Wayfinding Crisis Intervention: Theory and Practice for Mentally Ill Persons with Transportation Handicaps

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Wayfinding crisis intervention has proven to be an effective intervention with severely mentally ill persons who often enter a crisis state upon becoming lost when traveling to community health services. A crisis service delivery model used with this population is presented in the context of a problem-solving process.

The passage of the Americans with Disabilities Act of 1990 (ADA) symbolizes a renewed national effort to serve people afflicted with handicapping conditions (1). This law converges with the national and international rehabilitation movements. In a mental health context, America's deinstitutional movement is changing radically to bridge gaps in service needs. Recently, the helping professions assessed several dimensions of mental health services. Their investigation of mental health care and its organizing and financing suggests that further rigorous research is warranted for enhanced service delivery. Several national mental health plans have been devised to improve services to persons with severe mental disorders and developmental disabilities (2-4).

The national mental health plans are responses to advancing community mental health services with greater specificity on behalf of existing and newly identified psychiatric populations. Over the past 30 years the helping professions have extended their expertise into other disciplines to assist increasingly diverse mental populations. This extension has made available the merits of orientation and mobility training, or wayfinding training, to the deinstitutional movement (5). The training is used by severely mentally ill persons with transportation handicaps who travel to community mental health services by public bus transit. The general characteristics of this population indicate that they confront immense psychosocial and architectural barriers in daily travel to urban mental health services. Most of them have inadequate wayfinding and public bus riding skills largely because of their mental condition. These clients also experience other difficulties that result in high noncompliance with outpatient services. Salient factors such as travel distance, the demands of implementing a travel plan, medical illness coupled with a psychiatric condition, and visuospatial disorders influence their use of community-based services with few exceptions (6-13).

Transportation-handicapped mentally ill persons require expertise and planning far beyond the standard treatment available to severely mentally ill persons who have been dein-

stitutionalized, because the mental operations required for traveling are not easily mastered by psychiatric or nonpsychiatric populations (14-20). In essence, wayfinding training programs that include selection criteria and travel training procedures and use public bus transit systems put into effect deinstitutionalization with greater specificity. They ensure greater compliance with community-based services (21,22). The wayfinding training selection criteria follow (they are not mutually exclusive per population):

- Exceptional populations (mentally retarded)
  - Not overly resistive
  - Not severely impaired by cerebral palsy
  - No severe loss of hearing or vision
  - Able to associate time and events
  - Does not damage property
  - Does not run away
  - Has not caused serious physical injury to self or others within the past year
  - Can walk or move independently in wheelchair
  - Not profoundly retarded
- Transportation-handicapped mentally ill
  - Not dually diagnosed (schizophrenia with mental retardation)
  - Expresses an interest in learning independent travel
  - Develops a travel route based on a cognitive map
  - Executes public bus riding skills as instructed
  - Receptive to the process of normalization
  - Does not have a severe health condition
  - Has either rote or associational learning ability
  - Has long-term memory for route learning
  - Has been stabilized on psychotropic medication (if necessary)

Although advances have been made in serving mentally ill persons who have transportation handicaps, the successful transfer of these clients from institutional to community-based settings remains a problem. Clients frequently become geographically lost when traveling alone to urban community mental health centers. Technically, a person is geographically lost if he or she does not associate current community location with an understanding of the destination that is out of immediate perceptual range (23). Becoming lost tends to move a client into a crisis state because of the correlation among stress, coping, and a vulnerable mental condition. Currently, the helping professions have not proposed a treatment model that addresses such a situation.

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This paper builds on earlier research conducted with transportation-handicapped persons of Barney Neighborhood House in Washington, D.C. Three interrelated mental health components are presented from a social work perspective. First, an overview of crisis intervention with psychiatric populations is presented. Second, a wayfinding crisis intervention model used with this population to regain geographical orientation is briefly discussed. Last, the problem-solving process of crisis intervention is outlined. Implications of wayfinding training are related to the transportation component of ADA.

CRISIS INTERVENTION OVERVIEW

Lindemann's pioneering research on managing acute grief remains the foundation for developing crisis intervention theory and practice (24). In his brief casework with the relatives of victims of the Coconut Grove fire, he found that the time frame for acute grief varies: it can occur immediately or be delayed. Acute grief is accompanied by psychosomatic symptoms. Victims also rely on defense mechanisms to cope with the trauma. Lindemann's work established that grief was a natural reaction to trauma and that people develop a new state of equilibrium by working through the crisis. Later, Caplan designed a community mental health approach to prevent crises through programs. The helping professions have universally accepted his concept of prevention. Prevention is a vital method to reduce the impact of crises (25,26). These contributions paved the way for scholars to advance crisis intervention theory and practice in diverse settings with special populations. Crisis intervention can be discussed in four parts: definition, type, theory, and principles. A composite definition of a crisis embodies several ideas. Generally speaking, a crisis is the perception of an event or situation as an intolerable difficulty that exceeds the resources and coping mechanisms of a person (27). During disequilibrium, a crisis can result in an extremely negative or an extremely positive outcome, depending on how a person handles the difficulty. The inability to function effectively as a consequence of emotional turmoil is an undesirable outcome. A positive outcome, however, enhances problem-solving and coping skills (28–31).

Either outcome can occur with each of the three types of crisis:

- Developmental crises are normal yet unique events that mark a dramatic shift in a person's life.
- Structural crises tend to occur with unanticipated events that are beyond an individual's control.
- Existential crises direct a person to assess and take further action toward achieving self-actualization.

These crises commonly interact, which influences the transfer of psychiatric clients into community life (24,32,33). It accounts for crisis theory, drawing on human behavior and environmental psychology theories to help people work through crises. Those theories assert that human beings are biologically endowed to function independently because of adaptive ability. One's ability to recall experiences and organize emotions and intellect into specific habitual patterns of social functioning allows one to carry out the activities necessary for daily living. Successful adaptation to crises involves having the capacity to act or react to environmental demands. It helps to maintain psychological equilibrium for directing energies and executing skills to meet life's tasks (34–38).

Inadequate response to environmental demands does not automatically move a person into a crisis state. Three factors are associated with a crisis. A hazardous precipitating event occurs that threatens one's survival. This threat makes a person more vulnerable by limiting his or her problem-solving and coping skills. The person then moves into a state of disequilibrium that warrants professional assistance (39).

Crisis theory further posits that a crisis is caused by the perceived significance of the hazardous event. The event can induce pathological or nonpathological responses based on environmental and situational variables. The degree of life threat, duration and severity of the stressor, level of displacement or disorganization of a person from his or her community, and the location of the crisis are relevant variables (40). A crisis becomes a life-threatening experience for psychiatric clients who possess diminished independent living skills (41). In summary, crisis theory establishes a set of ideas that help in solving people's difficulties through various types of intervention. The basic principles of crisis theory follow (24–41):

- Crises occur across the life span.
- Hazardous events tend to create emotional disequilibrium and disorganization.
- Crises represent opportunities for growth and development.
- A crisis is neither an illness nor a pathological experience.
- Specific types of crises follow stages that can be charged.
- Crises are limited (4 to 6 weeks) depending on the type.
- Crises are complex and difficult to resolve.
- People in crises are open to help.
- Quick fixes do not apply to crisis intervention.
- Resolution of the crisis enhances practitioner and client personhoods.
- The principles of crisis intervention stem from its theory.

Crisis intervention is a shortened yet specialized intense problem-solving process. A synthesis of its core principles follow (42–45).

- Provide immediate help that involves ensuring client safety.
- Define the crisis through a psychosocial assessment.
- Focus on the crisis by letting clients ventilate their feelings.
- Reduce tension through supportive techniques.
- Intervene to help client gain cognitive and behavioral problem mastery.
- Develop a problem-solving stepwise plan with the client.
- Implement the plan by drawing on various resources.
- Evaluate the plan for its effectiveness.
- Terminate yet follow up the crisis resolution.

The crisis worker action continuum of Gilliland and James should be deployed during crisis resolution. It can guide the degree to which a worker becomes directly involved to help a client solve a crisis (24). In summary, crisis intervention theory and practice has developed into a sound clinical method.

It is effective with a wide array of people who suffer psychiatric emergencies. The revolving-door syndrome has been curtailed by mentally ill clients who resolve their psychiatric emergencies in the community rather than in the hospital (*41*).

WAYFINDING CRISIS INTERVENTION MODEL

Crisis intervention with persons who are geographically lost is a situational crisis. An integral part of wayfinding training—the cognitive and behavioral ability or skill to reach destinations in the environment—requires that a client test independent travel to demonstrate route mastery under the supervision of a trainer (*46*). It requires that clients determine the direction of a familiar goal across unfamiliar terrain by monitoring the outward journey on the basis of visual landmarks (*47*). The deinstitutional literature is filled with tales of psychiatric clients found wandering in the community because they could not find outpatient facilities. By and large, these clients are mentally ill persons whose psychosocial decompensation comes from being in a crisis state (*13,41,48–50*). Their successful transfer into community life necessitates at least a service delivery system with affordable and available housing, support networks, adequate resources, a mass transit system, and effective case management. Crisis counseling by telephone should be a core component of case management with deinstitutional clients. This service bridges geographical and psychosocial barriers of lost clients with community mental health practitioners for crisis resolution (*51*).

Few data exist for theories about the mechanisms associated with psychiatric clients' moving into a crisis state because they are lost (*52*). However, two interrelated wayfinding theories provide a possible explanation. Ley conceptualizes wayfinding

as a frontier outpost. He suggests that four human responses to persistent uncertainty occur in a new environment: during navigation a traveler processes information, consolidates new ties within the environment while dissolving bonds with the old environment, and forms a social network; the new environment serves as a point of reference for future activity (*53*). Seamon says that the frontier outpost experience is solidified into a geography of the life world through a traveler's movement, rest, and encounter within the environment. Movement helps a traveler to assimilate unfamiliar places into a world of familiarity, rest anchors a traveler in his or her personal travel knowledge, and encounter involves learning routes. A traveler who demonstrates the tendency toward environmental merger acquires independent travel skills. His or her noticing and heightened contact with the environment allows the travel plan to be executed on the basis of the dynamics of the social casework wayfinding model.

On the other hand, environmental separateness is characterized by a traveler's watching and obliviousness during a journey before learning travel routes. These two variables tend to correlate with psychiatric conditions of severely mentally ill persons with transportation handicaps undergoing community travel (*54*) (Figure 1).

The following list displays some relevant dynamics that result in psychiatric clients' becoming lost:

- Poor environmental orientation
- Poor episodic and semantic memory
- Attentional overload
- Resistance to normalization
- Inadequate treatment team support
- Lack of public transit knowledge
- Disadvantages of public bus seating
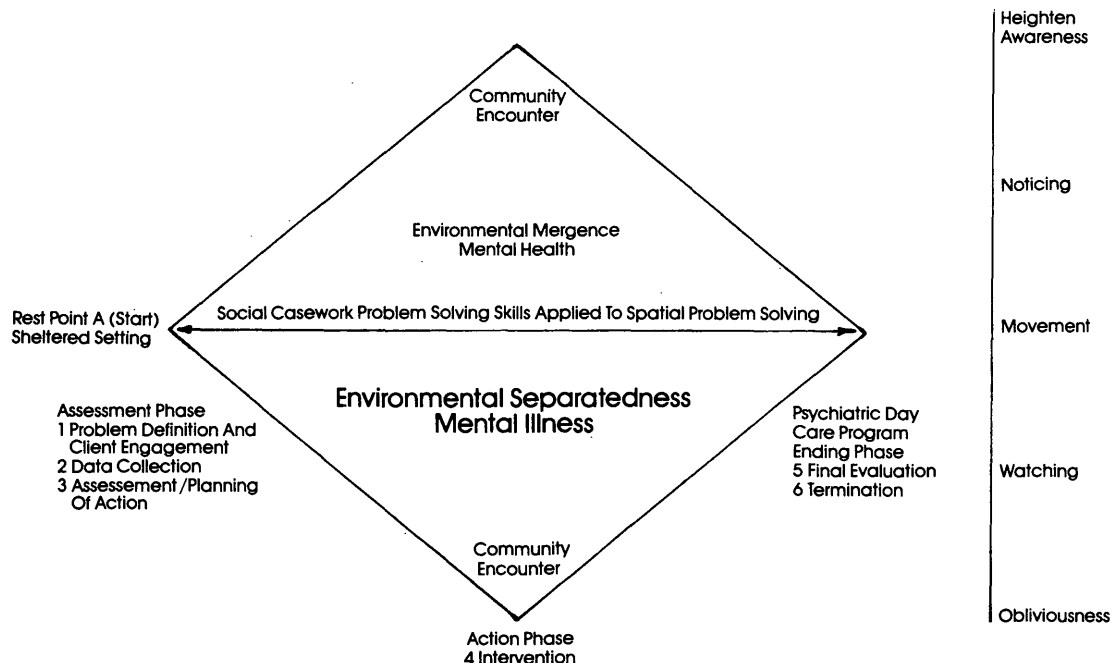
The upper triad of the diagram represents environmental learning that develops independent travel skills. The lower triad represents non environmental learning. The upper triad must be mastered in order that the lower triad becomes routine.

FIGURE 1   Social casework wayfinding model.

- Independent travel without route mastery
- Switch from specialized to public mass transit
- Overdependence on travel trainer
- Confusion, distance, and lack of motivation (objective and cognitive)
  - Noncompliance with travel instructions
  - Resistance to requesting help
  - Change of urban landmarks during stay in institution
  - Misdiagnosis of psychiatric condition
  - Use of mobile landmarks for travel

This continuum lists factors associated with moving into a crisis state:

- Mobility (equilibrium)
  - Normal activities
  - Normal vital signs
  - Reasonable sociability
  - Coherent mental functioning
- Partial mobility (precrisis)
  - Increased anxiety
  - Increased vital signs
  - Perspiration
  - Tense muscles
  - Loosening cognition
  - Doubting own travel competence
  - Heightened awareness of survival needs
  - Decreased concept of self
  - Interested in being helped
- Immobility (crisis)
  - Rapid vital signs
  - Sweating, headaches, shortness of breath, fatigue
  - Disoriented thinking
  - Physical illness (nausea, diarrhea)
  - Urgency for help
  - Regression

Theoretically, a client begins a trip in a state of equilibrium. This is predicated on having a travel trainer accompany the client throughout the trip. It may result in a client's immediate mastery of a particular travel route, but such mastery would be the exception. The norm suggests that during travel the client processes spatial information, interacts with the public, and implements travel instructions. A cognitive map of the primary travel route is formed; it places landmarks in sequential order. The map permits mastery of the primary travel route. Mastery demands that the destiny be learned from the sheltered setting to the community-based program, its inverse, and the integration of landmarks from both directions (55). Gaps in the cognitive map due to memory deficits result in inaccurate travel decisions.

A client's anxiety increases the farther that he or she travels toward a destination by public bus or walking without seeing familiar landmarks. Anxiety is a psychological reaction to a dangerous situation that reduces the efficiency of performing tasks (56). Heightening anxiety contributes to noticing landmarks not seen earlier. Unfamiliar landmarks generate cognitive dissonance that moves a client into the precrisis stage. Clients then begin to question the reliability of their own travel knowledge and cognitive map for competent travel because of these unfamiliar landmarks. This tends to move a

client into the crisis state that paralyzes problem-solving and coping skills. When trying to become reoriented, a client must compile satisfaction data on (a) knowing where one is, (b) visualizing what is likely to happen next, (c) considering whether it will be good or bad, and (d) developing an alternative course of action; creating subgoals to gain mastery within the environment will be attempted by trial and error (57). These travel decisions are often too demanding for psychiatric clients in the crisis situation.

Psychiatric clients are empowered to resolve the crisis through trial and error. This consists of a combination of location- and route-based navigation or resourcefulness. For example, a client can rely on the public bus driver or the public for appropriate wayfinding help (58). If a client is able to identify familiar landmarks through a search process, the cognitive map will be triggered and the sociophysical surroundings will become structured to produce environmental orientation. A client's recognition of landmarks substantially reduces stress and allows the cognitive restructuring of the mental map. As unfamiliar landmarks are replaced by familiar landmarks within the cognitive map, clients begin to gain a new state of equilibrium. The crisis state is reversed as clients recognize landmarks that serve as travel guides. The more landmarks that the client can recall in sequential order, the more the client becomes competent and moves out of the crisis state.

Later, the meaning of the crisis must still be worked through to enhance the client's psychosocial functioning. This also provides additional information for community mental health practitioners to assess a client's problem-solving and coping skills for future situations.

Some psychiatric clients will not be able to resolve their geographical crises. Outreach crisis intervention will be required; it is predicated on a client's psychological functioning, help-seeking behavior in strange environments, and the clinical expertise of helping professionals. The following crisis intervention approach is implemented with the mentally ill who become lost in the community (59,60):

1. Data collection (telephone)
   - Worker assesses client's psychosocial functioning by telephone counseling.
   - Worker provides supportive therapy.
   - Worker requires client to describe landmarks in the environment.
   - Worker determines client's geographical location.
   - Worker determines client's efforts to solve the problem.
   - Worker directs client to stay at current location.
   - Other professionals provide support while help is on the way.
2. Intervention (in the community)
   - Worker travels by private vehicle to client's location.
   - Worker finds client.
   - Worker makes sure that client is safe.
   - Client tells worker how he or she got lost.
   - Worker and client backtrack the primary travel route.
   - Worker and client return to the sheltered setting or community program.
   - Treatment team determines a time frame for continued training.
   - Individual travel plan is revised on the basis of specific factors contributing to becoming lost.

–Action-oriented group therapy is implemented to help client work through the crisis (psychodrama, assertion training).

3. Evaluation

–Implement client's wayfinding training on the basis of the revised plan.

–Monitor client's travel of route with client.

–Correct and reinforce client's travel decisions.

–Monitor client's travel of route unobtrusively (weaning).

4. Termination

–Reinforce client's mastery of a primary route.

–Work through client's reactions to terminating the training.

–Provide wayfinding training as needed.

–Encourage client to master a secondary travel route.

–Link clients with other clients who travel the same route to community-based programs.

IMPLICATIONS

This paper has conceptualized wayfinding crisis intervention with transportation-handicapped mentally ill persons who ride public buses to use urban community mental health services. This service is a way to foster normalization of physically or mentally impaired persons in accordance with the ADA. There are at least two major implications derived from the research. America is becoming an increasingly mobile society for all populations (61). The national mental health plans and the international mobility movement place transportation central to development of future mental health services. The helping professions must expand the concept of treatment teams to serve transportation-handicapped psychiatric populations. The services of public bus drivers must be included as an informal part of treatment. Frequently, bus drivers are the primary source of accurate travel information for psychiatric clients. Bus drivers can influence whether a client moves into a crisis state by providing needed data. Moreover, bus drivers can ensure a client's safety who is in crisis before the helping practitioner arrives. Further training of bus drivers about deinstitutionalization would prove invaluable to people with diverse disabilities.

There is also a need to investigate thoroughly the psychological dimensions of wayfinding with psychiatric populations. Certain factors are associated with becoming geographically lost. For example, clients sometimes use mobile landmarks as stationary environmental reference points for travel. On face value this appears contradictory, but there is a rational explanation. People's activities occur in a given place and time. Some events that happen in a place change from time to time, occur in repeated and predictable patterns, and range from beneficial to dangerous. These temporally changing patterns of events can help a client be in the right place at the right time (62,63). Specifically, during a client's travel, some parts of the city are more populated with roadside vendors than others. Psychiatric clients traveling the same route may recognize vendors as stationary landmarks. The same vendor may decide not to work on a given day or to change location. This alters a psychiatric client's cognitive map. If a client relies on a number of vendors as stationary landmarks but cannot

find them, the crisis continuum may be catalyzed. Further investigation of such wayfinding crisis intervention will prepare helping professionals to service this population effectively.

ACKNOWLEDGMENTS

REFERENCES

1. *Americans with Disabilities Act.* P. Law 101–336, 104 status 370, 101st Congress. *Federal Register,* Vol. 56, No. 173, Sept. 6, 1991.
2. *Caring for People with Severe Mental Disorders: A National Plan of Research to Improve Services.* National Advisory Mental Health Council, National Institute of Mental Health, U.S. Department of Health and Human Services, 1991.
3. National Advisory Mental Health Council. *National Plan for Research on Child and Adolescent Mental Disorders.* Report to U.S. Congress. U.S. Department of Health and Human Services, 1990.
4. *The Future of Mental Health Services Research* (C. A. Taube, D. Mechanic, and A. A. Hohmann, eds.). DHHS Publication (ADM) 89–1600. U.S. Department of Health and Human Services, 1989.
5. *Foundations of Orientation and Mobility* (R. L. Welsh and B. B. Blasch, eds.). American Foundation for the Blind, New York, N.Y., 1980.
6. B. Taylor. Social Skills: Travel Training in Social Work Practice. *Social Casework,* Vol. 69, No. 4, April 1988, pp. 463–467.
7. M. J. Witkin, J. E. Atay, A. S. Fell, and R. W. Manderscheid. Specialty Mental Health System Characteristics. In *Mental Health, United States 1990* (R. M. Manderscheid and M. A. Sonnenschein, eds.), DHHS Publication (ADM) 90–1708, Rockville, Md., 1990.
8. J. N. Balog and R. J. Pawlak. Paratransit and Bus Accidents Involving Elderly and Disabled Passengers: Evacuation and Rescue Problems and Solutions. In *Transportation Research Record 973,* TRB, National Research Council, Washington, D.C., 1984, pp. 14–22.
9. G. W. Shannon, R. L. Bashshur, and J. E. Lovett. Distance and the Use of Mental Health Services. *Milbank Quarterly,* Vol. 64, No. 2, 1986, pp. 301–330.
10. *Urban Mass Transportation Act of 1964* (as amended through February 1988) and related laws. UMTA, U.S. Department of Transportation, 1988.
11. D. P. Middendorf, K. W. Heathington, F. J. Wegmann, M. W. Redford, A. Chatterjee, and T. L. Bell. *NCHRP Report 261: Cost-Effectiveness of Transportation Services for Handicapped Persons.* TRB, National Research Council, Washington, D.C., 1983, pp. 7–13.
12. T. Garling, A. Book, and E. Lindberg. Cognitive Mapping of Large-Scale Environments: The Interrelationship of Action Plan, Acquisition, and Orientation. *Environment and Behavior,* Vol. 16, 1984, pp. 3–34.
13. G. Ratcliff. Spatial Cognition in Man: The Evidence from Cerebral Lesions. In *Cognitive Processes and Spatial Orientation in Animal and Man* (P. Ellen and C. T. Blanc, eds.), Martinus Nishoff Publishers, Boston, Mass., Vol. 2, 1987, pp. 78–90.
14. B. Taylor and A. Taylor. Social Casework and Environmental Cognition: Mobility Training for Community Mental Health Services. *Social Work,* Vol. 34, No. 5, 1989, pp. 248–252.
15. D. Velche. Travellers with Mental Handicap in Urban Areas of France: A Series of Research Studies 1984–1988. In *Mobility and Transportation for Elderly and Disabled Persons* (C. E. Norrbom and A. Stahl, eds.), Gordon and Breach Science Publishers, Philadelphia, Pa., 1991, pp. 1061–1072.
16. B. R. Lima and S. Pai. Concurrent Medical and Psychiatric Dis-

orders Among Schizophrenic and Neurotic Outpatients. *Community Mental Health Journal*, Vol. 23, No. 1, Spring 1987, pp. 30–39.

17. R. A. Maricle, W. F. Hoffman, J. D. Bloom, L. F. Faulkner, and G. A. Keepers. The Prevalence and Significance of Medical Illness Among Chronic Mentally Ill Outpatients. *Community Mental Health Journal*, Vol. 23, No. 2, Summer 1987, pp. 81–90.

18. D. R. Montello. The Measurement of Cognitive Distance and Construct Validity. *Journal of Environmental Psychology*, Vol. 2, No. 2, 1991, pp. 101–122.

19. S. C. Hirtle and J. Hudson. Acquisition of Spatial Knowledge for Routes. *Journal of Environmental Psychology*, Vol. 2, No. 2, 1991, pp. 335–345.

20. S. Wapner and L. Craig-Bray. Person-in-Environment Transitions: Theoretical and Methodological Approaches. *Environment and Behavior*, Vol. 24, 1992, pp. 161–188.

21. B. Taylor. Social Work Practice with the Transportation-Handicapped Psychiatrically Ill. In *Transportation Research Record 1292*, TRB, National Research Council, Washington, D.C., 1991, pp. 24–28.

22. *Project Action Reconnaissance Survey of Selected Transit Agencies*. National Easter Seal Society and UMTA, Washington, D.C., 1989.

23. R. J. Loomis and M. B. Parsons. Orientation Needs and the Library Setting. In *Sign Systems for Libraries Solving the Wayfinding Problem* (D. Pollet and P. C. Haskell, eds.), R. R. Bowker Company, New York, N.Y., 1979, pp. 3–17.

24. E. Lindemann. Symptomatology and Management of Acute Grief. In *Crisis Intervention: Selected Readings* (H. J. Parad, ed.), Family Service Association of America, New York, N.Y., 1965, pp. 7–21.

25. G. Caplan. *An Approach to Community Mental Health*. Grune and Stratton, New York, N.Y., 1961.

26. G. Caplan. *Principles of Preventive Psychiatry*. Basic Books, New York, N.Y., 1964.

27. B. E. Gilliland and R. K. James. *Crisis Intervention Strategies*. Brook/Cole Publishing Company, Pacific Grove, Calif., 1988.

28. N. Kfir. *Crisis Intervention Verbatim*. Hemisphere Publishing Corporation, New York, N.Y., 1989.

29. K. A. Slaikeu. *Crisis Intervention: A Handbook for Practice and Research*. Allyn and Bacon, Boston, Mass., 1990.

30. G. Parry. *Coping with Crisis*. British Psychological Society and Routledge Ltd., New York, N.Y., 1990.

31. *Crisis Intervention Book 2: The Practitioner's Guide for Brief Therapy* (H. J. Parad and L. G. Parad, eds.). Family Service America, Milwaukee, Wis., 1990.

32. S. Wapner. Transactions of Persons in Environments: Some Critical Transitions. *Journal of Environmental Psychology*, Vol. 1, 1981, pp. 223–239.

33. J. P. Eddy, D. M. Lawson, and D. C. Stilson. *Crisis Intervention*. University Press of America, Lanham, Md., 1983.

34. S. Dixon. *Working with People in Crisis: Theory and Practice*. Merrill Publishing Company, Columbus, Ohio, 1987.

35. D. C. Aguilera. *Crisis Intervention Theory and Practice*. C. V. Mosby Company, Philadelphia, Pa., 1990.

36. N. Golan. *Treatment in Crisis Situations*. Free Press, New York, N.Y., 1978.

37. D. Mechanic. *Mental Health and Social Policy*. Prentice Hall, Englewood Cliffs, N.J., 1989.

38. R. M. Wielkiewicz and C. R. X. Calvert. *Training and Habilitating Developmentally Disabled People: An Introduction*. Sage Publications, Newbury Park, Calif., 1989.

39. L. Rapport. The State of Crisis: Some Theoretical Considerations. In *Crisis Intervention: Selected Readings* (H. J. Parad, ed.), Family Service Association of America, New York, N.Y., 1965, pp. 22–32.

40. J. P. Wilson. *Trauma, Transformation and Healing: An Integrative Approach to Theory, Research and Post-Traumatic Therapy*. Brunner/Mazel Publishers, New York, N.Y., 1989.

41. U. C. Gerhart. *Caring for the Chronic Mentally Ill*. F. E. Peacock Publishers, Inc., Itasca, Ill., 1990.

42. L. A. Hoff. *People in Crisis: Understanding and Helping*. Addison-Wesley Publishing Company, Menlo Park, Calif., 1984.

43. D. A. Puryear. *Helping People in Crisis*. Tossey-Bass Publishers, San Francisco, Calif., 1979.

44. *Contemporary Perspectives on Crisis Intervention and Prevention* (A. R. Roberts, ed.). Prentice Hall, Englewood Cliffs, N.J., 1992.

45. R. A. Zuckerwise. The Chronic Mentally Ill: A Perspective from the Firing Line. In *Crisis Intervention Book 2: The Practitioner's Sourcebook for Brief Therapy* (H. J. Parad and L. C. Parad, eds.). Family Service America, Milwaukee, Wis., 1990, pp. 227–249.

46. R. Passini and G. Proulx. Wayfinding Without Vision: An Experiment with Congenitally Totally Blind People. *Environment and Behavior*, Vol. 20, No. 2, March 1988, pp. 227–252.

47. R. R. Baker. *Human Navigation and the Sixth Sense*. Simon and Schuster, New York, N.Y., 1981.

48. D. A. Bigelow, D. L. Cutler, J. Moore, P. McComb, and P. Leung. Characteristics of State Hospital Patients Who Are Hard To Place. *Hospital and Community Psychiatry*, Vol. 39, No. 2, pp. 181–185.

49. C. J. Smith. *The Geography of Mental Health*. Association of American Geographers, Washington, D.C., 1977.

50. R. F. Wiseman. *Spatial Aspects of Aging*. Association of American Geographers, Washington, D.C., 1978.

51. *Crisis Intervention and Counseling by Telephone* (D. Lester and G. W. Brockoop, eds.). Charles C. Thomas Publishers, Springfield, Ill., 1976.

52. M. O'Neill. A Biologically Based Model of Spatial Cognition and Wayfinding. *Journal of Environmental Psychology*, Vol. 2, No. 4, 1991, pp. 299–320.

53. D. Ley. *The Black Inner City as Frontier Outpost: Images and Behavior of a Philadelphia Neighborhood*. Association of American Geographers, Washington, D.C., 1974.

54. D. Seamon. *A Geography of the Life World Movement, Rest, and Encounter*. St. Martin's Press, New York, N.Y., 1976.

55. B. Kuipers. The Map in the Head Metaphor. *Environment and Behavior*, Vol. 14, No. 2, March 1982, pp. 202–220.

56. H. Ross. *Behavior and Perception in Strange Environments*. George Allen & Unwin Ltd., Great Britain, 1974.

57. S. Kaplan. Cognitive Maps in Perceptions and Thought. In *Image and Environment: Cognitive Mapping and Spatial Behavior* (R. M. Downs and D. Stea, eds.), Aldine, Chicago, Ill., 1973, pp. 63–78.

58. W. Goodman. *Mobility Training for People with Disabilities*. Charles C. Thomas Publishers, Springfield, Ill., 1989.

59. R. Talarico and F. H. Slusher. *Taxonomy of Behavioral Objectives for Habilitation of Mentally Handicapped Persons*. Portland Rehabilitative Center, Portland, Wash., 1982.

60. B. Compton and B. Galaway. *Social Work Process*. Wadsworth Publishing Company, Belmont, Calif., 1989.

61. S. Rosenbloom. The Mobility Needs of the Elderly. In *Special Report 218: Transportation in an Aging Society: Improving Mobility and Safety for Older Persons*, Vol. 2, TRB, National Research Council, Washington, D.C., 1988, pp. 21–71.

62. D. S. Olson. Temporally Constant and Temporally Changing Spatial Memory: Single Unit Correlates in the Hippocampus. In *Cognitive Processes and Spatial Orientation in Animal and Man*, Vol. 2 (P. Ellen and C. T. Blanc, eds.), Martinus Nishoff Publishers, Boston, Mass., 1987, pp. 16–27.

63. E. Tulving. *Elements of Episodic Memory*. Clarendon Press, Oxford University Press, New York, N.Y., 1983.