Planning a Temperament-Based Parenting Program for Inner-City Families

Sandee McClowry, PhD, RN, FAAN, and Pamela Galehouse, MA, RN, CS

TOPIC. The design of a temperament-based parenting program for inner-city families.

PROBLEM. Selective intervention parenting programs are needed for children who are at high risk for developing behavioral problems. Planning should incorporate cultural considerations to ensure the program meets needs.

METHODS. A pilot study to assess psychometrics of instruments, obtain preliminary data, test feasibility, and verify appropriateness of the intervention. Reports of child temperament, behavior problems, and maternal distress were obtained from a sample of 244 inner-city mothers of school-age children.

FINDINGS. The three instruments showed adequate reliability with this sample. Attendance rate was 92% for the 18 mothers who participated in the parenting intervention. Focus groups supported the content of the program.

CONCLUSIONS. A pilot study can assist nurses to plan an intervention that responds appropriately to the specific strengths and needs of the community.

Search terms: Behavioral problems, parenting, pilot study, school-age children, temperament

Nurses working in the inner city have long been challenged to deliver culturally sensitive care that fosters the development of economically disadvantaged children. Poverty affects a disproportionate number of minority children in this country. In 1994, 43% of African-American children, 41% of Hispanic children, and 16% of white children lived below the poverty level (U.S. Bureau of the Census, 1996). Large numbers of poor African-American and Hispanic children reside in urban areas often described as the inner city.

Because of adverse sociofamilial conditions, inner-city children are at risk for developing behavioral disorders (Institute of Medicine [IOM], 1994). Twenty percent of inner-city children in the United States are estimated to be maladjusted (IOM, 1989). Treatment services in the inner city, however, are scarce, and when available, often less used than in more affluent communities (Cunningham & Freiman, 1996).

The cost of treatment is one hindrance to providing mental health services for maladjusted children. Traditional individualized therapy is often effective but demands extensive use of limited resources. Another approach, and one that can be less costly, is prevention programs designed to avert the development of behavioral disorders.

Parenting programs have demonstrated effectiveness in reducing child behavioral problems, particularly for conduct-disordered children (O'Dell et al., 1982; Webster-Stratton, Hollinsworth, & Kolpacoff, 1989). Yet, despite the staggering number of inner-city school-age children who continue to be at risk for development of conduct disorders, few standardized parenting programs are directed specifically at their needs.

Preventive parenting programs are needed for this at-risk population. Programs that have demonstrated effectiveness in white middle-class families cannot be
assumed adequate for other cultural groups (Myers et al., 1992). Instead, interventionists need to engage in a number of preliminary steps to design programs that match the needs of the particular community for which they are intended. Many of those components can be achieved by conducting a pilot study. Mason and Zuercher (1995) list four aims of such studies: to test the psychometric properties of the intended instruments, to obtain preliminary data, to assess the feasibility of the study, and to verify the appropriateness of the research to clinical practice. This article describes how the results of a pilot study were used to plan the parenting component of INSIGHTS into Children’s Temperament. This article presents the clinical and scientific foundation used to plan the pilot study.

Review of the Literature

In 1993, the Division of Nursing at New York University began a comprehensive school-based clinic (SBC) in an inner-city elementary school (McClowry et al., 1996). The SBC offered both primary care and mental health services. Foundational to the planning and implementation of clinical services was an extensive literature review on the growth and development of school-age children. Of particular concern was the at-risk status of inner-city children for the development of behavioral problems.

Parental responses to expressions of temperament can promote the child’s development or can be counterproductive.

One portion of the literature review was conducted to identify the most influential mechanisms that affect child behavior and to determine those that are modifiable through intervention. Sameroff (1987) maintained that some contributing factors, such as ethnicity, family size, and the marital status of the parents, cannot be changed by intervention. Others, such as socioeconomic status and its related components of parents’ educational level and occupation, are not easily changed. What can be altered through parenting intervention programs are behavioral and psychological variables such as parental distress, perceptions, and parent-child transactional patterns.

Maternal psychological distress, due to chronic poverty and other types of adversity associated with living in the inner city, may cause mothers to negatively alter their perceptions of their children and to be less effective in their parental role (Downey & Coyne, 1990; Dumas, Gibson, & Albin, 1989; Myers & Taylor, 1998). One way to assist parents in reframing their perceptions of their children is through temperament theory. Temperament is the stylistic reactions children demonstrate to new or stressful situations. It is also a social information processing system through which children view and interact with the world, both altering the responses of others and contributing toward their own development (Derryberry & Reed, 1994; Rothbart & Bates, 1998). Temperament helps explain why children react differently to the same stressful circumstances.

The parent-child transactional patterns also influence the child’s behavior. Parental responses to expressions of temperament can promote the child’s development or can be counterproductive. Chess and Thomas (1999) describe these interactions within their goodness-of-fit model. They describe goodness of fit as the consonance of the child’s temperament to the demands and expectations of the environment. Should they match, positive development is fostered. Conversely, poorness of fit contributes to less adaptive child behavioral outcomes.

Preventive parenting intervention is intended to assist parents to be more effective in their transactions with their children in order to improve child behavior. Unless adults intervene with effective discipline, minor child behavior problems can escalate to higher levels of pathology and may lead to serious mental health problems (Bates, 1986; Maziade et al., 1990). By using a goodness-of-fit model in a preventive intervention, mothers can be
taught to develop effective parenting strategies that match their child's unique temperament. A reduction in parental distress and misperceptions also may result.

Developing a parenting intervention program for families in the inner city requires cultural sensitivity. Noted researchers and clinicians (Coll et al., 1996; Gibbs & Huang, 1998; Spencer, 1995) call on professionals to take an ecological perspective in order to understand how contextual stressors affect development in minority children. Too often, when differences are found between minorities and majority norms, researchers assume deviancy on the part of the minorities. These scholars suggest a more complex perspective that identifies personal meanings of behaviors and recognizes potential strengths and issues of the cultural group under study.

Research Questions

This paper describes how the results of a pilot study were used to design a culturally appropriate parenting program for inner-city families. The specific aims of the pilot study and their respective research questions were to:

1. Test the psychometric properties of the intended instruments: Do the Eyberg Child Behavior Inventory, the School-Age Temperament Inventory, and the Behavior Symptom Inventory remain reliable when completed by inner-city mothers compared to previously standardized norms?
2. Obtain preliminary data:
   a. What are the occurrences of behavioral problems and level of difficulty that the inner-city mothers reported in dealing with their children's behavioral problems?
   b. What level of psychological distress do the mothers report?
   c. Are maternal distress and child temperament related to the children's behavior problems?
3. Assess the feasibility of the study.
4. Verify the appropriateness of the research to clinical practice.

Methods

Subjects

The subjects were 244 inner-city children in a northeastern city. Although the subjects were the children, it was their mothers who provided the reports about them. The children were 4 to 12 years old (average age: 8.1 years; SD = 2.10). The average age of the mothers (which includes primary caretakers such as grandmothers and foster-care mothers) was 36.3 (SD = 9.34; age range: 20–72 years). Forty-nine percent of the children were boys. Sixty percent of the children lived in single-parent homes, almost all with their mothers as the primary caretaker. The remaining 40% of the children were equally divided in the following family configurations: two-parent homes, blended families with their mothers and stepfathers, kinship foster care, and nonkinship foster care.

The race/ethnicity of the children was 70% black, and 25% Hispanic, nonblack. Five percent of the mothers declined to describe the ethnicity of their children. The socioeconomic status of the families, as identified by Hollingshead (1975), were 58% unskilled, 15% semiskilled, 10% clerical, 14% technical, and 3% professional.

A subset of 18 mothers and their children participated in pilot versions of the INSIGHTS parenting program. These subjects were not statistically different from the larger group already described.

Instrumentation

The School-Age Temperament Inventory (SATI) consists of 38 Likert-type items and has four dimensions as determined by principal factor analysis with varimax rotation (McCloyry, 1995). The dimensions are negative reactivity (intensity and frequency with which the child expresses negative affect), task persistence (the degree of self-direction a child exhibits in fulfilling tasks and other responsibilities), approach/withdrawal (the child’s initial response to new people and situations), and activity (large motor activity). Higher scores indicate the child is high in negative reactivity, is
task persistent, has a tendency to withdraw in new situations, and is highly active. The children on whom the instrument was developed were from mostly white middle-class families. Test-retest reliabilities after 4 to 6 months were .85 to .90. Cronbach’s alphas in the original sample were .90 for negative reactivity and task persistence, .88 for approach/withdrawal, and .85 for activity.

The Eyberg Child Behavior Inventory (ECBI) is a 36-item questionnaire that inventories the frequency and severity of disruptive behaviors of children 2 to 16 years old (Eyberg & Pincus, 1999). The ECBI has two subscales: the Intensity Scale (the frequency of reported problems) and the Problem Scale (identifies those behaviors that are a problem for the parent). The psychometric properties of the instrument have been evaluated in a number of studies resulting in an internal consistency coefficient of at least .93 on both subscales in nonreferred samples. The reliabilities of the ECBI have remained stable in an ethnically diverse sample.

The Brief Symptom Inventory (BSI) is a 53-item self-report of psychological symptomatology developed by Derogatis (1993). The BSI includes nine primary symptom dimensions. It also has a Global Severity Index (GSI) that was used in this study as a composite measure for the level and intensity of emotional distress. Higher scores indicate higher distress. Normative data include an adult, nonpatient, mostly white sample about which other demographic data are unknown. Another normative group included psychiatric outpatients; two thirds were white and the majority were lower class. The coefficient alphas for internal consistency on the subscales for the psychiatric outpatient sample ranged from .71 to .85. Test-retest after 2 weeks with nonpatients on the GSI was .90.

Socioeconomic status was interpreted based on the Hollingshead (1975) Four Factor Index of Social Status. Two-income families are scored by averaging each parent’s education and occupation. In one-income families, scores are based on the wage-earner only.

Procedures

Subjects were a voluntary convenience sample from two inner-city elementary schools in the same neighborhood in a northeastern city. The mothers were recruited while they engaged in activities sponsored by the Child Health Care Clinic (McClowry et al., 1996).

Results

Prior to planning the temperament-based parenting program, several analyses were conducted.

Psychometrics of Instruments

The first aim of the study was to test the psychometric properties of the intended instruments. The specific question asked was: Do the Eyberg Child Behavior Inventory, the School-Age Temperament Inventory, and the Behavior Symptom Inventory remain reliable when completed by inner-city mothers in comparison to previously standardized norms? The alphas in this study were .93 for intensity and .94 for problems on the ECBI. For the SATI, the alphas ranged from .69 to .87. Specifically, the alphas were .87 for negative reactivity, .87 for task persistence, .69 for approach/withdrawal, and .78 for activity. The reliability of the GSI of the BSI was .96. The subscales of the BSI averaged .78 and ranged from .69 to .84.

Preliminary Data

The second aim was to obtain preliminary data that would inform the focus of the intervention. What are the occurrences of behavioral problems and the level of difficulty that the inner-city mothers reported in dealing with their children’s behavioral problems? One-sample t-tests were used to compare the behavioral problems of subjects in this study with those who participated in the standardization of the instrument who were primarily white but who varied across all socioeconomic classes (Eyberg & Pincus, 1999). The mothers in this study did not report any significant differences in the occurrences of their children’s behavioral problems. However, the mothers (M = 8.58, SD = 8.55) reported significantly more problems in managing the behavior of their chil-
Table 1. Behavioral Problems Reported by the Mothers

<table>
<thead>
<tr>
<th>Problems</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slow in getting ready for bed</td>
<td>36.5</td>
</tr>
<tr>
<td>Refuses to go to bed on time</td>
<td>34.8</td>
</tr>
<tr>
<td>Verbally fights with siblings</td>
<td>34.8</td>
</tr>
<tr>
<td>Is easily distracted</td>
<td>34.7</td>
</tr>
<tr>
<td>Physically fights with siblings</td>
<td>34.4</td>
</tr>
<tr>
<td>Gets angry when doesn’t get own way</td>
<td>33.9</td>
</tr>
<tr>
<td>Lies</td>
<td>33.5</td>
</tr>
<tr>
<td>Interrupts</td>
<td>33.5</td>
</tr>
<tr>
<td>Refuses to do chores when asked</td>
<td>32.4</td>
</tr>
<tr>
<td>Dawdles in getting dressed</td>
<td>29.8</td>
</tr>
<tr>
<td>Cries easily</td>
<td>29.0</td>
</tr>
<tr>
<td>Has short attention span</td>
<td>29.0</td>
</tr>
<tr>
<td>Refuses to obey unless threatened</td>
<td>28.6</td>
</tr>
<tr>
<td>Acts defiant when told to do something</td>
<td>28.3</td>
</tr>
<tr>
<td>Yells or screams</td>
<td>27.3</td>
</tr>
<tr>
<td>Whines</td>
<td>27.2</td>
</tr>
<tr>
<td>Is overactive or restless</td>
<td>27.0</td>
</tr>
<tr>
<td>Has difficulty concentrating on one thing</td>
<td>26.7</td>
</tr>
<tr>
<td>Has temper tantrums</td>
<td>26.5</td>
</tr>
<tr>
<td>Does not obey house rules on own</td>
<td>26.2</td>
</tr>
</tbody>
</table>

The behaviors the mothers had the most problem managing were examined and are listed in Table 1.

What level of psychological distress do the mothers report? The mothers in this study were compared by one-sample t-tests to women who were nonpatients (a community sample) and those who were psychiatric outpatients. Since doing so involved three comparison groups, a Bonferroni correction (.05/3) was used and the alpha level was set at .017 for significance. Compared to a nonpatient community sample, the mothers in this study were significantly higher in all the symptom dimensions except anxiety and global distress. They were, however, significantly less symptomatic than psychiatric outpatients in all dimensions and in global distress (Table 2).

Are maternal distress and child temperament related to the children’s behavior problems? Multiple regression was used to answer this question. The results (Table 3) reveal that 51% of the children’s behavior could be accounted for by their temperament. Maternal distress did not enter the model. Task persistence contributed 40%, negative reactivity 10%, and activity 1%. The remaining temperament dimension of approach/withdrawal did not enter the model.

Feasibility

Feasibility was assessed in a number of ways. The questionnaires were examined to see whether they were adequately completed. Only occasionally were items left uncompleted by the mothers. Those missing items were random and showed no pattern.

Acceptability by the community was a particular concern because the investigators were not from the same racial/cultural group. Establishing trust was an ongoing process. For example, focus group meetings with community leaders and participants were regularly held to discuss content, cultural implications, recruitment, and future directions. Visibility and contributions to community well-being also fostered acceptance.

Participation also was assessed by examining the attrition rate of the 18 mothers who agreed to attend the 10 sessions in the pilot versions of the INSIGHTS program. An attendance rate of 92% was achieved among those mothers who attended an invitational meeting and proceeded to join the actual program.

Research Appropriateness

The final aim was to verify the appropriateness of the research to clinical practice. Delivering culturally appropriate care and conducting culturally sensitive research was an ongoing concern in the development of the INSIGHTS program. Prior to beginning the SBC, a community advisory board was established that included parents, teachers, community leaders, and school district administrators. The advisory board facilitated the researcher-community partnership in order to meet Meleis’ (1996) criteria of contextuality, relevance, communication style, power differences, disclosure, reciprocation, empowerment, and time. This
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Table 2. Comparisons Between Disadvantaged Mothers and Two Other Samples

<table>
<thead>
<tr>
<th>Symptom Dimensions</th>
<th>This Sample (N = 244)</th>
<th>Nonpatient Sample (N = 358)</th>
<th>Psychiatric Outpatients (N = 577)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Somatization</td>
<td>.53</td>
<td>.63</td>
<td>.35</td>
</tr>
<tr>
<td>Obsessive-compulsive</td>
<td>.75</td>
<td>.74</td>
<td>.48</td>
</tr>
<tr>
<td>Interpersonal sensitivity</td>
<td>.65</td>
<td>.79</td>
<td>.40</td>
</tr>
<tr>
<td>Depression</td>
<td>.51</td>
<td>.63</td>
<td>.36</td>
</tr>
<tr>
<td>Anxiety</td>
<td>.48</td>
<td>.57</td>
<td>.44</td>
</tr>
<tr>
<td>Hostility</td>
<td>.59</td>
<td>.70</td>
<td>.36</td>
</tr>
<tr>
<td>Phobic anxiety</td>
<td>.33</td>
<td>.56</td>
<td>.22</td>
</tr>
<tr>
<td>Paranoid ideation</td>
<td>.81</td>
<td>.88</td>
<td>.35</td>
</tr>
<tr>
<td>Psychoticism</td>
<td>.43</td>
<td>.57</td>
<td>.17</td>
</tr>
<tr>
<td>Global Stress Index</td>
<td>.57</td>
<td>.52</td>
<td>.35</td>
</tr>
</tbody>
</table>

*p < .017

Table 3. Regression Coefficients for Child Behavior Problems

<table>
<thead>
<tr>
<th>Variable</th>
<th>R^2</th>
<th>Cum R^2</th>
<th>Adj. R^2</th>
<th>F Change</th>
<th>p Change</th>
<th>p Cum.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task persistence</td>
<td>.40</td>
<td>.40</td>
<td>.40</td>
<td>158.82</td>
<td>p &lt; .01</td>
<td>p &lt; .01</td>
</tr>
<tr>
<td>Negative reactivity</td>
<td>.10</td>
<td>.50</td>
<td>.49</td>
<td>45.21</td>
<td>p &lt; .01</td>
<td>p &lt; .01</td>
</tr>
<tr>
<td>Activity</td>
<td>.01</td>
<td>.51</td>
<td>.50</td>
<td>4.70</td>
<td>p &lt; .05</td>
<td>p &lt; .01</td>
</tr>
</tbody>
</table>

group also proved to be invaluable in gaining entry, ensuring that language, strategies, and concepts were culturally appropriate, and most importantly, allowed a continuing dialogue that encouraged reciprocal understanding and appropriate methodological adjustments.

Multiple participants on the advisory board requested that the SBC offer a parenting program. While collecting and analyzing the data presented in this paper, a parenting program was developed as a clinical offering and then piloted three times. The parents who participated in each of the piloted versions and the advisory board members assisted by evaluating not only the cultural appropriateness of the program but also the quality and relevancy of its content. As time went on, the program became more standardized—a necessary precursor to its being tested in a clinical trial. Formal testing of the effectiveness of INSIGHTS is underway, with funding from the National Institute of Nursing Research.

Discussion

INSIGHTS into Children’s Temperament evolved over several years and involved many iterative steps. Using the circular process, theory development, research,
and clinical practice were conducted simultaneously. Knowledge gained from each component was used to inform the others. For example, the data-based literature review was foundational to the clinical practice that was ongoing at the SBC where INSIGHTS was developed (McClowry et al., 1996). The literature review also directed what research should be conducted at the SBC. The results of the research, in turn, were integrated into the clinical programs offered at the SBC.

The data analyses presented in this paper were critical in directing the development of the parenting program. The findings from the regression analysis supported that child temperament contributes strongly to the children's behavior and, therefore, should be emphasized in the intervention. Videotaped scripted vignettes and facilitated sessions in INSIGHTS were planned to assist the parents in understanding variations in normal child behavior by recognizing how child temperament is related. All the developed materials were assessed for relevancy, developmental, and cultural appropriateness (McClowry, 2002b).

The mothers who provided the preliminary data did not report the occurrences of any more behavior problems among their children than did the more socioculturally diverse, primarily white, original sample on which the ECBI was normed. However, they viewed their children as more problematic. This finding led to an overall intervention approach of enhancing the child-management strategies used by the parents. The behavior problems most often endorsed (see Table 1) were used as a guideline for developing the scripted videotaped vignettes and handouts. For example, after seeing the results, the researcher/clinical team added a handout that addressed strategies for handling lying. Parents were encouraged first to explore the child's impetus for lying, then to develop fair and consistent consequences. The importance of parent modeling as a standard for truthfulness also was emphasized.

The results from the regression also were used to direct some of the content of the program. The identified temperament dimensions that were most strongly related to the children's behavioral problems (low task persistence, high negative reactivity, and high activity) were consistent with a temperament profile that McClowry (2002) called high maintenance. Strategies for dealing with these challenging children in a manner that acknowledged their temperament but encouraged compliance were emphasized in the program. For example, one of the strategies parents learn in the program is to selectively ignore the comments made by children who are high in negative reactivity. Ignoring inconsequential negative reactions by the child assists parents in avoiding unnecessary conflictual dyadic interactions.

Perhaps even more important to the success of the parenting program than the content were the selection criteria. Care was taken to evaluate whether it was in concert with the community's needs, culture, and reality. For example, one of the strengths of the black and Hispanic cultures is the strong family bonds that incorporate extended family members and fictive kin (Marin & Marin, 1991; Sudarkasa, 1997). The extended family offers both tangible and emotional support, including participation in the parenting of children. Grandmothers, particularly in the black community, take on a substantial role in caring for their grandchildren, sometimes assuming the role of the primary caretaker (Burton & Bengston, 1985). Consequently, the criteria for the participating families were made to be reflective of the community. The major adult informant in most families was the primary female caretaker—the child's biological mother, grandmother, or foster parent—who for the sake of simplicity was referred to as the mother. A female was selected to be the primary informant, because most instruments have been standardized with maternal data. Families, however, were invited to engage additional parental figures in the INSIGHTS program if they also shared responsibility for the child. (All the children in this study had women as their primary caretaker.) Their mental health also was examined. Overall, it is not surprising that mothers described psychological distress that was, for the most part, greater than primarily white, middle-class nonpatients, but less than psychiatric outpatients. The impact of environmental stressors such as poverty, high unemployment, and community violence...
on psychological functioning has been well established (IOM, 1994). Yet, noting the levels of distress, the sample was best described as "at risk." The results did not indicate the mothers were experiencing significant mental health problems. Consequently, intervention was not focused directly on the mothers' mental health. Instead, maternal distress was anticipated to be indirectly reduced by enhancing parental skills and by creating a supportive group process through the parenting program. When indicated, however, individual parents were referred to mental health services.

Another methodological concern involved instrumentation. Special care was taken to assess the cultural appropriateness of instrumentation and their reliability and validity (Flaherty et al., 1988; Bernal, Woolley, & Schensul, 1997). The instruments assessed in this pilot study maintained adequate reliability for the most part, and were planned for use when the effectiveness of INSIGHTS would be measured in a study that is under way. The reliabilities of the ECBI and BSI were similar to those found in other studies and were regarded as adequate for testing the effectiveness of the program. The reliabilities of three of the SATI dimensions also were adequate. However, the alpha for the approach/withdrawal dimension was only .69 and was lower than in the original sample of .88. A focus group with parent participants helped explain that the inner-city children had limited experiences meeting new people in their home, tending to spend time with the same family members or fictive kin. Consequently, the mothers did not have a great deal of experience on which to rate their children. Information from teachers who often observe the children in novel situations might provide additional information regarding that dimension. An alternative approach is to triangulate teacher and parent reports on child temperament. This strategy is being considered in the clinical trial under way.

Based on the literature on at-risk children, the parenting program was designed as one component of the intervention. In the past, the effectiveness of parenting programs has been compromised when multiple family problems exist, suggesting the need for a more comprehensive approach (Webster-Stratton, 1994). For school-age children, teachers are significant caretakers who can enhance their resiliency (Werner & Smith, 1992). Peers also are active agents in the socialization of school-age children. To potentiate effectiveness, INSIGHTS into Children's Temperament has parallel programs for the children's teachers and within the targeted children's classrooms. The same iterative process that was used to develop the parent's program described here was applied to the teacher and children's versions.

Conclusion

Nurses are well aware that all interventions—individual or group, structured or spontaneous—require skill, experience, and a strong knowledge base. In today's multicultural world, the nursing profession is challenged to fulfill needs frequently unmet by traditional methods. This article illustrates the dynamic processes used to construct a prevention program for an underserved, minority, urban population. It suggests strategies that nurses can employ to meet families' needs, document effectiveness, and contribute to empirical knowledge. Whether selecting an instrument to measure outcome effect or planning an entire new intervention program, researchers should pay attention to cultural fit as essential and feasible.

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Author contact: sm6@nyu.edu, with a copy to the Editor: Poster@uta.edu

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