means and $t$ tests for this group.

Hypothesis 4: Hawaii Japanese males will have greater interaction distances than the Hawaii Japanese females.

The means for the HJ males and females were 22.11 and 24.65, respectively. With df=48, $t$ was .37 which was not significant, therefore this hypothesis was rejected.

Of the six differences, the mean distance of the males surpassed the mean of the females on only the first interaction, student with father discussing the student's academic progress. This difference was not significant. For the other five interactions the mean differences were opposite from the predicted direction. The only major difference was on the interaction between student with professor discussing the academic
Table 5
Summary of t Tests of Mean
Interaction Distances of Native Japanese (N=56)

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Content</th>
<th>Mean (Males)</th>
<th>Mean (Females)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student with Father</td>
<td>Academic Progress</td>
<td>27.53</td>
<td>28.79</td>
<td>.33 NS</td>
</tr>
<tr>
<td></td>
<td>Current Event</td>
<td>32.28</td>
<td>28.50</td>
<td>.73 NS</td>
</tr>
<tr>
<td>Student with Professor</td>
<td>Academic Progress</td>
<td>32.34</td>
<td>33.17</td>
<td>.21 NS</td>
</tr>
<tr>
<td></td>
<td>Current Event</td>
<td>33.43</td>
<td>35.42</td>
<td>.45 NS</td>
</tr>
<tr>
<td>Student with Friend</td>
<td>Academic Progress</td>
<td>26.50</td>
<td>23.71</td>
<td>.79 NS</td>
</tr>
<tr>
<td></td>
<td>Current Event</td>
<td>25.44</td>
<td>24.42</td>
<td>.31 NS</td>
</tr>
<tr>
<td>Collapsed on Relationship and Content</td>
<td></td>
<td>29.59</td>
<td>29.00</td>
<td>.07 NS</td>
</tr>
</tbody>
</table>
Table 6
Summary of t Tests of Mean Interaction Distances of American Caucasian (N=49)

<table>
<thead>
<tr>
<th>Relationship with</th>
<th>Content</th>
<th>Mean (Males)</th>
<th>Mean (Females)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student with Father</td>
<td>Academic Progress</td>
<td>26.54</td>
<td>29.04</td>
<td>.46 NS</td>
</tr>
<tr>
<td></td>
<td>Current Event</td>
<td>24.71</td>
<td>28.12</td>
<td>.72 NS</td>
</tr>
<tr>
<td>Student with Professor</td>
<td>Academic Progress</td>
<td>26.54</td>
<td>29.08</td>
<td>.52 NS</td>
</tr>
<tr>
<td></td>
<td>Current Event</td>
<td>23.38</td>
<td>24.64</td>
<td>.30 NS</td>
</tr>
<tr>
<td>Student with Friend</td>
<td>Academic Progress</td>
<td>22.25</td>
<td>17.32</td>
<td>1.40 NS</td>
</tr>
<tr>
<td></td>
<td>Current Event</td>
<td>19.63</td>
<td>18.64</td>
<td>.34 NS</td>
</tr>
<tr>
<td>Collapsed on Relationship and Content</td>
<td></td>
<td>23.84</td>
<td>24.47</td>
<td>.09 NS</td>
</tr>
</tbody>
</table>
progress of the student. The male mean was 22.73 and the female was 30.83. This was significant, in the opposite direction, at the .05 level with df=48. See Table 7 for a summary of the mean distances and t tests.

**Conversational Content Differences**

Hypothesis 5: Interactional distances will not differ on conversational content.

The mean for 'Academic Progress' was 25.83 and the mean for 'Current Event' was 25.70. From Table 3, an F of .03 is noted and with df=1, this ratio was not significant. Further, no interaction effects reached significance. Hypothesis 5 was accepted.

**Relationship Differences**

Hypothesis 6: Interactional distances will differ as a function of relationship: student to father, student to professor, and student to friend.

From Table 3 it is noted that this variable obtained an F of 23.00 with df=2. This result was significant well beyond the .01 level of significance. The observed mean interaction distances were (1) student with father - 27.06, (2) student with professor - 28.38, and (3) student with friend - 21.85. Using the Newman-Keuls Range
### Table 7

Summary of t Tests of Mean Interaction Distances of Hawaii Japanese (N=50)

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Content</th>
<th>Mean (Males)</th>
<th>Mean (Females)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student with Father</td>
<td>Academic</td>
<td>24.08</td>
<td>23.88</td>
<td>.07  NS</td>
</tr>
<tr>
<td></td>
<td>Progress</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Current Event</td>
<td>24.23</td>
<td>25.46</td>
<td>.36  NS</td>
</tr>
<tr>
<td>Student with Professor</td>
<td>Academic</td>
<td>22.73</td>
<td>30.83</td>
<td>2.54 *</td>
</tr>
<tr>
<td></td>
<td>Progress</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Current Event</td>
<td>22.04</td>
<td>25.13</td>
<td>1.23  NS</td>
</tr>
<tr>
<td>Student with Friend</td>
<td>Academic</td>
<td>18.50</td>
<td>20.17</td>
<td>.66  NS</td>
</tr>
<tr>
<td></td>
<td>Progress</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Current Event</td>
<td>21.08</td>
<td>22.46</td>
<td>.43  NS</td>
</tr>
<tr>
<td>Collapsed on</td>
<td></td>
<td>22.11</td>
<td>24.65</td>
<td>.37  NS</td>
</tr>
<tr>
<td>Relationship and</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Content</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* .05 level of significance, in the opposite direction
Test, student with father and student with professor relationships were found to contribute significantly to the variance. These results were significant at the .01 level. See Table 8.

Hypothesis 7: Native Japanese and Hawaii Japanese will have the following order of increasing distances across relationships: (1) friend, (2) father, and (3) professor.

For the Native Japanese the mean distances were: (1) friend - 25.15, (2) father - 29.37, and (3) professor - 33.49. For the Hawaii Japanese the mean distances were: (1) friend - 20.52, (2) father - 24.40, and (3) professor - 25.07. These data were in support of Hypothesis 7, therefore it was accepted.

Hypothesis 8: Caucasian males and females will not differ on interactional distance between father with student and professor with student.

While the mean distances were larger for the females, across the student with father and student with professor relationships and two content levels, none reached significance (see Table 6). Therefore, Hypothesis 8 was accepted.

Hypothesis 9: Caucasians will demonstrate greater distances between student with father and student with professor compared to student with friend.
Table 8
Newman-Keuls Range Test of Mean Interaction Distances Across Three Relationships

<table>
<thead>
<tr>
<th></th>
<th>Friend</th>
<th>Father</th>
<th>Professor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friend</td>
<td>21.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father</td>
<td></td>
<td>27.06</td>
<td></td>
</tr>
<tr>
<td>Professor</td>
<td></td>
<td></td>
<td>28.38</td>
</tr>
</tbody>
</table>

** 5.21** 6.53

21.85 27.06 28.38

** 5.21** 6.53

Father 27.06 1.32

Professor 28.38

** 6.53**

** 1.32

** 6.53**

** 1.32

** 6.53**

** 1.32

** .01 significance level
From Table 9 it is noted that all predicted differences were significant beyond the .01 level. Therefore, Hypothesis 9 was supported.

**Perceived Cultural Influence**

While interaction distance was the primary focus of this study, a secondary area of interest was the perception of the Hawaii Japanese and American Caucasian Ss as to their evaluation of the cultural influence upon their lives. To measure this dimension a scale with ten intervals was designed in an attempt to measure differences in perception of cultural influence. The instrument used was an adaptation of the Kilpatrick Self-Anchor Scale. Essentially, the top and bottom ends of the continuum were supplied and identified as "Traditional Japanese Cultural Influence", #10, and "American Caucasian Cultural Influence", #0. No additional guidelines were provided for the Ss who were to indicate where they felt they would most appropriately be placed.

Hypothesis 10: Hawaii Japanese males will differ from females on perceived cultural influence as measured by the "Perceived Cultural Influence Scale", a modification of the Kilpatrick Self-Anchor Scale.
Table 9
Summary of \( t \) Tests on Mean Interaction Distances, of American Caucasians (N=49), by Relationships (3) and Conversational Contents (2).

<table>
<thead>
<tr>
<th>Content</th>
<th>Relationship</th>
<th>( \bar{X} )</th>
<th>( t )</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACADEMIC</td>
<td>Student with Father</td>
<td>27.816</td>
<td>2.833**</td>
</tr>
<tr>
<td>PROGRESS</td>
<td>Student with Friend</td>
<td>19.734</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Student with Professor</td>
<td>27.836</td>
<td>3.028**</td>
</tr>
<tr>
<td></td>
<td>Student with Friend</td>
<td>19.734</td>
<td></td>
</tr>
<tr>
<td>CURRENT</td>
<td>Student with Father</td>
<td>26.448</td>
<td>3.036**</td>
</tr>
<tr>
<td>EVENT</td>
<td>Student with Friend</td>
<td>19.122</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Student with Professor</td>
<td>24.020</td>
<td>2.47*</td>
</tr>
<tr>
<td></td>
<td>Student with Friend</td>
<td>19.122</td>
<td></td>
</tr>
</tbody>
</table>

* significant beyond .01 level
** significant beyond .005 level
When comparing the Hawaii Japanese males with females it was found that the males had a mean of 4.5 and the females 5.17. With df=48, the $t$ of 1.26 was not significant (see Table 10). Therefore, Hypothesis 10 was rejected.

Hypothesis 11: Caucasian males will not differ from females on perceived cultural influence.

For the American Caucasian sample, the males had a mean of 2.71, and the females 1.24. With df=47, the $t$ of 2.67 indicated a significant difference (see Table 10). This hypothesis was rejected.

Hypothesis 12: Hawaii Japanese will differ from the American Caucasians on the Perceived Cultural Influence Scale.

The HJ had a mean of 4.82 and C had a mean of 1.96, with df=97, the $t$ of 3.85 was significant at the .01 level (see Table 10). Hypothesis 12 was therefore accepted.

One final analysis was made on the results of the Perceived Cultural Influence Scale. Correlations were computed for interaction distances and PCIS Scale.
Table 10
Summary of $t$ Tests of Mean Differences on the Perceived Cultural Influence Scale for Hawaii Japanese and American Caucasians.

<table>
<thead>
<tr>
<th>GROUP</th>
<th>MALE</th>
<th>FEMALE</th>
<th>df</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Caucasians</td>
<td>2.71</td>
<td>1.24</td>
<td>47</td>
<td>2.67*</td>
</tr>
<tr>
<td>Hawaii Japanese</td>
<td>4.50</td>
<td>5.17</td>
<td>48</td>
<td>1.26 NS</td>
</tr>
</tbody>
</table>

$* .05$ level of significance.
$** .01$ level of significance.
These data are reported in Table 11. Only two correlations were significant, Hawaii Japanese males on the student-professor interaction where the topic was a current event, and American Caucasian females on the student-professor interaction where academic progress was the conversational content. When considering all the correlations in this table it would appear that the two significant correlations were spurious and further, that the perceived cultural influence scores did not correlate with the interactions measured by the projective instrument utilized in this research.
Table 11
Correlations Between Perceived Cultural Influence and Interaction Distances for Hawaii Japanese and American Caucasians

<table>
<thead>
<tr>
<th></th>
<th>Hawaii Japanese (Male)</th>
<th>Hawaii Japanese (Female)</th>
<th>American Caucasian (Male)</th>
<th>American Caucasian (Female)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N</strong></td>
<td>26</td>
<td>24</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td><strong>X</strong></td>
<td>4.5</td>
<td>5.2</td>
<td>2.7</td>
<td>1.2</td>
</tr>
<tr>
<td><strong>Father</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic</td>
<td>- .34</td>
<td>.15</td>
<td>-.11</td>
<td>.30</td>
</tr>
<tr>
<td>Progress</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current</td>
<td>-.07</td>
<td>-.13</td>
<td>-.19</td>
<td>.01</td>
</tr>
<tr>
<td>Event</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Professor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic</td>
<td>- .24</td>
<td>.01</td>
<td>-.17</td>
<td>-.39*</td>
</tr>
<tr>
<td>Progress</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current</td>
<td>-.39*</td>
<td>-.03</td>
<td>-.18</td>
<td>-.23</td>
</tr>
<tr>
<td>Event</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Friend</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic</td>
<td>-.02</td>
<td>.02</td>
<td>-.05</td>
<td>-.32</td>
</tr>
<tr>
<td>Progress</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current</td>
<td>-.28</td>
<td>.04</td>
<td>-.13</td>
<td>-.03</td>
</tr>
<tr>
<td>Event</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* .05 level of significance.
CHAPTER IV

Discussion

The investigation of patterns is the very essence of the scientific endeavor (Watzlawick, et al., 1967), and in this study the primary purpose was to map out patterns of interaction distance within three cultural groups: native Japanese, Hawaii Japanese, and American Caucasians. E. T. Hall (1955, 1959, 1963, 1966) researched communication systems and delineated ten primary message systems, or patterns, which are found in any culture. Of the nine nonverbal systems, man's use of space, territoriality, was considered one way that man utilizes to communicate. Lyman and Scott (1957), noting the lack of research on territoriality, suggested that this was one approach to an increased understanding of man and his behavior.

In this research the focus was limited to man's use of interpersonal space, the distance that he maintains between himself and other people. Interaction distance was investigated with respect to conversational content, sex, culture of the interactants, and the nature of the relationship between dyads in communication.
Hall (1963) classified interaction distances, within the American culture, into four categories of relationship: intimate, personal, social, and public. The categories had the following dimensions, respectively: 0 - 18", 18" - 48", 48" - 144" and beyond 144". Hall stated that these distances prescribed the activities that could occur within each category. Further, each spatial unit defined the relationship that would be expressed within its boundaries, i.e., intimacy requires a limited interactional distance.

The present study anticipated common patterns within cultural units, based on previous research (Kuethe, 1962; Little, 1965). As Weinstein (1967) postulated, "similar patterns of interpersonal experience lead to similar schemata which, in turn, lead to similar behavior (p. 429)." Further, it was hypothesized that interaction distances would vary depending on the relationship between dyads (Weinstein, 1965, 1967; Fisher, 1967; Gottheil, et al, 1968; Little, 1968). As noted by Fisher (1967), disturbed children exhibited greater distances than normals which was indicative of the 'distant' relationships that characterized their interactions with people within their homes.

The results of the present study demonstrated that interaction between friends was significantly
different from the distances which characterized the relationships with fathers and professors. These results were consistent across the three cultural groups. Relationship was found to be a robust determinant of interactional distance, and of the four variables tested, relationship was the most powerful ($p$ was well beyond the .01 level of significance). The strength of this determinant gives much support to reported clinical experience on the importance of the relationship between patient and therapist (Traux, Carkhuff, & Douds, 1964; Traux, 1964; Patterson, 1966; Rogers, 1961). As these authors have stated, relationship is one of the most potent variables in the therapeutic endeavor. From the data of the present research, it would seem that distance not only confirms the meaning of the established relationship between dyads, but it would also suggest that distance may be one way in which an invocation to relationship can be expressed. This is in agreement with the position of Watzlawick, et al, (1967) who asserts that interpersonal distance is an invitation to a relationship. Distance, then, may be either a confirmation of the relationship that already exists, or distance can be an invitation for a present or future relationship. Distance defines the relationship.
While the research to date has concentrated on the identification of patterns of interaction, the stage of development is such that these patterns can now be used as independent variables in attempting to alter behavioral programs of patients in treatment, improve relations within a family, and to plan programs for the modification of inappropriate behavior of school children. In each of these settings it would be hypothesized that by altering the interaction distance, a new relationship could develop, leading to more positive outcomes for the interactants.

Culture

Scheflen (1968), commenting on theories of human development and behavior, stated, "Each organism, to become a person, must learn multiple units and integrations, many sequences and variations, numerous roles—each in relation to specific contexts. These matters he learns in a cultural tradition. . . (p. 52)." In the present research measures of perceived interactional distance were taken on native Japanese, Hawaii Japanese, and American Caucasians.

Earlier, research on these groups had indicated cultural differences. Caudill (1952) found that Japanese and Caucasian Americans shared a cultural value, the striving motif which characterizes the American middle
class. Arkoff, Meredith, & Iwahara (1962) found that the native Japanese and Caucasian Americans were not different on dominance vs. deference, yet when the Caucasians were compared with the Hawaii Japanese the former scored higher on dominance. DeVos (1954) found that the Nisei (second generation) were less constricted than the Issei (first generation Japanese). He also commented that the Nisei more closely resembled the Caucasians than the Issei. His results would seem to support a generation difference and perhaps the effects of acculturation. Fenz and Arkoff (1962) studied five ancestry groups in Hawaii, including Japanese and Caucasians, and saw evidence of a non-Caucasian-Caucasian dichotomy. The authors also commented that the data suggested an acculturation process for the Japanese. Earlier, Arkoff (1959), the need patterns of third generation Japanese were found to be more similar to the Caucasians than to the second generation Japanese. In 1964, Arkoff, Meredith, & Iwahara, on marriage role attitudes, found that while Caucasians did not differ across sex, the native Japanese and Hawaii Japanese had a different pattern with the males being more male-dominant and the females more equalitarian. Meredith (1964), found the Japanese Americans more introverted than the Caucasians.
Meredith (1966) found the Japanese to be more submissive, diffident, reserved, serious, socially more precise and more unpretentious than the Caucasian American male. He saw the Japanese males more passive and dependent, accentuating the introverted style akin to Horney's "moving away from others". The Japanese female also differed from her Caucasian counterpart by being more apprehensive, diffident, group dependent, and submissive. In general, more anxious.

On the basis of these data it would have been difficult to make hypotheses with respect to interaction distances across culture. Predictions could have been made on the basis of psycho-analytic theories, but that would have been highly tenuous. Shim and Dole (1965) did a study of expressed social distance and their results seem to offer a better basis for prediction. Using two different generations of Japanese and one from the Caucasian population, they found that the parents of each group expressed more social distance than did their off-springs. Further, Dent, et al, (1964) had found that the Japanese and Caucasian Americans did not differ on social distance when matched on sex, age, college and college year. These studies by Shim and Dole and Dent, et al, would seem to suggest that the Hawaii Japanese and
the American Caucasians would tend to be similar on interaction distance and that the Native Japanese would be dissimilar to both.

Little (1968) found nationality to be a significant determinant of distance even though the groups tested were all within the Western European tradition.

In the present study, culture was a significant determinant of interaction distance ($p$ less than .01 level of significance). Figure 5 illustrates the pattern of interaction across relationships by the three groups. While the Native Japanese and Hawaii Japanese had the same ordering of distances, the Hawaii Japanese exhibited a pattern that was more closely related to that of the Caucasian than to the Native Japanese. From Figure 6, it is readily seen that the Native Japanese have a profile of greater magnitude across all six interactions than the other two groups. Clearly, then, culture was found to be a strong determinant of interaction distance. The Native Japanese were significantly different from both the Hawaii Japanese and the American Caucasians.

While acculturation per se was not a variable in this study, it would seem that the Japanese in Hawaii have a different cultural pattern for interaction than
Fig. 5. Comparison of mean interaction distances, in twelfths of an inch, by culture (3) and relationship (3).
Fig. 6. Comparison of mean interaction distances, in twelfths of an inch, across six social interactions by three cultural groups.
the native Japanese, one that is very similar to that of the American Caucasian. Since, as Scheflen (1968) states, learning occurs in a cultural context it would seem that acculturation has occurred for the Hawaii Japanese. Meredith (1965), citing Reusch (1948, 1951), explains that acculturation is "a function of the number of cues and responses which an individual possesses in common with the dominant social group (p. 41)", and in Hawaii the once pre-dominant Japanese now find that the Caucasians occupy that place in the society. Thus, the similarity that was found in this research, namely, no difference between the Hawaii Japanese and the Caucasian, while both differed significantly from the native Japanese would seem to indicate a shared cultural norm for the Americans, Japanese and Caucasians.

Conversational Content

In the psycho-analytic tradition it has long been assumed that what a patient says is a significant part of the treatment procedure, and in clinical practice much time is devoted to analyzing the content that the patient brings to the interview. However, recent research suggests that a greater emphasis needs to be given to the nonverbal behavior of the people in

Little (1968), found relationship to be the most important determinant of interaction distance with content or affective tone ranked second. In his study the topics of conversation were designated 'pleasant', 'neutral', and 'unpleasant' to elicit affective discriminations.

In the present study instructional sets were also utilized to vary conversational content, but in contrast to Little's data no differences were found. For the content "Academic Progress" the mean was 25.83 and on "Current Event" the mean was 25.70. With df=1, the F was .03, which is clearly not significant, nor were there any interaction effects which approached significance.

In noting the differences in the results of Little's study and this research a question is raised with respect to the procedures of the former. Little instructed the Ss to place dolls, in a standing position, on newprint upon which he drew a circle around the base
when the S completed each scene. If this were done in the presence of the S it is quite likely that a response set would develop, thereby contaminating the results. Also, the instructional sets would tend to create a semantic differential rather than an affect discrimination. One other possible explanation is that the S in the present research perceived the two contents as either neutral or unpleasant. If this were true then this research was tapping the same affective tones which produced no differentiation in Little's study. However, from a cursory review of the responses to the three opened-ended questions that each S answered it would appear that they were responding not to the content, but rather to the relationship. Since these responses were not quantified, no definitive statistical statements can be made. Further research would be required to resolve this problem.

In considering the data conversational content was not a significant determinant of interactional distance. Since "counselor" or "therapist" were not included as stimulus persons in this research generalizing to them from the obtained data needs to be done with caution; However, it would appear that in the therapeutic interview content may very well play a less
significant role and is assumed to be subservient to the more important aspect of the relationship between the interactants.

Sex

In the present study it was hypothesized that sex would not be a significant determinant of interaction distance. Females had a larger mean (26.02) than the males (25.53), but this was not significant. This result was consistent with Little (1968) who found no differences across sex for the five groups sampled, all of which were of the Western European tradition.

Within the native Japanese and American Caucasian groups no significant sex differences were noted (see Figures 7 and 8). Within the Hawaii Japanese the females had slightly larger distances than the males on the father and friend relationships, but on the professor relationship the difference was more pronounced (see Figure 9). Little (1968) found that females perceived greater interaction distances with authority figures than did the males. The only exception to that in the present study was the reversal on father by the Native Japanese females, but this difference was not significant (see Figure 7).
Fig. 7. Comparison of mean interaction distances, in twelfths of an inch, of Native Japanese males and females.
Fig. 8. Comparison of mean interaction distances, in twelfths of an inch, of American Caucasian males and females.
Fig. 9. Comparison of mean interaction distances, in twelfths of an inch, of Hawaii Japanese males and females.
Within the Hawaii Japanese sample a difference in distance had been predicted with males having the greater distances. Although Dent et al (1964) had found no differences across sex on expressed social distance, other researchers suggested a more rapid rate of acculturation for the females which would imply a lesser interaction distance, closer to the C than NJ. In addition, Meredith (1964, 1966) found that Hawaii Japanese males were more introverted which would further reinforce the assumption that HJ males would maintain a greater distance in interpersonal relationships. This assumption would be compatible with Horney's concept of "moving away from others". A recent study (Meredith, 1969), maintains that "... oriental males have moved rapidly toward an American 'masculine' orientation, despite a lag in certain traits of personality (p. 155)." Looking at the HJ males in the present study it would appear that Meredith's observations are accurate as seen by the similarity in Figure 10. It should also be noted that the Hawaii Japanese exhibit lesser distances than the Caucasian males and significantly smaller distances than the Native Japanese males. Meredith (1964, 1966), presents Doi's concept of amae as an interesting possible explanation for the difference
Fig. 10. Comparison of mean interaction distances, in twelfths of an inch, of males by Culture (3) and Relationship (3).
of the Hawaii Japanese males. According to Doi (1962), *amae* is akin to a strong dependency need. In considering interactional distance this concept has possibilities for explaining the closer distances of the HJ male. The common expression of "clinging to someone" would characterize a person with strong dependency needs. This would certainly require a close interactional distance. This possibility will require further exploration and research to be substantiated.

**Perceived Cultural Influence**

The final area of interest was an examination of the relative strength of the cultural influence as perceived by the Hawaii Japanese and the American Caucasian. As predicted the Japanese felt more strongly influenced by "Traditional Japanese Culture" than "American Caucasian Culture". Also, there were no significant differences between sexes of the Hawaii Japanese on perception of cultural influence.

Within the American Caucasians there was a sex difference with the males having a higher mean (2.71) than the females (1.24). With df=47, the *t* of 2.67 was significant at the .05 level. This difference may have been the result of the different length of time that the
Ss had spent in Hawaii. The males averaged 55.04 months, while the females averaged 30.08 months.

One final analysis was performed on the data on perceived cultural influence, correlation coefficients were computed for interaction distances and perceived cultural influence. From Table 11 it was noted that only two such correlations were significant and they were most likely spurious. Although additional research needs to be done on this problem before definitive statements or generalizations can be made, one speculation is that what was being measured was the myth of cultural difference. Scheflen (1968), states that when a subject is asked to comment on his behavior "What he reports are feelings about behavior or idiosyncratic or cultural myths about behavior (p. 44)." It is assumed that this applied to the groups sampled on perceived cultural influence in this research.
CHAPTER V

SUMMARY

Within cultural groups there are various channels and levels on which communication can occur, of these, nonverbal behavior had been largely neglected by the social and behavioral scientists. The present research concentrated on one facet of territoriality, namely, interaction distance, a nonverbal form of communication.

This study was predicated on the assumption that communication, in this instance, nonverbal, has standard forms for expression within a shared culture wherein the members have learned to recognize and interpret these forms because of their recurrence within that culture. Because of the redundancy of these cultural forms the pattern of behavior is predictable for those who understand the shared 'meaning'. The goal, then, of this research was to explicate crosscultural behavior patterns of interaction distance, to elicit common cultural responses.

Previous research on interaction distance had found differences as a function of nationality. Of the groups tested, all were part of Western European culture, broadly defined, but data were lacking for people of
Oriental traditions. Therefore, the focus of this study centered on Native Japanese and Hawaii Japanese, with American Caucasians serving as the comparison group.

A projective technique was developed for this study to elicit the schemata held by each of the three cultural groups. Previous research had indicated that the sensitivity of this type of instrument produced results which correlated significantly with measurement of live interactions.

Previous studies had found differences on interaction distances which lead to the generation of the following hypotheses:

1. Hypotheses related to Between-Culture differences:
   1. Native Japanese will have larger interactional distances when compared with the Hawaii Japanese.
   2. The Hawaii Japanese will have greater interactional distances when compared with the American Caucasians.

11. Hypotheses related to Within-Culture differences:
   3. Males and females among the Native Japanese and American Caucasians will not differ on interactional distances.
   4. Hawaii Japanese males will have greater interaction distances than the Hawaii Japanese females.
III. Hypothesis related to Conversational Content differences:

5. Interactional distances will not differ on conversational content.

IV. Hypotheses related to Relationship differences:

6. Interactional distances will differ as a function of relationship: student to father, student to professor, and student to friend.

7. Native Japanese and Hawaii Japanese will have the following order of increasing distances across relationships: (1) friend, (2) father, and (3) professor.

8. Caucasian males and females will not differ on interactional distance between father with student and professor with student.

9. Caucasians will demonstrate greater distances between student with father and student with professor compared to student with friend.

V. Hypotheses related to Perceived Cultural Influence:

10. Hawaii Japanese males will differ from females on perceived cultural influence as measured by the "Perceived Cultural Influence Scale", a modification of the Kilpatrick Self-Anchoraging Scale.

11. Caucasian males will not differ from females on perceived cultural influence.
12. Hawaii Japanese will differ from the Caucasian Americans on the Perceived Cultural Influence Scale.

The subjects in this study were asked to arrange silhouettes, by free placement, according to instructional set for six scenes of interaction involving a student with a father, a professor, and a friend. Each relationship was measured across two levels of content. Following principles of Gestalt psychology, previous studies had found that it was possible to elicit social schemata held by people from different cultures by this technique.

Of the independent variables in this research, culture was found to be a significant determinant of interaction distance. The data confirmed the hypothesis that the Native Japanese have larger interaction distances than either the Hawaii Japanese or American Caucasians. It had also been anticipated that the Hawaii Japanese would have greater distances than the American Caucasians, this, however, was not supported. Since the differences between these two groups were not significant, it is assumed that they share a common cultural norm on this dimension.

For the Native Japanese and American Caucasians it was predicted that the within group differences by sex would be non-significant. This was supported by the data. For the Hawaii Japanese, however, previous research on personality variables seemed to indicate that
the males were more traditional. Further, studies also suggested that the females were acculturating at a more rapid rate. These assumptions lead to the prediction that Hawaii Japanese males would have larger interaction distances than the females. The data did not support this hypothesis, but rather indicated that sex was not an important determinant of interaction distance for this group. It would appear that the cultural influence was operating equally for both male and female.

The most powerful determinant of interaction distance was relationship. This result confirmed the clinical impressions of many psychotherapists as well as common folklore. While the overall ordering of distance was the same for both the Native and Hawaii Japanese, yet the profile of the latter had a greater similarity to the American Caucasians.

Within the Caucasian group it was found that males and females were not different in the distances that were maintained with authority figures, in this research, father and professor. Further, significantly greater distances were demonstrated for these authority figures than with friends.

Conversational content was not a significant variable and was seen as being subservient to relationship. Previous studies had found differences on affect
level, or topic, but questions were raised with respect to the experimental procedures. For people in communication, it would appear that the significant question concerns the existing relationship, not the content of the conversation.

The final area of inquiry dealt with the perception of cultural influence by the Hawaii Japanese and American Caucasians. As predicted the Hawaii Japanese differed from the American Caucasians on this dimension with the former perceiving a greater influence of traditional Japanese culture. Within the Hawaii Japanese, differences by sex were anticipated, with the male being more traditional. This hypothesis, however, was not supported, as there were no differences between the males and females. For the Caucasians, differences by sex were not expected. However, the results indicated a significant difference. One explanation for this difference was the different length of time spent in Hawaii, with the males averaging 25 months more than the females. This would tend to influence the perception of the male group.

The results of the perceived cultural influence were correlated with interaction distance for the Hawaii Japanese and the American Caucasians. Only two correlations were found to be significant and they were deemed
spurious. It was assumed that what was being measured was the myth of cultural difference held by these two groups. This explanation seems to be supported by the data on interaction distances for these two groups for while they were not significantly different, yet the two groups indicated that they perceived themselves as being culturally different.
Proposals For Future Research

1. The Native Japanese $S$s in this research were relatively new arrivals in Hawaii and the American Caucasians, likewise, were not long term residents of the State. Future research on the problem of cultural differences, for these groups, should involve sample groups in Japan and on the Mainland United States to verify the present results.

2. In this research the only authority figures were male. Future studies could profit from the addition of females in the authority role.

3. The free placement technique utilized in the present research was limited to dyadic relationships, and further refinements of this approach could lead to examinations of family constellations or other group interactions. This would enable the researcher, or clinician, to examine contextual variations to more clearly identify the behavioral patterns of the target person.

4. The patterns of interaction distances noted in this study could now be taken as independent variables, to be manipulated in therapeutic endeavors. It would be hypothesized that relationships would be altered as the
distance was either increased or decreased.

5. Time was not a variable under examination in this research. However, clinical impressions would indicate that temporal tolerance in intimacy, for example, is not uniform across clients. Data is not available to answer this problem. Further, future research could determine whether or not an inverse relationship exists between length of time in communication and interaction distance.
APPENDIX A

Instructional Sets
General Information on the Experiment

Today there is a lot of discussion concerning the communication gap. We have read of it in our newspapers and magazines, and here on campus it has been a major topic.

In this study we are attempting to discover some of the variables which are involved. We are interested in how people feel in certain social situations as well as the outcomes of various conversations.

You will be presented materials with instructions for different settings and we are asking you to tell us how the people feel during the conversation and also how the conversation ends. Please be brief in your answers as we are mainly interested in getting a "feel" for each scene and not a total description.

Identification Number __ __ __ __
(Please use the last four digits of your social security number.)
Specific Instructions - Scene A

For this scene you are to imagine a student talking about his (her) academic progress with his (her) father. They are at home in the living room. There are no other people in the room.

To help you set the stage for their conversation, place these figures on the paper in front of you as you would imagine they would stand.

Once you have the scene set then briefly complete the following (one or two words, if possible, but not more than one short sentence):

The father feels ________________________________.
The son (daughter) feels______________________.
How the conversation ends:_____________________
______________________________________________.

Raise your hand when you have finished and the experimenter will give you further instructions.
Specific Instructions - Scene B

For this scene you are to imagine a student talking with his/her father about a current event that appeared in the local newspaper. They are at home in the living room. There are no other people in the room.

To help you set the stage for their conversation, place these figures on the paper in front of you as you would imagine they would stand.

Once you have the scene set then briefly complete the following (one or two words, if possible, but not more than one short sentence):

The father feels ____________________________.
The son(daughter) feels______________________.
How the conversation ends____________________
__________________________

Raise your hand when you have finished and the experimenter will give you further instructions.
Specific Instructions - Scene C

For this scene you are to imagine a student talking about his(her) academic progress with a professor. They are in the professor's office. There are no other people in the room.

To help you set the stage for their conversation, place these figures on the paper in front of you as you would imagine they would stand:

Once you have the scene set then briefly complete the following (one or two words, if possible, but not more than one short sentence):

The professor feels ________________________.
The student feels ________________________.
How the conversation ends ________________________

Raise your hand when you have finished and the experimenter will give you further instructions.
Specific Instructions - Scene D

For this scene you are to imagine a student talking about his/her academic progress with a friend of the same sex. There is no one else in the room.

To help you set the stage for their conversation, place these figures on the paper in front of you as you would imagine they would stand.

Once you have the scene set then briefly complete the following (one or two words, if possible, but not more than one short sentence):

The student feels______________________.
The friend feels______________________.
How the conversation ends______________________

Raise your hand when you have finished and the experimenter will give you further instructions.
Specific Instructions - Scene E

For this scene you are to imagine a student talking with a professor about a current event that has appeared in the local newspaper. They are in the professor’s office. There is no one else in the room.

To help you set the stage for their conversation, place these figures on the paper in front of you as you would imagine they would stand.

Once you have the scene set then briefly complete the following (one or two words, if possible, but not more than one short sentence):

The student feels ________________________.
The professor feels ________________________.
How the conversation ends ________________________

Raise your hand when you have finished and the experimenter will give you further instructions.
Specific Instructions - Scene F

For this scene you are to imagine a student talking with a friend of the same sex about a current event which has appeared in the local newspaper. There is no one else in the room.

To help you set the stage for their conversation, place these figures on the paper in front of you as you would imagine they would stand.

Once you have the scene set then briefly complete the following (one or two words, if possible, but not more than one short sentence):

The student feels__________________________.
The friend feels__________________________.
How the conversation ends____________________
__________________________________________.

Raise your hand when you have finished and the experimenter will give you further instructions.
実験の目的等に於いて
今日話し合いに於ておたがいの意志が充分に通じない可能性（communication gap）と云うことが問題になっています。新聞、雑誌の類では日常茶飯事のこともあり、学校内に於ても大きな問題となっています。
この問題に関連のある事項を抽出することがこの実験の主目的です。つまり、一般の人達がある特定の社会的環境又は状況に置かれたときに示す感情及びその会話から生れる結論が私達実験者の興味の焦点となります。
種々の説明並びに質問が渡されますから、それに答えて下さい。ご理解の記述ではなく、そこに於ける「感じ」がどうなるものであるかを知りたいものです。

Identification Number
(social security number に該当する数字を記入して下さい)

1 Translated from English by Mr. Masato Sato,
Instructor in Asian and Pacific Languages, University of Hawaii.
質問並びに答え方

父親とその子供が学校の成績や学業一般に就いて話しをしています。

二人は居間で話しをしています。

居間にはこの二人以外は誰もいません。

先が状況決定のために、紙の上に「切り替え」を置いて、父親与子供の位置を、あなたのが考えに基づいて示して下さい。

上の作業が終ったら、次の各質問に対して、一行以内の答えを書いて下さい。

A. 父親はどう思う気持を持っていると思いますか。

B. 子供はどう思う気持を持っていると思いますか。

C. 二人の話しの結論はどうなると思いますか。

以上の作業が終ったら、手を挙げて下さい。次の作業の方法を係りの指示が指示します。

1Translated from English by Mr. Masato Sato, Instructor in Asian and Pacific Languages, University of Hawaii.
質問並びに答え方

父親とその子供が新聞記事となったある時事問題に就いて話ししています。

二人は居間で話ししています。

居間にはこの二人以外は誰もいません。

先づ状況設定のために、紙の上に「切り抜き」を置いて、父親と子供の位置を、あなたの考えに基づいて、示して下さい。

上の作業が終わったら、次の各質問に対して、一行以内の答えを書いて下さい。

A. 父親はどう思う気持ちを持っていると思いますか。

B. 子供はどう思う気持ちを持っていると思いますか。

C. 二人の話しの結論はどうなると思いますか。

以上の作業が終わったら、手を挙げて下さい。次の作業の方法を係りの者に指示します。

1 Translated from English by Mr. Masato Sato, Instructor in Asian and Pacific Languages, University of Hawaii.
質問並びに答え方

教授とその学生が、学生の成績や学業一般に就いて話しています。

二人は教授のオフィスに居ます。

そのオフィスにはこの二人以外は誰もいません。

先づ状況設定のために、紙の上に「切り換え」を置いて、教授と学生の位置を、あなたが考えに基づいて示して下さい。

上の作業が終わったら、次の各質問に対して、一行以内の答えを書いて下さい。

A. 教授はどういう気持ちを持っていると思いますか。

B. 学生はどういう気持ちを持っていると思いますか。

C. 二人の話しの結論はどうなると思いますか。

以上の作業が終ったら、手を挙げて下さい。次の作業の方法を係りのまだが指示します。

Translated from English by Mr. Masato Sato,
Instructor in Asian and Pacific Languages, University of Hawaii.
質問並びに答え方

学生とその同性の友達が、学校の成績や学業一般に就いて話し合っています。

二人は部屋にいます。

その部屋にはこの二人以外は誰もいません。

先づく状況設定のために、紙の上に「切り絵を」置いて、二人の学生の位置を、あなたが考えに基づいて示して下さい。

上の作業が終ったら、次の各質問に対して、一行以内の答えを書いて下さい。

A. 学生はどう思う気持ちでいるでしょうか。

B. もう一人の学生（友達）はどう思う気持ちを持っているでしょうか。

C. 二人の話しの結果はどうなると思いますか。

以上の作業が終ったら、手を挙げて下さい。次の作業の方法を、係りの講師が指示します。

1 Translated from English by Mr. Masato Sato,
Instructor in Asian and Pacific Languages, University of Hawaii.
質問並びに答え方

学生とその教授が新聞記事となったある時事問題を話し合っています。

二人は教授のオフィスに居ます。

そのオフィスにはこの二人以外は誰もいません。

先ず状況設定のために、紙の上に'切り板'を置いて、教授と学生の位置を、あなたの考えに基づいて示して下さい。

上の作業が終ったら、次の各質問に対して、一行以内の答えを書いて下さい。

A. 学生はどう思う気持ちでいるでしょうか。

B. 教授はどう思う気持ちでいるでしょうか。

C. 二人の話しの結末はどうなると思いますか。

以上の作業が終ったら、手を挙げて下さい。次の作業の方法を依りの番に指示します。

1Translated from English by Mr. Masato Sato, Instructor in Asian and Pacific Languages, University of Hawaii.
質問並びに答え方

学生とその同性の友煩が、新聞記事となったある時事問題に就いて
話し合っています。

二人は部屋にいます。
その部屋には、この二人以外は誰もいません。

先が状況設定のために、紙の上に「切り抜き」を置いて、学生とその
友煩の位置を、あなたの考えに基づいて、示して下さい。

上の作業が終了したら、次の各質問に対して、一行以上の答えを
書いて下さい。

A．学生はどう考えたか？
B．その友煩はどう考えたか？
C．二人の話しの結末はどうなったか？

以上の作業が終ったら、手を挙げて下さい。次の作業の方法を
係りの者か指示します。

*Translated from English by Mr. Masato Sato,
Instructor in Asian and Pacific Languages, University
of Hawaii.*
The Purpose of the Experiment

One of the concerns today is the problem of inadequate communication of intentions (communication gap). This problem is met almost regularly in newspapers and magazines. This is true also in classroom situations.

The principal purpose of this experiment is to extract matters related to this basic problem. In short, the focus of our attention will be the emotional reactions and conclusions arrived at of ordinary people placed in specified social environments or situations.

Various explanations and questions will be given. Please answer them concisely. Your feeling is what we wish to know.

Identification number__ __ __ __
Social Security number (last four digits)

1 Back translated from Japanese by the Reverend Yoshiaki Fujitani, Honpa Hongwanji Mission, Honolulu, Hawaii.
1. Father and child are discussing school grades and general school activities.
2. They are talking in the living room.
3. There is no one else in the room.
4. In order to set the scene, place the cut-outs on the paper where you believe father and child ought to be.
5. When that is completed answer the following questions in a sentence.
   A. What kind of feeling does the father have? ________________________________
   B. What kind of feeling does the child have? ________________________________
   C. What do you think will be the outcome of this conversation? _________________
6. When you have finished answering the above please raise your hand. The next operation will be shown you by the person in charge.

---

1 Back translated from Japanese by the Reverend Yoshiaki Fujitani, Honpa Hongwanji Mission, Honolulu, Hawaii.
Questions and Directions in Answering Them - B

1. A father and child are discussing a current issue that appeared in the newspaper.
2. The two are talking in the living room.
3. There is no one else in the room.
4. In order to set the scene, first place the cut-outs of the father and child on the paper where you believe they would be.
5. When that is completed answer the following questions in no more than one line.
   A. What kind of feeling does the father have?
   B. What kind of feeling does the child have?
   C. What do you think will be the conclusions (or outcome) of the conversation?
6. When you have finished answering the above please raise your hand. The next operation will be shown to you by the person in charge.

1 Back translated from Japanese by the Reverend Yoshiaki Fujitani, Honpa Hongwanji Mission, Honolulu, Hawaii.
Questions and Directions in Answering Them - C

1. A professor and his student are discussing the student's grades and other general school activities.

2. They are in the professor's office.

3. There is no one else in the office.

4. In order to set the scene, first place cut-outs of the professor and student on the paper where you believe they would be.

5. When the above is completed answer the following questions in no more than one line.
   A. What do you think is the professor's feeling?

   B. What do you think is the student's feeling?

   C. What do you think will be the conclusion (or outcome) of the conversation?

6. When you have finished answering the above please raise your hand. The next operation will be shown you by the person in charge.

---

1 Back translated from Japanese by the Reverend Yoshiaki Fujitani, Honpa Hongwanji Mission, Honolulu, Hawaii.
Questions and Directions in Answering Them - D

1. A student and a friend of the same sex are discussing school grades and other general school activities.

2. They are in a room (or apartment).

3. There is no one else in the room.

4. In order to set the scene, first place the cut-outs of the student and friend on the paper where you believe they would be.

5. When the above is done answer the following questions in no more than one line.
   A. What do you think is the student's feeling?
   ______________________________________________________________________

   B. What do you think is the other student(friend) feeling?
   ______________________________________________________________________

   C. What do you think will be the conclusion (or outcome) of the conversation?
   ______________________________________________________________________

6. When you have finished answering the above please raise your hand. The next operation will be shown you by the person in charge.

---

1 Back translated from Japanese by the Reverend Yoshiaki Fujitani, Honpa Hongwanji Mission, Honolulu, Hawaii.
Questions and Directions in Answering Them – E³

1. A student and his professor are discussing a current issue that was in the newspaper.

2. They are in the professor's office.

3. There is no one else in the office.

4. In order to set the scene, first place the cut-outs of the student and professor on the paper where you believe they would be.

5. When the above is done answer the following questions in no more than one line.
   A. What do you think is the student's feeling?

   B. What do you think is the professor's feeling?

   C. What do you think will be the conclusion (or outcome) of the conversation?

6. When you have finished answering the above please raise your hand. The next operation will be shown you by the person in charge.

---

¹ Back translated from Japanese by the Reverend Yoshiaki Fujitani, Honpa Hongwanji Mission, Honolulu, Hawaii.
Questions and Directions in Answering Them - Fl

1. A student and a friend of the same sex are discussing a current issue that was in the newspaper.

2. They are in an apartment.

3. There is no one else in the room.

4. In order to set the scene, first place the cut-outs of the student and friend on the paper where you believe they would be.

5. When the above is done answer the following questions in no more than one line.

   A. What do you think is the student's feeling?

   ________________________________

   B. What do you think is the friend's feeling?

   ________________________________

   C. What do you think will be the conclusion (or outcome) of the conversation?

   ________________________________

6. When you have finished answering the above please raise your hand. The next operation will be shown you by the person in charge.

---

1 Back translated from Japanese by the Reverend Yoshiaki Fujitani, Honpa Hongwanji Mission, Honolulu, Hawaii.
APPENDIX B
### Table 12

Order of Presentation for Interaction Scenes

<table>
<thead>
<tr>
<th>1st.</th>
<th>2nd.</th>
<th>3rd.</th>
<th>4th.</th>
<th>5th.</th>
<th>6th.</th>
</tr>
</thead>
<tbody>
<tr>
<td>( S_1 )</td>
<td>C</td>
<td>D</td>
<td>F</td>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>( . )</td>
<td>D</td>
<td>C</td>
<td>E</td>
<td>F</td>
<td>B</td>
</tr>
<tr>
<td>( . )</td>
<td>A</td>
<td>E</td>
<td>B</td>
<td>D</td>
<td>F</td>
</tr>
<tr>
<td>( . )</td>
<td>E</td>
<td>A</td>
<td>D</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>( . )</td>
<td>B</td>
<td>F</td>
<td>C</td>
<td>E</td>
<td>A</td>
</tr>
<tr>
<td>( S_n )</td>
<td>F</td>
<td>B</td>
<td>A</td>
<td>C</td>
<td>D</td>
</tr>
</tbody>
</table>
APPENDIX C
The ladder on the left represents a continuum of cultural influence. If space #10 represented traditional Japanese cultural influence and space #0 represented American Caucasian cultural influence, place an "X" in the space which best represents you. (You may choose any space on the ladder.)
APPENDIX D

Personal Data Forms
1. Identification number (please use the last four digits of your social security number). ___ ___ ___ ___

2. Age (in months) _________

3. Sex: M___ F___

4. Class standing: (Check one)
   - Freshman ___
   - Sophomore ___
   - Junior ___
   - Senior ___
   - 5th Year ___
   - Graduate School ___

5. Cumulative GPA: (Check one)
   - Below 2.0 ___
   - 2.0 - 2.49 ___
   - 2.5 - 2.99 ___
   - 3.0 - 3.49 ___
   - 3.5 + ___

6. Father's occupation________________
7. Mother's occupation

8. Number of brothers

9. Number of sisters

10. Birth order number (1st. 2nd. 3rd. etc.)

11. Length of time in Hawaii

12. Field of study

13. Nationality

14. Place of Origin:

   | Yes | No | If No,
   |-----|----|-------
   | I was born in Hawaii | | |
   | My parents were born in Hawaii | | |
   | My grandparents were born in Hawaii | | |
   | My great-grandparents were born in Hawaii | | |

15. Linguistic Background: (Check where applicable)

   Father  Mother  Self

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I speak only Japanese in the home</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I speak both Japanese and English in the home</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I speak only English in the home</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. Religious Preference: (Check where applicable)

   Father  Mother  Self

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Buddhist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Christian</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No religious preference</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
17. Educational history before college: (Check one)

[ ] Always attended public schools
[ ] Always attended private schools
[ ] Entered private school in high school
[ ] Entered private school in intermediate school
[ ] Entered private school in elementary school
Identification number (Social security numberの末尾四桁の数字)：____  ____  ____  ____

年令：____ヶ月（例：20才と3ヶ月ならば 243ヶ月と記入）

性別：男  ____ 女  ____

学年：（一つチェックする）

大学一年生  ____
二年生  ____
三年生  ____
四年生  ____
（五年制プログラムの）五年生  ____
大学院  ____

平均成績 
(A=4.0, B=3.0, C=2.0, D=1.0, F=0.0)：（一つチェックする）

2.0以下  ____
2.0 - 2.49  ____
2.5 - 2.99  ____
3.0 - 3.49  ____
3.5以上  ____

父の職業：__________________________

母の職業：__________________________

兄弟の数：____人

姉妹の数：____人

あなたはあなたの両親の何番目の子供ですか：____番目（長男でも姉妹二人
いる場合は2番目と答え3）

ハワイでの滞在期間：____ヶ月（例：一年半ならば 18ヶ月と記入する）

専攻科目：__________________________

1 Translated from English by Mr. Masato Sato, Instructor in Asian and Pacific Languages, University of Hawaii.
1. Identification Number __ __ __ __

Social Security Number (last four digits)

2. Age: ___ (in months), (Example: If 20 years and 3 months, write 243 months)

3. Sex: Male__ Female__

4. Grade: (Check one)

   University Freshman__
   University Sophomore__
   University Junior___
   University Senior___
   5th Year___________
   Graduate School____

5. Average Grades (A= 4.0, B=3.0, C=2.0, D=1.0, F=0.0) (Check one)

   2.0 - Below_____
   2.0 - 2.49 _____
   2.5 - 2.99 _____
   3.0 - 3.49 _____
   3.5 - Above_____ 

6. Father's occupation_________ 7. Mother's occupation____

8. Number of brothers_________ 9. Number of sisters_____

---

1 Back translated from Japanese by the Reverend Yoshiaki Fujitani, Honpa Hongwanji Mission, Honolulu, Hawaii.
10. What position are you in the order of your brothers and sisters __________ (Even if you are the first son if you have an older sister you are No. 2)

11. How long have you been in Hawaii__ (in months)
   (Example: If a year and a half, write 18 months)

12. Your major______________________________
APPENDIX E
Fig. 1. Male silhouettes for interaction scenes with male student and same-sex friend.
Fig. 2. Female silhouettes for interaction scenes with female student and same-sex friend.
Fig. 3. Silhouettes for interaction scenes: female student with father and female student with male professor.
Fig. 4. Silhouettes for interaction scenes: male student with father and male student with male professor.
Bibliography


Fuller, D. W. Family Consultation. Undated manuscript, College of Education, University of Hawaii.


