Implementing Sociometry in a Long-Term Care Institutional Setting for the Elderly:

Exploring Social Relationships and Choices

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In this article, I explore the convergence of sociometry and gerontology in order to demonstrate successful practices and to suggest alternative approaches in interacting with elderly people, which would result in stabilizing and improving their mental health and emotional status. As elderly people may experience various psychological conditions, applying sociometry requires innovative approaches and a certain flexibility in the application of some of the techniques. The article specifically deals with older adults residing in long-term care communities and my personal experience in creating and implementing therapeutic modalities for the older population. In this article, "older adults" are those older than 65 years. The "elderly" are those aged 85+ years. The approaches and techniques described in this article are adapted and effective for elderly people at any age.

KEYWORDS: Sociometry; gerontology; aging; mental health; long-term care; choice; criteria; spectrogram; locogram; sociometric exploration; sociogram; social atom.

> Old age, believe me, is a good and pleasant thing. It is true you are gently shouldered off the stage, but then you are given such a comfortable front stall as spectator.
>
> Confucius (551–479 B.C.E.)

Aging is a normal process of human life. Often including physical or mental impairment, old age still should be enjoyable and experienced with dignity, love and care, respect, communication, relationships, and social life. Unfortunately, this positive image of old age is often a desired dream rather than existing reality. As they age, people often face losses, fears, grief, sadness over physical and mental deterioration and dependency, or regrets over past events. It is common for the

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grief to affect their behavior: Some may withdraw from social activities, become angry and agitated, or feel disorganized and tired.

Rapidly aging populations are expected worldwide. In the United States, the "baby boomer" generation began to turn 65 in 2011. Recently, the population aged 65 years and older has grown at a faster rate than the total population in the United States. It has been estimated that 25% of the population in the United States and Canada will be aged 65 years and older by 2025. By 2050, it is predicted that, for the first time in United States history, the number of individuals aged 60 years and older will be greater than the number of children aged 0 to 14 years. The U.S. Census Bureau (n.d.) projected that those aged 85 years and older could grow from 5.3 million in 2006 to nearly 21 million by 2050.

Gerontology as a science encompasses studying the physical, mental, and social changes in people as they age. The multidisciplinary nature of gerontology means that there are a number of subfields, as well as associated fields such as psychology and sociology that overlap with gerontology. Various approaches and elements of sociometry can be successfully implemented to address various gerontological issues in order for elderly persons to increase their awareness about the choices they make and the feelings they experience, and to rapidly achieve an understanding of and answers to their questions.

Sociometry is a quantitative and qualitative method for measuring social relationships, the extent of acceptance or rejection between individuals in groups, the emotions people experience, and the choices they make. It was developed by Jacob Levy Moreno, MD, in his studies of the relationship between social organization and psychological well-being, first analyzed and published in his book, *Who Shall Survive?* (Moreno, 1953). The etymology of the term sociometry comes from Latin "socius," meaning companion, and "metrum," meaning measure. Moreno coined the term sociometry as a result of his early experiences as a psychiatrist–sociologist. In 1917–1918 Moreno worked with Tyrolean refugees of World War I, living in a camp outside of Vienna. This was Moreno's first experience with sociometry. Moreno observed the presence of daily conflicts between the refugees. Then he suggested that they should have more freedom in choosing those with whom they would prefer to live, work, or participate in other daily activities. However, Moreno coined the term sociometry later, while working in New York. From 1932 to 1938, he conducted the first long-term sociometric study at the New York State Training School for delinquent girls in Hudson, NY. Together with his colleague, Helen Hall Jennings, Moreno designed tests to study relationships and improve living arrangements for the girls. This was Moreno's most comprehensive sociometric experiment, where he used the measurement of the number of girls who ran away from the school as a criterion. As part of this study, Moreno used sociometric techniques to allocate the girls to various residential cottages, a decision made as a result of their own choices and preferences. The sociometric application reduced the number of runaways from the facility and that number reached the point of its lowest level in the history of the school (Moreno, 1953, p. 527). Since the New York State Training School for Delinquent Girls, sociometric studies have been conducted by Moreno and others in various countries around the world, in settings including other schools, the

military, correctional facilities, therapy groups, corporations, etc. I have applied sociometry in several long-term elderly care communities.

It is the specific purpose of this article to address implementing sociometry in long-term care for older adults. Long-term care is a complex of services that meet both the medical and nonmedical needs, for long periods of time, of people with a chronic illness or disability. The place where people live, including the physical and social environment, can improve or at least delay a decline in a person's functional ability, independence, and quality of life.

Entering the institutional setting of long-term care communities (e.g., retirement centers, assisted-living, or nursing homes), many elderly people experience, for the very first time in their adult lives, the loss of their independence. Previous life roles need to be substituted with the new roles of a resident. Some of the residents need to live with a roommate; all of them follow a schedule for meals, activities, grooming, and medications; they become dependent on their caregivers for satisfying their needs. The elderly person is involuntarily put in the situation of having daily interactions with numerous people, co-residents, nurses, administrators, or direct caregivers, and often these seniors remain unknown to staff because of the lack of communication, busy schedules, or staff turn-over. As a result, privacy, space, dignity, choices, and sense of independence may be disrespected. The institutional environment can be extremely difficult to adapt to, causing increased feelings of depression.

Sociometry is the method that can be used in this environment to consistently measure the interpersonal relationships and group dynamics and to improve group interactions among the elderly residents, and between the elderly and the care providers working in long-term care communities. In my practice, I use sociometry to assess the roles and the level of acceptance each participant has in various groups, their social activities, and the degree of cohesion among group members. Sociometry allows me to locate the individuals who are rejected by others and the ones who are perceived as the most valued to the group—the leaders—as well as to study interpersonal interactions, to recognize potential conflicts and isolates, and to acknowledge preferences and choices.

THE HISTORICAL CONTEXT

Various previous efforts provide a context for considering the application of sociometry to work with elderly adults. Buchanan (1982) studied elderly psychiatric patients, confined to institutions, who as result of that institutionalization became increasingly isolated and debilitated. The verbal therapies and medications traditionally used to help remotivate patients had not been found to be as effective in dealing with these patients. Psychodrama and the tenets of sociometry, however, proved to be effective. The author describes a program at St. Elizabeths Hospital in Washington, DC, that helped remotivate elderly patients and reintegrate them into a more active life in the hospital. Buchanan provided a brief review of the methodology and techniques of psychodrama and sociometry, and presented two case studies of how the program helped aged patients.

Carman and Nordin (1984) studied the elderly in nursing homes and found them subject to increased incidents of psychiatric disorders and particularly

vulnerable to depression. They conducted a psychodrama and sociometry group with elderly psychiatric patients in a nursing home and found it to be an effective treatment modality. It proved especially useful in the alleviation of depression by allowing members to "relive" and grieve for unresolved losses and express repressed feelings of anger, abandonment, and fear. The psychodrama and sociometry techniques also encouraged spontaneity and creativity and facilitated the life review process. Also, it encouraged the group members to resolve old problems and to examine and restructure their identities.

Research in Turkey (Oğuzhanoğlu, 2005) aimed to investigate the applicability of psychodrama and sociometrically oriented group work among the elderly living in nursing homes, and the effect of this group work on coping with psychological and behavioral problems. The group members were 11 male residents, none of them with any negative features in communicating with others and no one with somatic or serious psychological problems. Eighteen psychodrama and sociometrically oriented group work sessions were held, each of them 3 hr long once a week. The staff of the nursing home became involved in the process after the 12th session. Therapists registered their observations at every meeting to evaluate the anxiety-depression levels using the Geriatric Depression Scale and Hamilton Anxiety Rating Scale. The elderly members of the group were slowly warming up toward moving into action; therefore it took several sessions before a full psychodrama took place in the group. During the study, researchers observed an increase in the members' spontaneity, creativity, and empathy and consequently an improvement in communicating with and helping others, and coping with problems. Articulation of emotions and thoughts improved gradually during the study. Somatic and total anxiety scores decreased significantly.

Korean researchers (Kim, Jang, & Lee, 2005) conducted a study to evaluate the cognitive and noncognitive effects of psychodrama and sociometry on elderly dementia patients. The psychodrama and sociometry treatment group was composed of 16 elderly dementia patients and the control group was matched with that group. The psychodrama and sociometry group received eight sessions of therapy every week. Cognitive and noncognitive functions of the two groups were evaluated via the Geriatric Depression Scale, Barthel Activities of Daily Living, Self-Esteem Scale, etc., before and after sessions. Improvement of self-esteem was observed within the members of the psychodrama and sociometry group. In contrast, a worsening of depression was observed in the control group.

METHODICAL CONSIDERATIONS

Studies of sociometric interventions in residential long-term care in the United States and other countries were reviewed and concluded that published research on this topic is underdeveloped and vastly deficient. Therefore, this article aims to give essential illustrations of the sociometry approaches and techniques that have been successfully applied in my professional practice, research, and presentations in the fields of gerontology and sociometry.

Although the term sociometry has been most often applied to assessment methods, it can also be applied to related assessment measures of social functioning. Needs assessment is a process of gathering information about

previous experiences, habits, preferences, hobbies, and style of living. The survey should be conducted before and during the process of a resident's admission to the long-term care community and then continuously on the basis of new information or direct observation. Evaluation is a systematic determination of a resident's social participation; it can assist the long-term care organization in assessing the resident's satisfaction with activities and relationships and the need for future development or alternatives. To evaluate the elderly, the methods of observation and interview(s) can be applied.

Observation methods are used to gather information about the elderly attending sociometric activities and/or in natural settings, such as the cafeteria, activity rooms, and in their shared residences. Some observation methods can be highly structured and measured via applications of certain criteria. Other observation methods are less structured and rely on a narrative approach for describing an elderly person's social interactions, behavior, and the choices they make. Observations also can be conducted in an "analogue assessment," which involves having the elderly person role play social scenarios or self-expressing their feelings, and observing their performances.

Interview methods are used to gather information about an elderly person's preferences, habits, social skills, emotional status, physical and cognitive disabilities, etc. Interviews can be conducted separately with the medical and direct care personnel in the long-term care institution; relatives, friends, and other people from their social circle; and directly with the elderly. Interviews can be more or less structured.

Illustrations of the Sociometric Approaches and Techniques

Within sociology, sociometry has two main branches: research sociometry and applied sociometry. Research sociometry is exploring the socio-emotional networks of relationships in a group using specified criteria—for example, "Who in this group would you ask for advice on a family issue?," "With whom in this group would you share a personal secret?," or "With whom in this group would you prefer to spend a New Year's Eve?." Known also as "network explorations," research sociometry is concerned with relational patterns in small or large groups. On the other hand, applied sociometry utilizes a variety of methods to assist people and groups to study, measure, and develop their existing networks of relationships. Both approaches aim to assist groups to develop strong bonds and satisfaction, based on choice and a sense of belonging.

Sociometric interventions bring flexibility to groups by investigating the choices people make regarding other people and actions. All groups, small or large, have networks, based on emotional and social choices that group members make based on their values, beliefs, and experiences. Most modern approaches for social networking are developed on the philosophy of sociometry as a science (e.g., Facebook, LinkedIn, Twitter, and TV shows with voters).

Every long-term care facility for elderly is a formal structure as an organization with certain policies and procedures and a culture of providing services and completing tasks. However, those organizations consist of informal

structures that are essential for them in order to function effectively. Those informal structures are the relationships between the elderly, as well as their relationships with their families and other significant others, the formal caregivers providing services, and the nurses and the administration.

Sociometry enables professionals in long-term care to intervene in the organizational systems with both formal and informal research data, contributing to greater satisfaction and life with dignity among the elderly in an institutional setting. For sociometric interventions to be successful, participants are encouraged to explore the choices they make in their interactions and to better understand their motivation for those choices. Through sociometry, making choices is measurable and observable and can be evaluated.

Below are some of the sociometric techniques that I have applied in my practice with older adults in long-term care facilities.

"Tele"

"Tele" is a term from sociometry, derived from the ancient Greek word for "distance." "Just as we use the words 'telephone' and 'television' to express action at a distance, so to express the simplest unit of feeling transmitted from one individual towards another we use the term 'tele' " (Moreno, 1953, p. 314). Tele is ". . . the process which attracts individuals to one another or which repels them . . ." (Moreno, 1937, p. 213). According to the sociometric theory, tele between members of a group exists from the first meeting. Therefore, I have implemented and advised long-term providers to investigate from the very beginning the tele between the newly admitted residents and the existing residents. Introducing the new resident to everyone else in the neighborhood, dining room, and activities group, and observing their first contacts with the others, is an important process that plays the role of a sociometric warming-up exercise for group relations.

In long-term care, residents encounter each other through their daily life and also through special group activities that play the role of, and may have the outcome of, a therapeutic session. A certified activity director occupies the role of a leader and facilitator. The group process gives an opportunity for the elderly to explore their feelings toward each other: to encounter, to develop positive tele and group cohesion, to prevent or resolve potential conflicts, and to build up trust and a relaxed environment.

Sociometry as science is based on the fact that people make choices in interpersonal relationships. Whenever people gather, they make choices—who they like or dislike, who seems friendly or interesting, with whom they want to talk, to get to know each other, to continue the communication, etc. As the founder of Sociometry, Moreno (1953) said,

> Choices are fundamental facts in all ongoing human relations, choices of people and choices of things. It is immaterial whether the motivations are known to the chooser or not; it is immaterial whether

> [the choices] are inarticulate or highly expressive, whether rational or irrational. They do not require any special justification as long as they are spontaneous and true to the self of the chooser. (p. 720)

Respecting the choices of the elderly residents regarding with whom they would like to share a room, to sit at the dining table, or to work on various projects such as crafts, decoration, or gardening, can greatly contribute to their personal satisfaction and the group's cohesion. Sociometric intervention can be applied in many different ways, from classical exercises or interviews, to simple observation of certain group dynamics. While consulting for a long-term care community, I noticed that the residents were very quiet during meals; most people had their heads down and they looked flat, disengaged, or sad. The usual procedure is for residents to be seated randomly, and if a conflict occurs, a resident would be moved to eat at a table alone. Unfortunately, this picture is very common today in the long-term care field. When I started studying this phenomenon, I noticed that at one table there were only three women enthusiastically greeting and communicating with each other. The three residents who had developed friendships had asked to be seated together. They were socially and cognitively active in conversation. The rest of the residents were simply accepting the "institutional setting." An experiment was conducted—the residents were to be asked or observed regarding their preferences and choices about dining companions. This very simple task quickly changed the environment. Residents became more relaxed and communicative during meal time. Many of them stayed a longer time around the table for coffee and conversations.

Another example is the situation with Resident A, who occupied a double apartment, but had conflicts with every roommate. Families were complaining, the roommates were moving out, and the management was discussing the possible discharge of Resident A. At the same time, Resident A was seen on several occasions sitting quietly with a resident from a different living area during the day; they weren't talking much, but there was a peaceful feeling to their demeanor. I suggested that both residents be asked to be roommates. The experiment was successful—the two residents quietly occupied the same apartment for almost 2 years, until Resident A's passing.

Action Sociometry

In the field of elderly care, the death of a community/group/member is an inevitable occurrence. As the relationship of residents with the deceased has been disconnected, the occurrence most likely would bring new feelings of grief, loneliness, or fear. An appropriate intervention would be activities for expressing feelings and sharing memories, which would be a tool for accomplishing a sufficient closure of the relationship with the deceased and approaching a new beginning and new relationships.

An example of a well-received sociometric exercise in a group is an action sociogram—asking the elderly to choose and form dyads where each may share moments from their relationship with the deceased. Then the two would choose

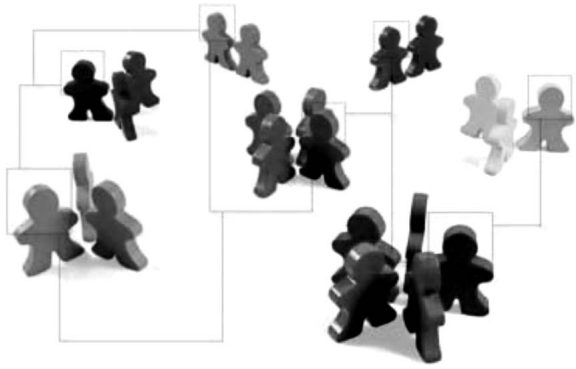

Figure 1. Action sociometry.

another pair and the sharing would continue. The next step is the subgroups forming two larger groups and after subsequent sharing, each of the larger groups would create an action of a favorite memory with the deceased that would be presented to the whole group. Usually this approach would include painful emotional outbursts during the process; however, the intense sharing, the creating, and the presenting usually leads to a positive closure. The action most of the time consists of pleasant moments, acts, or jokes that the elderly remember from their relationship with the deceased; it leads to laughter and the building of a new, positive perception of how thankful and blessed they have been knowing that person. This element of the closure also provides an opportunity for connection between the elderly group members and a warm-up for upcoming reality activities and future relationships. Figure 1 illustrates forming dyads and small groups within the larger group where elderly people may share with each other.

Psychological Social Atom

Another approach for assisting the elderly in dealing with grief is the "psychological social atom." According to Hollander and Hollander (1978), this is "the smallest number of people required by you in order to feel a social equilibrium (balance)." Losing a loved one usually leads to the need for coping; people may become stuck in the role of the grieving person and become resistant to other roles. That results in withdrawing from their existing social circle and an unwillingness to participate in social activities, therefore choosing an unhealthy pattern of living. The psychological social atom is a questionnaire consisting of situations and asking the person to choose other people who could fit in similar roles or functions in their life. This exercise can lead to the realization that there are other significant people in their life, or even that other people may show up in their life if they stay social, which may help the elderly to reach a new perspective on the need to search for a meaningful life and relationships. Figure 2 illustrates a psychological social atom.

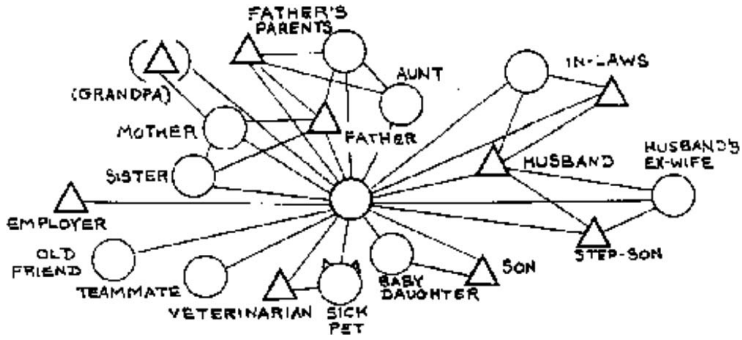

Figure 2. Psychological social atom.

Spectrogram

A spectrogram is a visual representation of the spectrum of experienced feelings and a measurement of their intensity. Two opposite choices are symbolized in the space (the room) and a criteria is offered to the elderly—for example, "I feel completely comfortable here" / "I feel completely uncomfortable here"; "I know everything about my rights as a resident" / "I know nothing about my rights as a resident." The criteria are required to be clear in order for the elderly to understand and to give clear answers. According to Delbert (1967), constructing a spectrogram clarifies issues, makes abstract issues concrete, and forces the participation and commitment of usually nonverbal members. Once the spectrogram is formed and each member has defined their position, the group process may shift to a more open sharing, and even those who are resistant to verbally participating are part of the discussion as they have chosen with their body. I have applied the technique spectrogram as a tool for needs assessment and evaluation for increasing the quality of provided psychological and social services in long-term care. Figure 3 shows an example of a spectrogram.

Locogram

A locogram is another sociometric technique, measuring the elderly's relations to categories of choice (from "locus," or place). Usually several possible choices are symbolized in the space and the participants are asked to choose a relationship with certain criteria. Dayton (2016) described the use of paper with various emotions, negative and positive, placed on the floor. Possible criteria are "Which emotion do you experience most?"; "Which emotion do you experience least?"; "Which emotion would you like to experience?." Locograms can be created to evaluate the satisfaction with certain activities, and to measure when the elderly feel most relaxed and energetic or sad and grieving—"an imaginary clock" for time of the day, "a weekly or monthly calendar" for day of the week or seasons or holidays. Figure 4 illustrates group members who have picked a certain location to reflect their choice.

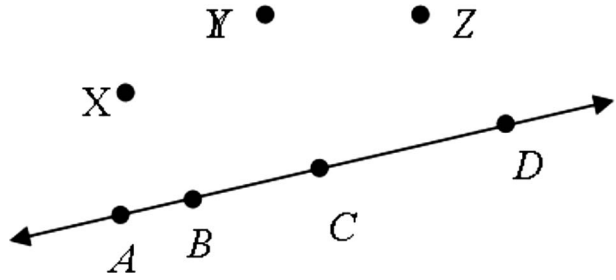

Figure 3. Spectrogram.

Sociogram as a Result of a Sociometric Exploration

A sociogram is a sociometry technique for measuring participants' choice of a person with whom they would most like to perform certain activities (to talk, to share, to go places, to organize an event, etc.) The selection of the appropriate criterion is particularly important for this sociometric intervention; it should be simple and easy, and it should present a meaningful choice to the person and be related to real experiences regarding their future (e.g., "Who would you most like to have as part of your book-reading club?"; "With whom would you most like to have lunch together?"; "Whom would you most trust to share personal problems?"). As a result, the exercise would reveal the hidden structure of the group. The person in the group who receives the greatest number of choices for certain criteria, is the "sociometric star" (please note that a different person can be chosen for different criteria). These findings can be applied through the process of empowering the chosen residents to contribute to the social activities in the elderly care community. A person who does not choose and is not chosen or a pair who choose only each other, are "isolate and isolated dyads" (please note that definition can be only for the particular group, as those people may choose someone else who is not in the group, i.e., "I would do this only with my husband or a friend"). Cliques and subgroups, pivotal persons, and linkages can

Figure 4. Locogram.

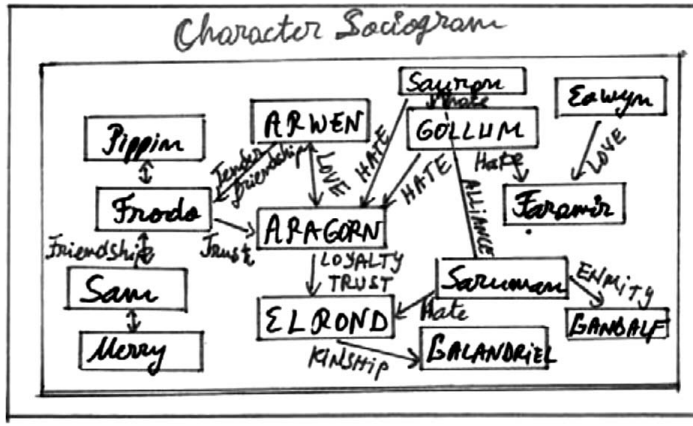

Figure 5. Pen and pensile sociogram.

be discovered as a result of this sociometric exercise. The findings can be applied to the group dynamics by addressing additional attention to those who are isolates. For that purpose the sociometric criterion needs to opened up so that it includes the person as a choice to be picked.

The results of the sociometric exploration can be displayed graphically in order to use the answers for research purposes. A sociogram can be created with paper and pen, or via computer applications (Figures 5 and 6). The data for the sociogram may also be displayed as a table or matrix of each person's choices (called a sociomatrix; Figure 7).

Sociometric Applications for Older Adults with Mobility Impairment

Sociometry was created as an action method and includes movement and physical self-expression; therefore, somebody may argue that the method is not suitable for application among elderly people with mobility impairment. However, the richness of the method can offer alternative ways to overcome the physical limitations. A very important requirement is that the director and the group be aware of the extent of the impairment of each participant, and the issue of safety should be clearly addressed. An extra effort on the part of the director (and preferably a present co-director) might be necessary.

An additional chair next to or slightly behind the chair of each of the group members helps the participants to easily pick up or put back props, cards, writing, and coloring material. I would sometimes ask the elderly to create their own "creative personal ID" on card stock that they would use during the session as an "extension" of themselves, and then to attach the card (using a punched hole) to a long line or ribbon (e.g., 5 yards long). During the session, the group members would be able to place those cards on the floor when making choices as part of spectrogram, locograms, or sociometric exploration exercises. Here, as

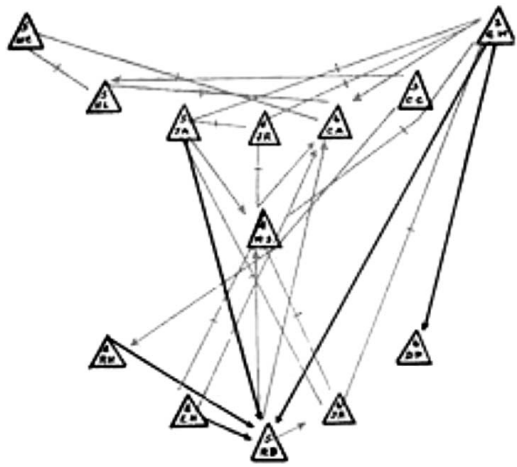

Figure 6. Computer app sociogram.

they may not be able to physically move around the room, they would indicate where they would like their card to be placed and the director (and assistant) would help them. The participants would hold the end of the line and that would help them to feel connected to the card; after making the choice they would be able to pull the card back to themselves, which makes the process easy and empowers them. Another, simpler technique is for group participants to use a piece of fabric or a prop that would represent themselves, and use that to indicate what their choice would be in regard to certain sociometic criteria. Other techniques I have used in sociometric explorations include allowing group members to make a choice from their own location (chair), using inflatable beach balls (which are a safe prop and would bring positive emotions due to the

	Ann	Bob	Claire	Don	Edna	Fred
Ann		+	-	0	+	0
Bob	0		-	+	+	0
Claire	-	0		+	+	+
Don	0	+	-		0	0
Edna	+	+	0	+		0
Fred	+	+	0	0	+	

Figure 7. Sociomatrix.

color, or phrases printed on them, or the playfulness they inspire), or asking the participants to choose by holding one end of a piece of yarn and sending the other to the chosen person.

SUMMARY

The use of sociometry has expanded over the years into fields such as psychology, sociology, anthropology, education, etc., and is now being used in the field of gerontology. With the estimated growth of the older adult population doubling by 2050, sociometry is a useful tool for increasing the connections and choices among residents in long-term care facilities. When working with the elderly who are living in a long-term community and who tend to socially withdraw or isolate themselves, a sociometric activity can be conducted with the group to determine the desired choices that may empower them, to give them a voice, and to motivate them to live their lives in a meaningful way with dignity. The results of the sociometric techniques can then be used when encouraging the elderly to become a part of various activities such as for assigning seating in the dining room and roommates. Sociometry can be used in long-term care to find the optimum relationships between the residents, and between them and those providing services as well as their social circle outside of the elderly community, and to understand how they perceive themselves within the social context of institutional care.

Sociometry can also be a powerful tool for reducing conflicts and improving communication and for allowing the group members to see themselves objectively and to analyze the group dynamics. Assessing and understanding the resident's relationships is important in institutional settings for several reasons including identification of their social standing, emotional status, and satisfaction derived from their lifestyle and level of interest and involvement in various activities. The establishment of friendships and positive social interactions are important for the elderly as much as for people in younger age groups. The elderly with poor or absent relationships often experience negative social and emotional consequences such as depression, anxiety, low self-esteem, social withdrawal, etc. Given these potentially negative outcomes, sociometric interventions are suggested as a possible solution.

The effectiveness of sociometry has been discussed in the literature since its early applications and most of the researchers have concluded that measuring sociometric choices and taking appropriate actions based on the results leads to increasing productivity, effectiveness, and better leadership. With regard to applying sociometry in the field of gerontology, I suggest that this approach leads to a better assessment of the characteristics of the elderly residents, to respecting their choices, to empowering their actions, and to transforming the long-term institutional setting into one that honors a person-centered approach to care.

The limitations of sociometry applications in long-term care are the lack of trained professionals that know the method and are able to modify it and adapt it to the needs of the elderly care field.

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