A descriptive study was conducted that compared the need satisfaction of older persons living in the community and those living in institutions. In the first article of a two-part series, the impact of environment on the satisfaction of needs was examined. Subjects included 20 community and 21 institutionalized older persons. Using Maslow's need hierarchy as the theoretical framework, it was found that the community environment satisfied belongingness/love and esteem needs to a greater degree than the institutional environment. No difference was found in the satisfaction of physiological, safety, and self-actualization needs between the two environments. Race, mental status, and whether a community resident lived alone or with others were variables that influenced the results. The findings emphasized the complexity of need satisfaction and supported the formulation that environment is a crucial factor in need satisfaction. In the second article, the relationship between engagement in activity and need satisfaction will be explored.
The purpose of this study was to compare the need satisfaction of older persons living in different environments, specifically, the institution and the community. The institutional setting usually addresses the problem of satisfying the physical and medical needs of the individual. Although psychological and social needs are recognized, they do not receive primary attention (1). A major assumption was that the maintenance of basic health and a good quality of life are dependent upon the satisfaction of the whole spectrum of the individual's needs: physical, psychological, and social.

An adjunct purpose of this study was to examine the types of need satisfaction older persons gained from the activities they performed in their own environments. This area is of particular interest to the occupational therapist who uses therapeutic activity and manipulation of the environment in response to individuals' needs, thereby helping them grow toward autonomous and meaningful existences (2). Unfortunately, in institutions for older persons, occupational therapy has not always met its goals. At times, needs were incorrectly identified (3), exacerbated through inappropriate activity (4), or not addressed at all, noted in the clinical observations of the principal investigator, because the individual appeared to the therapist to be unmotivated. As a result, patients' needs were inadequately satisfied, possibly creating many of the motivational problems encountered by the occupational therapists who worked with the elderly.

This research was conducted to identify a workable framework for exploring need satisfaction to help alleviate the problems associated with meeting the needs of institutionalized older persons. This article focuses on that portion of the study dealing with the environmental aspects of need satisfaction. The second article deals with participation in activity and its relationship to need satisfaction.

Review of the Literature
The need hierarchy theory of Maslow (5-8) was used as the theoretical basis of this study. It provided a classification system for needs that was comprehensive, yet delimited to five basic needs, thus facilitating their operationalization. Within this theory, motivation is viewed as a complex interaction among the individual's needs, environment, and activity. Maslow proposed that a hierarchy of basic needs exists in which the needs low in the hierarchy are more essential to survival, whereas the higher level needs are less important to survival and more closely related to psychosocial health and quality of life. Human beings strive to meet the lower needs before the higher ones. From lowest to highest, these are physiological, safety, belongingness/love, esteem, and self-actualization needs. Environment is viewed as one of the main determinants of need satisfaction, and activity as one medium by which the individual seeks it.

Carp (9) emphasized the importance of the quality of the environment to the need satisfaction of older persons. He found that public housing designed to meet the needs of the elderly did indeed increase satisfaction. Goffman (10) and Bennett (11) explored the structure of the institution. They found that residents in institutions exerted less control over their environments and activities than community residents. Since such a difference was identified by these authors, it followed that the two different environments would not necessarily satisfy the five basic needs of Maslow's hierarchy to the same degree. Although research comparing institutionalized and community residents' need satisfaction was minimal, a few studies had been conducted that enabled the investigators to formulate hypotheses about the need satisfaction of older persons living in the two environments. The hypotheses are stated below, together with summaries of supporting literature.

[Hypothesis 1] The institutional environment satisfies physiological needs of older persons to a greater degree than does the community environment.

Lieberman, Prock, and Tobin (12) found that institutionalized older persons had greater physiological needs than community older persons; however, they exhibited less anxiety about those needs, indicating, perhaps, greater physiological need satisfaction.

[Hypothesis 2] The institutional environment satisfies safety needs of older persons to a greater degree than does the community environment.

No comparative studies were...
found that examined safety need satisfaction; however, an investigation by Antunes, Cook, Cook, and Skogan (13) showed that older people in the community feared being victims of crime more than younger people did. The protective environment of the institution could alleviate this fear. In addition, trained persons capable of assisting older persons in emergency situations would be more readily available in the institution than in the community.

Hypothesis 4: The institutional environment satisfies esteem needs of older persons to a lesser degree than does the community environment.

Using a projective draw-a-person test, Lakin (17) found that institutionalized older persons had poorer self-concepts than community older persons. In addition, Dorahue (18) and Bennett (11) reported that residents in institutions were not treated with respect by staff members. Since community older persons may have more opportunities to interact with neighbors and friends, it may be assumed that they receive more respectful treatment from others, thus resulting in higher self-esteem.

Hypothesis 5: The institutional environment satisfies self-actualization needs of older persons to a lesser degree than does the community environment.

No studies were found that evaluated the satisfaction of self-actualization needs of older persons. Institutionalized persons lose much of their autonomy and self-determination (16), which are prerequisites to self-actualization. Therefore, it was hypothesized that the institution would not meet this need as adequately as the community.

Table 1. Descriptive Statistics for Study Sample

<table>
<thead>
<tr>
<th>Environment</th>
<th>Community</th>
<th>Institutional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>69.5</td>
<td>67.2</td>
</tr>
<tr>
<td>Gender (male)</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Race (white)</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>Cognitive Impairment</td>
<td>5-10</td>
<td>10-15</td>
</tr>
</tbody>
</table>

Method
Subjects. A cross-sectional survey design was used to study the effects of different environments on need satisfaction. The 41 subjects, who were at least 60 years old and consented to participate, were selected from both institutional and community environments.

The institutional sample was derived nonrandomly from the residents of three convalescent hospitals located in Los Angeles County. To control for the possible effects of relocation and survival traits, the subjects could not be institutionalized for less than 3 months nor for more than 5 years. In order to have comparable disabled groups, the community sample was derived nonrandomly from the outpatient of the Ortho/Diabetes Service of Rancho Los Amigos Hospital in Downey, California. In both samples, no subject could be restricted to bed—a condition that might affect need satisfaction. In addition, all subjects were required to score at least 5 on the Mental Status Questionnaire (19) so that cognitive impairment would not significantly affect the outcome of the study.

Of the 21 institutionalized subjects, 5 were male and 16 were female, with an average age of 79.0 years. All were white. The typical institutional subject was black, widowed, Protestant, had heart disease, and tended to have significant to mild cognitive impairment. Of the 20 community subjects who resided in Los Angeles County, 4 were males and 16 were females with an average age of 69.5 years. Twelve of these subjects were black and 8 were white. The typical community subject was black, widowed, Protestant, and diabetic, with insignificant to no cognitive impairment.

Instrumentation. Data were collected through an interview in which subjects were individually administered the Modified Need Satisfaction Schedule (MNSS) in their own living situation. This instrument, which assessed the amount of satis...
Sample Questions from the Modified Need Satisfaction Schedule

Physiological Need Satisfaction Subscale
1. Is the place you're staying in now warm enough when it's cold outside and cool enough when it's hot outside?
2. Do you think the food you've been eating is good for you?

Safety Need Satisfaction Subscale
1. Is there anyone here who would wake you up if a fire broke out while you were asleep?
2. Is there anyone here that you are afraid might hurt you?

Belongingness/Love Need Satisfaction Subscale
1. Do you ever have the chance to see the person you think is your closest or best friend?
2. Do you get enough contact with people you like?

Esteem Need Satisfaction Subscale
1. Does anyone look up to you enough to ask you for your opinion on different matters?
2. Do people here respect you?

Self-actualization Need Satisfaction Subscale
1. Do you ever have the opportunity to be creative?
2. Do you feel that your life has meaning or a sense of purpose?

Content validity was established before data collection by conducting a second pilot study. The MNSS draft was mailed to 41 occupational therapist consultants to convalescent hospitals and other institutions who were asked to assign proposed items to one level of Maslow's need hierarchy. Fifteen of the therapists responded. The eight questions that received the highest percentage of agreement within each level were included in the final draft of the MNSS. The mean percentage of agreement for the total MNSS was 82 percent.

The MNSS used in the data collection was composed of five subscales each representing one of the need areas in the hierarchy. Each subscale contained eight questions to which the subject answered "yes" or "no" to indicate need satisfaction. The potential score for each subscale was 8 points. The Figure contains sample questions from each subscale. Reliability was established after data collection by using a split-halves procedure (23) in which the schedule was divided to yield two scores: one for even-numbered questions and one for odd. A coefficient of .88 was obtained, indicating that the internal consistency of the MNSS was sufficient for its use as a research instrument.

Data Analysis. The data from the MNSS were analyzed by using one-sided two-sample t tests in order to determine whether the need satisfaction of older persons living in the institutions was significantly different from that of older persons living in the community. The alpha level chosen to determine statistical significance was .05. Responses from the three institutional samples did not differ significantly; therefore, they were grouped together to represent the institutional environment. Correlational analyses were also performed in order to ascertain whether any of the demographic variables influenced the results, including age, sex, race, country of birth, mental status, marital status, education, religion, occupation, living arrangement in the community, number of children, ambulation status, illnesses, and length of institutionalization. Pearson's r was the measure of association used with dichotomous or interval level data, whereas Cramer's V was used with non-dichotomous, nominal, or ordinal level data. A correlation of .40 was considered significant.

Results
The Table depicts the results of the study. The hypotheses regarding belongingness/love, esteem, and overall need satisfaction were supported, whereas those regarding physiological, safety, and self-actualization need satisfaction were not. The institutional environment did not satisfy physiological and safety...
Table Comparison of the MNSS Subscale Scores between Older Persons Living in Institutional and Community Environments

<table>
<thead>
<tr>
<th>MNSS Subscale</th>
<th>Institution (n = 21)</th>
<th>Community (n = 20)</th>
<th>t*</th>
<th>p†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiological need satisfaction</td>
<td>7.09 ± 0.89</td>
<td>6.90 ± 1.25</td>
<td>0.58</td>
<td>N.S.</td>
</tr>
<tr>
<td>Safety need satisfaction</td>
<td>7.33 ± 0.91</td>
<td>7.20 ± 1.40</td>
<td>0.36</td>
<td>N.S.</td>
</tr>
<tr>
<td>Belongingness/love need satisfaction</td>
<td>5.05 ± 1.83</td>
<td>6.00 ± 1.81</td>
<td>-1.68</td>
<td>.05</td>
</tr>
<tr>
<td>Esteem need satisfaction</td>
<td>5.24 ± 1.79</td>
<td>7.00 ± 1.41</td>
<td>-3.49</td>
<td>&lt;.0005</td>
</tr>
<tr>
<td>Self-actualization need satisfaction</td>
<td>5.24 ± 1.97</td>
<td>6.05 ± 1.91</td>
<td>-1.34</td>
<td>N.S.</td>
</tr>
<tr>
<td>Overall need satisfaction (Total)</td>
<td>29.95 ± 5.51</td>
<td>33.15 ± 6.06</td>
<td>-1.77</td>
<td>&lt;.05</td>
</tr>
</tbody>
</table>

*One-sided two-sample t test with df = 39
†Alpha = .05

Discussion

The results indicate that the two environments examined had different need-satisfying characteristics, particularly in the areas of belongingness/love and esteem. The relatively high scores of both the institutional and community samples indicated that both environments were adequately meeting physiological and safety needs. The community scores may have reflected the fact that, since the subjects were associated with a rehabilitation hospital, anxiety about health may have been reduced because of the availability of comprehensive services.

As had been expected, belongingness/love needs, as well as esteem needs, were satisfied to a greater degree in the community than in the institution. However, these findings were contaminated by the intervening factor of race. Race was associated with belongingness/love need satisfaction (r = .40) and esteem need satisfaction (r = .44). The black older persons had higher belongingness/love need satisfaction than white older persons possibly because they were members of an ethnic group that may have had stronger family networks and neighborhood support systems. Higher esteem need satisfaction, which was found among the black subjects may be explained by the findings of Clement and Sauer (24) and Messer (25) that black older persons had higher morale than white older persons. They attributed their results to the possibility that the blacks may have experienced increased personal satisfaction as a result of having successfully lived through very difficult times.

The demographic variable of mental status was found to be positively associated with esteem need satisfaction (r = .43). Lowered mental status might have been due to organic brain syndrome in which depressive symptoms, such as decreased self-esteem, are not unusual (26). In addition, individuals with a lower mental status might seem childlike in their cognition and be treated by others accordingly.

Living with others in the community was associated with greater belongingness/love (r = .41) and esteem need satisfaction (r = .52). The person who lived with others may have engaged in more social interactions and more respectful satisfying personal relationships than the person who lived alone.

The hypothesis that self-actualization needs would be met to a lesser degree by the institutional environment than by the community environment was not supported. An individual who was autonomous and inner-directed before institutionalization may have been able to maintain these characteristics in an environment not conducive to their development. On the other hand, the findings may reflect the consequences of grouping community subjects who lived with others with those who lived alone. Living arrangement was found to be corre-
lated with self-actualization need satisfaction (r = .46). Those subjects who lived alone tended to have less satisfaction of self-actualization needs, thus lowering the community mean score. No other demographic variables were found to be associated with need satisfaction.

In general, the community appeared to be a more need-satisfying environment than the institution, which was reflected in the overall need satisfaction scores. Within the community, there appeared to be subenvironments in terms of ethnicity and living arrangements. Greater satisfaction was associated with being black or living with others. Living with others seemed to be satisfying in a community setting, but not in an institutional setting, indicative of the quality of social interactions that took place in the two environments.

Caution should be exercised in generalizing from these findings because it is difficult to determine whether the outcome of the study was due to the independent variable of environment, to the demographic variables mentioned above, or to an interaction of these factors.

The limitations inherent in a cross-sectional design and nonrandom subject selection must also be considered when examining the results.

Conclusion
The findings of the study confirm that need satisfaction is a complex issue. Health professionals who work in geriatric settings should be aware that the client's perception of the environment may affect treatment adherence and progress. In providing services for the institutionalized aged, occupational therapists might well consider the effects of the environment upon older persons' need satisfaction just as they concern themselves with the attributes of specific activities used therapeutically. The implications of these findings for occupational therapy intervention will be discussed in greater detail in the second article of this two-part series.

Acknowledgments
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