Research Spotlight

Using Ecomapping as a Research Tool

One of the important variables under study by researchers at the National Early Childhood Transition Center (NECTC) is the family, specifically *how family factors and transition planning and practices affect child functioning in the post transition environment.* Traditional tools such as surveys and standardized measures of family support, empowerment, and mental health are being used to understand family status and to gain information about child and family functioning prior to and after transition. In addition to these tools, NECTC is using a procedure borrowed from the social sciences - the ecomap. The ecomap was developed in 1975 by sociologist Ann Hartman to help social workers in public child welfare practice better understand the needs of the families with whom they worked (Hartman, 1978).

An ecomap is a graphic representation or visualization of the family and linkages to the larger social system including informal (e.g., friends, extended family members) and formal (e.g., early care and education providers, early intervention providers) supports. It illustrates how families exist within the context of their relationships with other individuals and institutions with which the family has contact. Utilizing an ecological model (Bronfenbrenner, 1979), the ecomap provides a visual display of any group of interconnections and relationships, providing a graphic image of the family system within the larger social matrix (see sample ecomap).

The ecomap provides an opportunity to visually represent the family's perspectives about the absence or presence, nature and strength of linkages to entities such as family members, friends, co-workers, religious or spiritual institutions, schools, social service agencies, community groups, recreational activities, health care networks, legal systems, and volunteer or advocacy organizations (Cox, 2003).

Ecomap Components and Procedures
In most instances, NECTC staff sit with the family and introduce the activity as a way of identifying the family's current members, friends, and supports. Together with the family, the staff member begins the process by putting a circle in the middle of the page with the child's name in it. (In our work we use only circles but circles for females and squares for males are the standard symbol convention). Other researchers also report the use of metaphoric symbols or faces to represent people or agencies (Van Treuren, 1986). Staff also document who is completing the ecomap by putting a symbol such as a "star" in the respondent's circle. The family then is asked to think about the informal supports currently available to them. Examples of these supports may be grandparents, neighbors, and church members. A separate circle is drawn for each of the extended family members, friends, neighbors, and others named as current supports by the family.

The type and frequency of these informal support systems are critical to the information gathering process with families. Therefore, each of the circles is labeled and additional information solicited about how each person or group relates to the child and family, and what type of support is provided. For example, below the

"…the ecomap provides a visual display of any group of inter-connections and relationships, providing a graphic image of the family system within the larger social matrix."

"The ecomap facilitates an informal, conversational approach to family information gathering including identification of immediate and extended family members, friends and neighbors, recreational, employment, and community supports, and formal resources accessed by the family."

Prepared by:
Dr. Katherine McCormick
University of Kentucky

Dr. Sarintha Stricklin
Louisiana State University

Teri Nowak, M.A.
University of Kentucky

Dr. Beth Rous
University of Kentucky

circle, an "R =" indicates the relationships of this person with the child and family (e.g., R = neighbor). An "S =" indicates the type of support provided (e.g., S = child care). The family member also is asked to share the frequency of the support provided by this person (e.g., daily, weekly, monthly, as needed, once a year).

As part of our research, we are also interested in the strength of the relationship between the family and individuals or groups. Hodge (2005, p. 320) suggests that, "thicker lines represent stronger or more powerful relationships. A dashed line represents the most tenuous relationship, while a jagged line denotes a conflicted one. An arrow is drawn on the line to indicate the flow of supports, energy, resources, or interests." Supports can go one way, such as babysitting services offered by a neighbor or assistance provided by a friend. Often, supports go both ways, such as between a parent and grandparent. The arrows between circles show whether the relationships benefit or help one or both people (e.g., one-way or two-way arrow). Hodge (2005) also suggests that short descriptive encapsulations, significant dates, or other creative depictions, also can be written alongside the lines to provide more depth about the relational dynamics.

Finally, family members are asked to identify all of the formal supports they currently receive, and separate circles for these supports then are drawn. Examples of these supports include physicians, therapists, and other professionals from community agencies. Support comes in many forms. For example, information, childcare, housing, financial assistance, early intervention services, medical care, and counseling are all types of support. The steps needed to label and denote family relationships with these formal supports are repeated.

During the process family members are encouraged to take the lead in the identification of informal and formal supports. When a stopping point nears, NECTC staff, if needed, go back and ask about specific supports that may not have been ad- dressed (e.g., community, intervention services, medical or health), requesting that the family identify and describe these supports. These additional supports then may be added to the ecomap. Some parents are provided additional structure as they complete this activity. For example, a parent may have difficulty identifying the various types of supports the child and family receives and would benefit from a listing of sources and examples of support. If this is the case, NECTC staff share with the family categories and examples of supports. Once all informal and formal supports and their relationships are documented, the family and NECTC staff jointly review the ecomap and reflect on the usefulness of these supports in meeting their child's and family's identified concerns and priorities.

NECTC researchers are using the outcomes generated by the ecomap in multiple ways and find that it has several advantages. First, NECTC staff use the ecomap as an introductory activity and rapport builder in their first visit with a family. In our experiences in using the ecomap with families in early intervention, families have responded positively. Although we expected families to gain a new perspective on their family circumstances by being able to step "outside" and look at themselves, we were surprised by their emotional response to the ecomaps. Several families expressed their appreciation for the ecomaps by hanging them on their refrigerators and bulletin boards. We have used carbonized forms so that families and professionals can immediately have copies of the ecomaps. The graphic nature of the ecomap also provides a way to talk about and depersonalize conflictual personal relationships and agency or institutional barriers. This is particularly helpful in our research where these less visible but powerful factors in adjustment (pre and post transition) are of particular importance. Second, because it is almost completely graphic, NECTC researchers have a higher level of confidence in the accuracy of information provided by families who are not facile language users or do not have the literacy skills necessary to respond reliably to surveys or scales (either in written or oral form).

"NECTC staff sit with the family and intro- duce the activity as a way of identifying the family's current members, friends, and supports."

"As part of our re- search, we are also interested in the strength of the relationship between family and individuals or agencies."

"…family members are encouraged to take the lead in the identification of in- formal and formal supports."

"…the family and provider jointly re- view the ecomap and reflect on the useful- ness of these sup- ports in meeting their child's and family's identified concerns and priorities."

NECTC researchers are analyzing the information included in the ecomap using both qualitative and quantitative techniques and procedures. Correlational analyses will confirm the congruence of variables included within the ecomap, IFSP review, and other tools used by NECTC to understand complicated and personal information about family functioning and the service system. These indices will provide a mechanism to confirm the accuracy and reliability of outcomes from tools such as the *Family Empowerment Scale* (Koren, DeChillo & Friesen, 1992), the *Family Support Scale (Dunst, Jenkins & Trivette, 1984)*, and *Parenting Stress Index* (Abidin, 1995). In addition, the ecomap provides a secondary source of information and confirms the description of the service delivery system (type and frequency of support) included on the IFSP.

Summary
While the ecomap has been used in the area of intervention, the use of ecomapping as a research tool is fairly new to the field of early childhood special education. Its use as a research tool has several advantages. First, it can help establish rapport with families during the beginning stages of the research. Second, it is appropriate for families of culturally diverse backgrounds and families with limited literacy. Third, it can provide in-depth information about informal and formal supports that might be harder to identify through basic survey and interview protocols. Finally, it can provide a graphic display of variables within a conceptual model, some of which are difficult to describe, and which are subject to lower levels of reliability using more traditional formats such as surveys, scales, and interviews.

Overall, the essential worth of ecomapping lies in its visual presentation and simplicity - the ability to organize and present concurrently not only a great deal of factual information but also the relationships between variables in the family's current situation. The authors of the ecomap describe the tool as "practical and parsimonious"… "the usefulness of this simple diagram becomes dramatically clear if one considers the volume of words it would take to describe the family with words alone" (Hartman & Laird, 1983, p. 161).
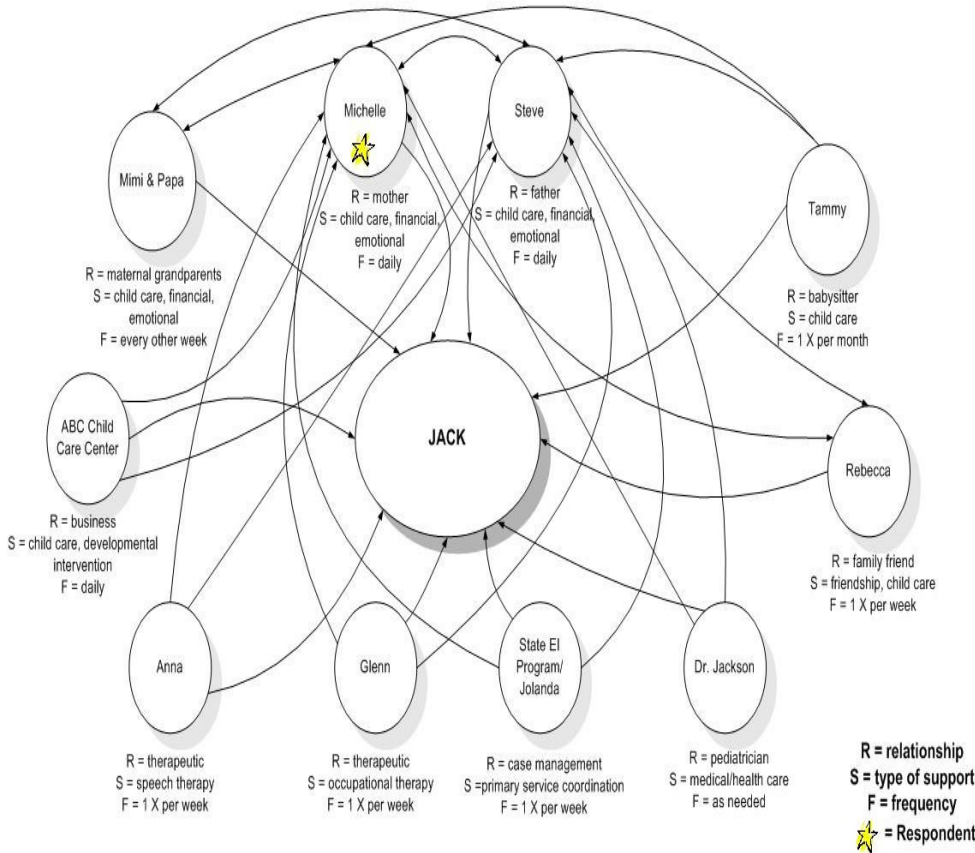
References

Abidin, R.R. (1995). Parenting Stress Index. Lutz, Fl: *Psychological Assessment Resources.*

Bronfenbrenner, U. (1979). Contexts of child rearing: Problems and prospects. *American Psychologist, 34*, 844-850.

Cox, Ruth P. (2003). Health related counseling with families of diverse cultures: family, health and cultural competencies. Westport, CT: Greenwood Press.

Dunst, C.J., Jenkins, V., & Trivette, C.M. (1984). The Family Support Scales: Reliability and Validity. *Wellness Perspectives*, 1, 45-52.

Hartman, A. (1995). Diagrammatic assessment of family relationships. *Families in Society: The Journal of Contemporary Human Services, 76(2)*, 111-122.

Hartman, A. (1978). Diagrammatic assessment of family relationships. *Social Casework, 59*, 465-476.

Hartman A.l., & Laird, J. (1983). Family-centered social work practice. New York: Free Press.

Hodge, D.R. (2005). Developing a spiritual assessment toolbox: A discussion of the strengths and limitations of 5 different assessment methods. *Health and Social Work,* 30, 320.

Koren, P.E., DeChillo, N., & Friesen, B.J. (1992). Measuring empowerment in families whose children have emotional disabilities: A brief questionnaire. *Rehabilitation Psychology*, 37, 305-321.

Van Trueren, R. R. (1986). Self-perception in family systems: A diagrammatic technique. *Social Casework, 67(5)*, 299-305.

"First, [the ecomap] can help establish rapport with families during the beginning stages of the research. Second, it is appropriate for families of diverse back- grounds and families with limited literacy. Third, it can provide in-depth information about informal and formal supports that may be harder to identify through basic surveys and inter- view protocols."

"…the usefulness of this simple diagram becomes dramatically clear if one considers the volume of words it would take to de- scribe the family with words alone" (Hartman & Laird, 1983).

ECOMAP
sample

Michelle
R = mother
S = child care, financial, emotional
F = daily

Steve
R = father
S = child care, financial, emotional
F = daily

Mimi & Papa
R = maternal grandparents
S = child care, financial, emotional
F = every other week

Tammy
R = babysitter
S = child care
F = 1 X per month

ABC Child Care Center
R = business
S = child care, developmental intervention
F = daily

JACK

Rebecca
R = family friend
S = friendship, child care
F = 1 X per week

Anna
R = therapeutic
S = speech therapy
F = 1 X per week

Glenn
R = therapeutic
S = occupational therapy
F = 1 X per week

State EI Program/ Jolanda
R = case management
S = primary service coordination
F = 1 X per week

Dr. Jackson
R = pediatrician
S = medical/health care
F = as needed

R = relationship
S = type of support
F = frequency
☆ = Respondent

Other NECTC Research Initiatives

♦ National Focus Group Sessions with approximately 240 early childhood and early childhood special education stakeholders, state and local administrators and policy makers, practitioners and family representatives from across the continental United States.

♦ Gathering of Transition Stories using the Critical Incident Technique (CIT; Flannagan, 1964) to obtain information regarding local and state practices.

♦ Regional Working Forums identify barriers and assess transition strategies and practices for the specified populations.

♦ A National Survey of 10,000 preschool teachers to examine their transition practices.

♦ Social Validation Assessment with administrators, faculty members, and practitioners (N = 450; 150 per group) and 250 family members of young children with and without disabilities.

♦ A National Survey of the state early intervention, preschool special education, and public school early childhood coordinators to determine the status of the state level transition policies, procedures, and infrastructures in each of the 50 states and the District of Columbia.

Improving the transition process for young children, their families and the professionals who work with them through an examination of factors that promote successful transitions between infant/toddler programs, preschool programs, and public school programs for young children with disabilities and their families.

IDEAs that Work
U.S. Office of Special Education Programs