INSTRUCTIONS FOR PARENTAL PROBLEM-SOLVING MEASURE

Introduction to Subjects

Begin the problem-solving assessment with an introduction such as the following:

"In this next part of today's session I want to get some information on how you solve problems. I am going to be reading several brief paragraphs. Each paragraph describes a different situation in which there is a problem. I would like you to imagine that you are in each of these situations. After reading a situation to you, I will ask you the following:

1. Tell me ALL of the ways in which you COULD solve the problem.
2. Tell me what solution you WOULD try if you were in that situation. (If client provides several unrelated solutions ask which one they would try first.)
3. Tell me EXACTLY how you would carry out that solution. (Ask only once per problem and don't prompt for further details.)

I will be recording your responses, so that I can listen to them later. I think you will enjoy this. O.K., here is the first one..."

Instructions for Interviewers

If the individual strays from the task, direct him/her back to the task and tell him/her that there will be time to talk afterward.

Be sure to ask each of the questions listed above after each problem situation is read.

If the client is not able to provide a solution, or states "they don't know," encourage them to try. If after the encouragement they still cannot generate a solution, move on to the next problem.

When asking question #1 (above), if the individual gives one or more solutions to the problem and then pauses for 10 or more seconds, ask "Anything else?" If the answer is "No", go on to question #2 (above). If the individual has indicated that he/she can not think of any other solutions, do not ask if there is "anything else".

If the individual asks for more details about a problem situation, explain that there are no more details and that he/she should just do their best with the information provided.

It is important that you do not respond differentially to the solutions but instead acknowledge each solution in a consistent positive manner (e.g., "Good," "O.K.," "Fine," "All right"). If the individual asks how he/she is doing, state: "There are not any specific right or wrong answers. I just want to hear how you would handle the situation."

PROBLEM SITUATIONS

1. Your child comes home with his report card. He failed two subjects and did poorly on three. You did not know your child was not doing well in school and are concerned. (CB)

2. You don't work and don't get out very much. You feel like you don't have any friends and want to meet more adults. It is difficult with children because you have to find a sitter or take the children with you. (IP)

3. You have had a very stressful, difficult day at work. Your spouse won't be home this evening. You can't seem to calm down and you know it will be difficult to deal with the children this evening. (AC)

4. You are a single parent and feel that you never get any time to yourself. You want to spend a couple of days away from your children but don't know anyone who would care for them for a couple of days. (CC)

5. It's 7:00 a.m. and time for breakfast. The school bus picks the children up at 7:30. You forgot to get any food for breakfast last night and are completely out of food. The kids are whining that they are hungry. (CC)

6. You won't get paid for one week and you are out of money. You are almost out of groceries, and do not have enough to feed you and the children for that week. (FP)

7. Your children have been cranky and misbehaving all day. You are upset and feel like you are "going crazy". (AC)

8. Your child's teacher calls you and says that your child is misbehaving at school. Your child teases other children, is disruptive in the classroom, and gets in fights on the playground. The teacher is very upset and says you must do something. (CB)

9. Your child comes home from the first day of school with a note from the teacher which lists items the child must bring to school, such as pencils, crayons, notebooks, and so forth. The

note indicates that the child must have these items in two days, but you do not have the money. (FP)

10. You are a working single parent. Your best friend is upset with you because you never have time to spend with her/him or money to go out. (IP)

11. It is 7:00 a.m. and your spouse has already left for work. Your best friend calls and says that she/he needs you to come over right away -- that something terrible has happened. However, you need to get to work and your children need to get to day care. (CC)

12. You recently separated from your spouse. Your children do not understand and are often upset about the spouse's absence. (IP)

13. You were laid off from your last job and have been unemployed for several months. You want to find work. (FP)

14. Two 8 year-old neighborhood children, often tease, chase, and even hit your 6 year-old child. Your child often comes home upset and tearful. (CB)

15. Just before leaving work, you were "chewed out" by your boss. He complained about the quality of your work. You are on your way home and feel very angry and upset. (AC)

Subscale codes:

CB = Child behavior/child management problems
CC = Child care problems
AC = Anger and stress control problems
IP = Interpersonal problems
FP = Financial problems

Problem-Solving Scoring Guidelines

I. Before You Begin:

A. To score a problem-solving tape you need:

1. Problem-Solving Scoring Forms (25 per subject).
2. A copy of the Problem-Solving Situations.
3. The Problem-Solving Scoring Guidelines.
4. The Problem-Solving Effectiveness Ratings examples.
5. The Problem-Solving Planning Ratings examples[1]
5. The audiotape, a tape player, and pencils.

B. Complete the top of each Scoring Form

1. Write in the current date.
2. Write in your name (rater).
3. Enter the Subject Number. If there are also initials or a first name, enter those with the Subject Number.
4. Enter the Tape Number. This is often the same as the Subject Number.
5. Write the number of the Vignette (Problem Situation) being scored on the Scoring Form.

II. Number of Solutions

Write each solution stated by the subject on the scoring form. Be sure that separate solutions are clearly designated and legible.

Be sure to write the solution which the subject indicates is the "best" (or the solution which they would do) on the appropriate line.

A response is scored as a separate solution only if it differs from earlier responses in significant ways.

Examples:

- "Yell at him" and "scream at him" would be counted as one (the same) solution.
- "Yell at him," "I would tell him exactly how I feel," and "Scream at him and quit my job" would each be counted as different solutions.

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1 Note that the "Planning Ratings" section has not been empirically validated but may be useful in some research or clinical situations.

III. Effectiveness of Solutions

Each solution is rated for effectiveness on the following scale:

1----------2----------3----------4----------5----------6----------7
Very Ineffective | Ineffective | Effective | Very Effective

"Very ineffective" indicates that the solution is highly unlikely to resolve the problem and is highly likely to make the existing problem worse or result in other negative consequences.

"Ineffective" indicates that the solution is unlikely to resolve the problem and likely to make the existing problem worse or result in other negative consequences.

"Effective" indicates that the solution is likely to resolve the problem and unlikely to make the existing problem worse or result in other negative consequences.

"Very effective" indicates that the solution is highly likely to resolve the problem and is highly unlikely to result in any negative consequences.

Consult the Problem-Solving Effectiveness Ratings examples when doing ratings. Use these ratings as guidelines. Often a solution very similar to the one you are rating will be on the list. If it is not on the list, look for solutions which may resemble the solution in effectiveness.

IV. Planning Ratings[1]

Rate the sophistication of the subject's plan for implementing the best solution. There are seven general categories which are scored, prior to the overall planning rating. See the Planning Ratings Examples as you are completing the ratings. (Since the number of examples are limited, examples for the specific solution you are rating will likely not be available.)

A. Planning Categories

First rate the solution (on a yes/no basis) for each of the following. Place a check mark in the appropriate space if the category occurred.

1. Sensitivity to Consequences. The answer includes some mention of possible

1 Note that the "Planning Ratings" section has not been empirically validated but may be useful in some research or clinical situations.

consequences to an action.

2. Anticipation of Obstacles. Some indication that the subject has considered a possible problem or obstacle that might interfere with his/her problem-solving plan.

3. Reference to Social Rules. A comment concerning normative behavior, such as social appropriateness or inappropriateness of a behavior.

4. Goal-Setting. A comment indicating that the subject would exert energy in order to ensure a positive outcome in the future.

5. Detailed. A solution that includes details such as specifying individuals, reference to time or place, and specific versus general description.

6. Realistic. A solution that seems to be implementable and realistic given the problem.

7. Sequential. Presented in logical or meaningful sequence versus an illogical or haphazard sequence.

B. Overall Planning Rating

Then complete the Overall Planning Rating. This is related to the number of sophistication of planning categories which occurred (i.e., the number that you checked). To allow for subjective judgment (flexibility) regarding the overall planning rating, there is not a complete correlation between number of categories and the rating. Use the scale below as a guideline.

Overall Planning Rating:

	Unsophisticated						Sophisticated
	1	2	3	4	5	6	7
Number of Categories:	0-1	1-2	2-3	3-4	4-5	5-6	6-7

V. Final Computations

A. Very carefully calculate the scores for each of the measures listed on the bottom of the rating form (under Average Performance):

1. Number of Solutions. This is the number of different solutions generated for the problem.

2. Average Effectiveness of Solutions. This is the average effectiveness of all solutions, including the best solution. (Add the effectiveness ratings and divide it by the number of solutions.)

3. Effectiveness of "Best" Solution. This is the effectiveness of the best solution.

4. Effectiveness of Planning. This is the overall planning rating for the best solution.

B. Put all forms, tapes, etc., away in the appropriate places!!!!!

Parental Problem-Solving Measure: Scoring Form

Vignette #:_____ Subject #:_____ Date of Assessment:_____
Date Rated:_____ Tape #:_____ Rater:_____

A. Solutions/Effectiveness: Effectiveness Ratings

Very Ineffective / Ineffective / Effective / Very Effective

1._____ 1-------2-------3-------4-------5-------6----------7

2._____ 1-------2-------3-------4-------5-------6----------7

3._____ 1-------2-------3-------4-------5-------6----------7

4._____ 1-------2-------3-------4-------5-------6----------7

5._____ 1-------2-------3-------4-------5-------6----------7

6._____ 1-------2-------3-------4-------5-------6---------7

7._____ 1-------2-------3-------4-------5-------6---------7

8._____ 1-------2-------3-------4-------5-------6---------7

9._____ 1-------2-------3-------4-------5-------6---------7

B. Best Solution/Effectiveness:

_____ 1-------2-------3-------4-------5-------6---------7

C. Planning Ratings:

Sensitivity to Consequences _____ Reference to Social Rules _____ Detailed _____ Sequential _____

Anticipation of Obstacles _____ Goal Setting _____ Realistic _____

Unsophisticated Sophisticated
1---------2---------3---------4---------5---------6---------7

Number of Categories: 0-1 1-2 2-3 3-4 4-5 5-6 6-7

D. Computations: Number of Solutions _____ Effectiveness of "Best" Solution _____
Average Effectiveness of Solutions _____ Effectiveness of Planning _____

Problem-Solving Effectiveness Ratings

Please read each problem situation and then rate the following solutions on the following scale:

1----------2----------3----------4----------5----------6----------7
Very Ineffective Ineffective Effective Very Effective

"Very ineffective" indicates that the solution is highly unlikely to resolve the problem and is highly likely to make the existing problem worse or result in other negative consequences.

"Ineffective" indicates that the solution is unlikely to resolve the problem and likely to make the existing problem worse or result in other negative consequences.

"Effective" indicates that the solution is likely to resolve the problem and unlikely to make the existing problem worse or result in other negative consequences.

"Very effective" indicates that the solution is highly likely to resolve the problem and is highly unlikely to make the existing problem worse or result in any negative consequences.

Problem #1

--1-- Yell and scream at your child.
--1-- Verbally attack teacher in defense of child.
--1-- Hit the child.
--1-- Just ignore the situation.
--1-- Put him in another school.
--2-- Punish the child for not trying hard enough.
--3-- Ask teacher to inform you sooner of any problems.
--4-- Talk to the child and ask him to try harder.
--5-- Set up a regular time for him to work on his school work.
--6-- Set up a regular time for him to work on his school work each night and make sure he completes his assignments.
--6-- Help child with work or get him a tutor.
--7-- Talk to teacher and child, then work on a solution to improve homework and school work.

Problem #2

--1-- Feel sorry for yourself.
--2-- Keep busy and ignore feelings.
--3-- Leave the kids sleeping at home while you go out.
--4-- Go to park with kids.
--4-- Visit family.
--5-- Have relatives watch the kids for an evening.
--5-- Invite people to your house.

--6-- Become better friends with neighbors who have children.
--6-- Take kids to the park and try to meet other parent there.
--7-- I would look for an organization that I would be interested in joining and see if they have activities that could involve the children also.
--7-- Join a club that supplies child care.

Problem #3

--1-- Don't go home at all.
--1-- Get drunk and try to calm down.
--2-- Take a nerve pill.
--3-- Keep busy and ignore the kids.
--4-- Ask kids to behave.
--5-- Send kids outside to play while you relax.
--5-- Take an extra long drive home from work to the sitters to calm down.
--6-- Find a sitter and go out.
--6-- Let kids go to a relative's house while you stay home alone.
--6-- Exercise and work out the stress.
--7-- Get someone to watch the children until you have had a chance to calm down.
--7-- Occupy the kids with an activity, then go to your room to lay down and relax, or take a bath.

Problem #4

--1-- Just leave the kids alone while you go away.
--2-- Leave the kids alone and have a neighbor check on them occasionally.
--3-- Take the children with you for a short trip.
--3-- Stay and bear the situation.
--4-- Talk to the children and ask them to understand that you would like more time to yourself.
--5-- Give children something to do and find time for yourself.
--6-- "Trade-off" babysitting with a friend for a day.
--6-- Take several days off work, leave kids at daycare and plan several day trips.
--7-- Go to stay at an out-of-town relative/friend's house who would be willing to watch your children while you have time by yourself.

Problem #5

--1-- Go to store and get food - keep them home from school.
--1-- Send them to school hungry.
--2-- Have them drink a soda, water, or coffee to hold them over.
--3-- Tell them to borrow food from a friend at school.
--4-- Take them out to eat and take them to school late.
--5-- Feed the kids food other than breakfast food.
--6-- Borrow food from neighbor/friend.
--6-- Go to store for food and let them eat on the way to school.
--7-- Give them money for school breakfast.

Problem #6

--1-- Go hungry.
--2-- Write a bad check.
--2-- Hope that something will come up.
--3-- Save food for kids and you go hungry.
--4-- Scrounge around for money.
--5-- Try to find small jobs for money.
--6-- Ask for advance pay from work.
--6-- Borrow money or food.
--6-- Try to get food on credit.
--6-- Take children over to relative's house for dinner.
--6-- Go to charitable organization (Salvation Army, church, etc.) to receive free food.
--7-- Explain the situation to a friend/relative and ask them if you could borrow some money until payday.

Problem #7

--1-- Go crazy at home.
--1-- Spank the kids to get them to mind you.
--2-- Just cry and pout until you feel better.
--3-- Just stick it out.
--4-- Talk to kids about it.
--5-- Send kids to bed or to their rooms early.
--5-- Let kids got to friend's house for the evening.
--5-- Take kids to park to play while you relax.
--5-- Call a sitter so you can take a break.
--5-- Talk to kids about their behavior and give them something to do.
--5-- Give the children something to do and go alone in your room to relax.
--6-- Remove myself form the situation either by getting someone to watch the kids or isolating myself in the house long enough to calm down.
--7-- Talk to kids and correct behavior if possible. If not, send them to bed so you can calm down.
--7-- Find someone to take care of kids while you calm down and figure out new strategies to deal with the children.

Problem #8

--1-- Disbelieve the teacher, she never liked your child.
--1-- Tell the teacher it is her problem, not yours.
--2-- Ask teacher to call back in a few weeks it it's still a problem.
--3-- Punish the child.
--3-- Talk to teacher and punish (without talking to child).
--4-- Talk to child about the situation.
--4-- Restrict the child from activities, and assign chores.

--5-- Talk to the child and teacher and punish if necessary.
--5-- Ask teacher to handle the situation and work with her.
--6-- Tell teacher that you will work out a program at home with your child with the teacher's help (rewarding & praising the child).
--7-- Schedule a conference with you, teacher, and the child to work on a solution.

Problem #9

--1-- Ignore the notice and assume the school will deal with it.
--2-- Tell child to just go without.
--3-- Explain the situation to your child and have them borrow form other children.
--4-- Borrow some item from work to give to your child.
--5-- Make or save extra money to get items.
--5-- Ask Dept. of Human Services if they can help with the supplies.
--6-- Find things around the house to send to school.
--6-- Make other arrangements until you can get the items.
--7-- Borrow money for the items.
--7-- Write a note to the teacher explaining the situation and asking if there was anything the school could do to help.

Problem #10

--1-- Just ignore your friend.
--1-- Get angry and/or drop her as a friend.
--2-- Tell her you have things to do.
--2-- Tell her to go out with someone else.
--2-- Find a new friend.
--2-- Ask your friend to pay your way when you go out.
--3-- Tell her that some day you may be able to do something with her.
--4-- Just find the time to spend with her.
--5-- Talk to her about the situation.
--6-- Do something inexpensive which will include your children.
--7-- Have her over and do something inexpensive at home after the children have gone to bed.

Problem #11

--1-- Do not go, when you said you would.
--1-- Ignore the phone call, you are busy.
--2-- Tell her to call someone else, as you are just getting off to work and can't make it.
--2-- Ask what is wrong, then go over without taking the children to daycare, or calling your boss.
--3-- Take kids to daycare and miss a little work.
--3-- Just find out what happened.
--4-- Talk to her on the phone.
--4-- Stop and help her on your way to work, and day care.
--4-- Call work and take the kids with you.

--4-- Ak if you can stop by later.
--4-- Ask her to come to you.
--5-- Stop and help her on your way to work and day care.
--6-- Without verifying emergency have someone take children to daycare, call boss and explain, then go to friend.
--7-- Verify emergency, have someone take children to daycare, call boss and explain, then go to your friends.

Problem #12

--1-- Tell your children that your spouse is to blame.
--1-- Just yell at them and tell them to learn to live with it.
--2-- Just ignore their feelings and questions.
--3-- Keep them busy so they won't think about it.
--4-- Tell them they will feel better later.
--5-- Talk to your kids and be understanding.
--5-- Have the children spend more time with the other parent.
--6-- Have the children talk to you and your spouse separately about their feelings.
--7-- Get entire family together, including your spouse, explain the situation calmly, and help them deal with their feelings.
--7-- Talk to your children, try to explain the situation, and reassure them that both their parents still love them.

Problem #13

--1-- Wait and see what turns up.
--2-- See if the kids can work and bring in enough money.
--3-- Try to live off of welfare.
--4-- Return to school.
--4-- Collect unemployment.
--5-- Look for out of state jobs.
--5-- Ask friends for job leads.
--6-- Look for a job in the newspaper each day and also check at the job service office in town..
--6-- Look through the classified ads.
--6-- Take out ads for services you can do.
--6-- Call unemployment office.
--6-- Put application at different places of employment.
--7-- Do a combination of looking through ads, calling, and putting in applications.
--7-- Work odd jobs while training for better job; or work a job that will provide experience for a better job.

Problem #14

--1-- Go out and beat the children.
--1-- Keep your child home a day or two as punishment.
--1-- Just ignore the problem.

--1-- Tell your child to hit back.
--2-- Keep your child home a day or two.
--4-- Tell your children to stay away from these children.
--4-- Tell your child to play elsewhere.
--4-- Talk to the children and see what the problem is.
--5-- Talk to the children and their parents.
--5-- Find out who the other children are and inform their parents of what has been happening.
--6-- Talk to your child and teach him to learn to get along with them.
--7-- Observe the children playing and then take corrective measures, talking to the other parents if necessary.

Problem #15

--1-- Get mad at your boss and just leave work.
--1-- Get drunk and just forget about it for a few days.
--1-- Tell boss off and quit or be fired.
--2-- Just go home and send the kids to bed early.
--3-- Tell the boss you think he's mistaken.
--3-- Just ignore it.
--4-- Tell your boss you are doing your best.
--4-- Talk to friends/spouse to get their advice.
--4-- Work out your anger.
--5-- Just say to yourself -- "He's having a bad day and taking it out on me."
--5-- Try to improve the quality of your work.
--6-- Go home and do something to relax and talk to your boss the next day.
--7-- Go home and do something to relax. The next day talk to the boss. Let him explain and make any needed changes based on his feedback.

PPSM
Planning Examples

1. I would reprimand him for not telling me he was having problems and then I would work out a time for him to work on schoolwork everyday. (SQ). He might lie about not having any homework (AO) so I would ask his teacher to send a list of his assignments home with him. He will probably get angry at me (SC) but I'll explain to him why it is important that he does well in school and hope that he understands (GS). Besides getting him into a routine is a good way to teach him to be independent since he can't always rely on me telling him what to do (SR).

2. I would look for some sort of organization I would be interested in joining and then see if they have something that could involve the children also (SQ). Maybe something like Parents Without Partners or something like that. The kids might not like it if I start going out a lot (SC), but it's important that I do things for myself occasionally (SR). I would probably feel awkward at first not knowing anyone else in the organization (AO) but I would contact them by phone first and talk to someone who I could then introduce myself to in person (GS).

3. I would try to find someone to watch the kids this evening, at least for a little while, and then I would plan a relaxing activity so I could calm down before facing the kids (SQ). Whenever you get that upset it is important to calm down before you take it out on the kids (SR). If I could just get away for little while I know I would feel better (SC). I may have trouble finding someone to watch the kids (AO), but I'll just tell them what a bad day I had and they will probably say yes (GS).

4. I know that if I took the kids with me it would not be a break (SC). But I can't find anyone to watch them for a couple of days (AO). I can't leave them alone as they are too young (SR). So I'll arrange for two days off from work and still take the kids to daycare on my days off. I'll plan several day trips (SQ) that'll really give me a needed rest (GS).

5. I know the kids need breakfast to function properly at school (SC). Yet I don't have time to go get any food (AO). I can't have them miss school either (SR). I'll explain the situation to the kids and give them all money to buy breakfast at school (SQ) so they won't go hungry (GS).

6. I could ask my friend Betty for some money but that might hurt our friendship (SC). I would just have to make sure I paid her back on payday so she won't get mad at me (GS). It might be hard to get money from her because she isn't the most generous person in the world (AO) but if I explained the situation to her, told her I wouldn't be asking if it wasn't an emergency, and then promised to pay her back on payday (SQ) I think she would lend it to me. If she does say no I'll have to make sure I don't get mad at her because it isn't her fault I'm in this situation (SR).

7. I would try to get my spouse or someone to watch the kids and then I would get myself out of the house for a little while to settle down (SQ). Whenever you get upset you should remove yourself and calm down before you take it out on the kids (SR). Getting away for just a little bit would make me feel a lot better (SC). Of course a lot of time no one is available to watch the kids (AO). I would have a part of the house picked out that I could go to so that I'll always have a place to get away from it all for a moment or two (GS).

8. I know my child needs to be dealt with as it could lead to him being expelled (SC). Yet I can't be at school all the time to watch him (AO) and he should be able to get along with others without being constantly watched (SR). I'll suggest a meeting with the teacher to figure out a solution (SQ) in hopes of decreasing his disruptive behaviors (GS).

9. I would send a note to the teacher explaining that I can't get the items right now and asking if my child could share with others until I could get them. I would then call the teacher to see if she got my note and also to let her know that I am sincerely

concerned (SQ). I would then buy the items on my next payday (GS). My child might be upset that he has to share rather than have his own things (AO) but I'll just explain to him that it is only for a little while. The teacher might think that it isn't fair for my child to use the other kid's things (SC) but it is also important to teach kids to share (SR).

10. I hope my friend will enjoy an evening at my house and not be bored (SC) as most of our friends go out to nightclubs to socialize (SR). I realize that we would like to be alone to visit and I'll make plans that will begin after my child is in bed (AO). I'll invite her over on Saturday for dinner and also rent a VCR movie she's been wanting to see (SQ). The time alone with my friend will really help the friendship (GS).

11. If I'm late for work I could jeopardize my job (SC). I need to get the kids to daycare, but it's across town and my friend needs me now (AO). But I can't take the kids with me, my friend is in a crisis and the kids shouldn't be there (SR). First I'll call my friend and verify the emergency. Then I'll call work and say I have an emergency and I'll be late. Next I'll call a neighbor and ask her to take the kids to day care (SQ) so then I'll be free to be with my friend (GS).

12. No example at this time.

13. I would look for a job in the newspaper first and then I would go to the job service office in town to see what was available (SQ). I would check with them every day so that they would know I am serious about finding a job (GS). I don't think you should live off of unemployment if you can work (SR). I know the economy here is in bad shape (AO) so I wouldn't limit myself to just this area. If I looked in the out of town papers I would have a better chance of finding something (SC).

14. I would first ask my child who these other children are and then I would talk to their parents (SQ). Chances are they would appreciate knowing how their children are behaving (SC). My child might not want to tell me who the children are because he

doesn't want to be a tattletale (AO). But I'll just sit down and explain to him that when someone can get hurt the way he might it is important to tell about it (SR) and hopefully convince him to tell me who they are (GS).

15. I realize that if I talk to my boss now while I'm angry that it'll only make things worse (SC). But he is going out of town tomorrow and a meeting will have to wait two days (AO). I also know that it's inappropriate to show such anger towards my boss (SR). I decide to set up an appointment through his secretary the next day. I intend to ask him for feedback and any suggestions (SQ). Then I'll make any needed changes based on his feedback.

Problem-Solving Summary Sheet (1988)

Subject #:_____ First Assessment:_____
Tape#:_____ Re-test:_____

Child Behavior

Vignettes:	1	8	14	MEAN
Mean number of solutions:				
Mean effectiveness of solutions:				
Mean effectiveness of best solution:				
Mean effectiveness of planning:				

Interpersonal

Vignettes:	2	10	12	MEAN
Mean number of solutions:				
Mean effectiveness of solutions:				
Mean effectiveness of best solution:				
Mean effectiveness of planning:				

Anger Control

Vignettes:	3	7	15	MEAN
Mean number of solutions:				
Mean effectiveness of solutions:				
Mean effectiveness of best solution:				
Mean effectiveness of planning:				

Financial

Vignettes:	6	9	13	MEAN
Mean number of solutions:				
Mean effectiveness of solutions:				
Mean effectiveness of best solution:				
Mean effectiveness of planning:				

Child Care

Vignettes:	4	5	11	MEAN
Mean number of solutions:				
Mean effectiveness of solutions:				
Mean effectiveness of best solution:				
Mean effectiveness of planning:				

TOTAL

	MEAN
Mean number of solutions:	
Mean effectiveness of solutions:	
Mean effectiveness of best solution:	
Mean effectiveness of planning:	

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Parental Problem-Solving Skills and Child Behavior Problems: A Comparison of Physically Abusive, Neglectful, Clinic, and Community Families

David J. Hansen,[1] Gina M. Pallotta,[1] Amy C. Tishelman,[2] Loren P. Conaway,[1] and Virginia M. MacMillan[1]

Failure to solve problems related to parenting and other aspects of daily living is hypothesized to result in frustration or inability to cope, and lead to deviant parental behavior such as aggression or neglect. The present investigation provided support for a procedure for measuring parental problem-solving skill and compared the problem-solving abilities and child behavior problems of maltreating and nonmaltreating parents. Subjects were 40 parents with at least one child between the ages of three and twelve. Subjects were assigned to one of four groups: (a) physically abusive parents (n = 9); (b) neglectful parents (n = 9); (c) nonmaltreating clinic parents seeking help for child behavior problems (n = 11); and (d) nonmaltreating, non-help-seeking community parents (n = 11). Abusive and neglectful parents were deficient in problem-solving skill as compared to clinic and community parents, yet there were many similarities in parental reports of child behavior problems for maltreating and nonmaltreating parents. Parental problem-solving skill did not correlate significantly with parental ratings of child behavior problems.

KEY WORDS: problem solving; child behavior problems; physical abuse; neglect.

INTRODUCTION

Child abuse and neglect are serious, prevalent national problems that have been receiving increasing public and scientific attention, but are still not well understood. A recent national incidence study of maltreatment in

[1]Department of Psychology, West Virginia University, Morgantown, West Virginia 26506.
[2]Department of Psychology, State University of New York, Binghamton, New York 13901.

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the United States indicates the magnitude of the problem: approximately 358,300 children were physically abused and approximately 1,003,600 children were neglected in 1986 (National Center on Child Abuse and Neglect, 1988).

Early conceptualizations proposed that child abuse results from severe parental psychopathology (Spinetta and Rigler, 1972; Steele and Pollock, 1974). However, it is estimated that only 5 to 10% of abusive parents suffer from severe psychopathology such as sociopathy or psychosis (Kelly, 1983). Recent literature emphasizes the complex nature of child abuse and neglect, and stresses the relationship of parental skill deficits and maltreatment (e.g., Kelly, 1983; Wolfe *et al.*, 1981). It is hypothesized that a variety of parental deficits are capable of producing abusive and neglectful behavior by limiting the parent's ability to control their child's, as well as their own, behavior.

Parental skill deficits may be found in areas such as child-management and parent-child interaction (e.g., Bousha and Twentyman, 1984; Burgess and Conger, 1977, 1978; Lahey *et al.*, 1984; Trickett and Kuczynski, 1986; Wolfe and Sandler, 1981), anger and stress control (e.g., Wolfe *et al.*, 1983), or problem solving (e.g., Azar *et al.*, 1984; Smith *et al.*, 1988). Investigators have also found that abusive parents may have unrealistic expectations and distorted perceptions of child behavior, or make problematic attributions regarding the causes of child behavior (e.g., Azar *et al.*, 1984; Bauer and Twentyman, 1985; Larrance and Twentyman, 1983; Twentyman and Plotkin, 1982).

Inability to deal with environmental stressors may also be related to maltreatment. Potential stressors include financial, employment, housing, and interpersonal problems, and parental social isolation (Garbarino and Crouter, 1978; Kelly, 1983; Spinetta and Rigler, 1972). Many maltreating parents may be socially isolated or "insular," with relatively few close friends or sources of emotional support, small social networks, and relatively high frequencies of negative interactions and contacts with helping agencies (Salzinger *et al.*, 1983; Wahler, 1980). Social isolation and insularity may be related to increased child behavior problems, poor parent-child interactions, and poor maintenance of parent-training effects (Wahler, 1980), and may lead to feelings of being trapped, decreased coping and support resources, and increased probability that maltreatment will occur.

Specific child behaviors or characteristics may also be related to physical abuse and neglect (Friedrich and Boriskin, 1976; Helfer, 1973). For instance, maltreated children may be more likely than nonmaltreated peers to exhibit developmental and educational deficits, peer and family interaction deficits, and higher levels of externalizing (e.g., aggressiveness, hyperactivity) and internalizing behavior problems (e.g., depression, anxiety) (Ammerman *et al.*, 1986; Hansen *et al.*, 1989; Conaway and Hansen, 1989). Of course,

because of the correlational nature of the research, it is not clear to what degree these problems may precede or result from maltreatment.

The relationship of problem-solving skill deficits with child maltreatment is often speculated (e.g., Kelly, 1983; Wolfe *et al.*, 1981), but only beginning to be documented (Azar *et al.*, 1984; Dawson *et al.*, 1986; MacMillan *et al.*, 1989; Smith *et al.*, 1988). Failure to solve problems related to parenting and other aspects of daily living is hypothesized to result in frustration or inability to cope, and lead to deviant behavior such as aggression or neglect (Kelly, 1983; Wolfe *et al.*, 1981). Unfortunately, little research has been conducted, and the focus has been exclusively on problem-solving skills as related to child management. For instance, Azar *et al.* (1984) demonstrated that abusive mothers and neglectful mothers showed poorer problem-solving skills for child-rearing problems than comparison mothers. Dawson *et al.* (1986) showed that neglectful parents were deficient in problem-solving skills related to child-care judgment. Evaluation of problem-solving skill for other risk factors, such as family, interpersonal, or economic stressors has not been conducted. Research to date has not indicated whether maltreating parents have a generalized problem-solving skill deficit, or whether the deficit is specific to child management problems.

In summary, the literature stresses that a variety of skill deficits, including deficits in problem-solving ability, are likely to be present in abusive and neglectful parents and that these deficits may be related to abuse and neglect. In addition to the need for replication and larger samples, much of the research on skill deficits of maltreating parents would benefit from more use of adequate control groups and procedures. For example, it is important to use appropriate comparison populations, verify that parents have or have not been identified as abusive or neglectful, and demonstrate the similarity of groups on important demographic characteristics, such as income, education, age of parent, number and ages of children (Conaway and Hansen, 1989). Discriminating between types of maltreatment is also important since the topography of each is quite different. A particularly important control group that has generally been overlooked in previous research is nonmaltreating parents who are seeking professional help to deal with their children. For instance, if nonmaltreating, help-seeking parents are shown to have problem-solving deficits similar to maltreating parents, then it is less likely that this particular skill deficit is significantly related to child maltreatment.

The present investigation compared parental problem-solving abilities and parental reports of child behavior problems in maltreating and nonmaltreating families. The relationship of problem-solving skill and child behavior problems was also examined. In addition, the investigation provided support for an assessment procedure for measuring parental problem-solving skill.

METHOD

Subjects

Subjects were 40 parents with at least one child between the ages of 3 and 12 who were assigned to one of four groups: (a) Physically Abusive (n = 9); (b) Neglectful (n = 9); (c) nonmaltreating Clinic parents seeking help for child behavior problems (n = 11); and (d) nonmaltreating, non-help-seeking Community parents (n = 11). Presence and absence of maltreatment was classified according to records of the Child Protective Services (CPS) Division of the West Virginia Department of Human Services: the state agency that substantiates reports of abuse or neglect.

Maltreating subjects were referred to the Family Interaction Skills Project, a clinical research and treatment program. CPS records indicated a history of abuse reports for the Abusive subjects that ranged from approximately 3 months to 6 years (Mean = 30.67 months). Charges against the physically abusive parents included excessive physical discipline with use of belts or other objects, and biting, hitting, or kicking a child. CPS records for Neglectful subjects ranged from approximately three months to nine years (Mean = 39.33 months). Charges against the neglectful parents included leaving young children unsupervised, leaving children outdoors in inclement weather, not sending children to school, and not taking appropriate care of the children's nutritional, medical, or hygiene needs.

Clinic parents were recruited from outpatient community agencies and were seeking help for parenting or child behavior problems (e.g., noncompliance, aggression). Community parents were recruited from advertisements in local newspapers and stores and were paid five dollars for participating.

One subject in the Neglectful group was Black, and all of the remaining subjects were Caucasian. Approximately 55% to 73% of the subjects in each group were married. Two subjects in the Abusive, Neglectful, and Clinic groups were male, and all of the remaining subjects were female. Table I presents the means and standard deviations for additional demographic variables for each group. Analyses of variance (ANOVAs) indicated the groups were not significantly different for family income, parent age, number of children, age of target child (chosen for focus of the child behavior measure), and age of youngest and oldest child. The Clinic group of parents had significantly more education than the Abusive and Neglectful groups, but the Clinic and Community groups were not significantly different, and the Abusive, Neglectful, and Community groups were not significantly different. The demographic information supports the overall similarity of the groups.

To further evaluate the similarity of the groups, and rule out the possibility that psychopathology rather than maltreatment accounted for group

Table I. Means, Standard Deviations, Analyses of Variance, and post hoc Duncans for Demographics and the SCL-90-R

	Group					
	Abuse (n = 9) M(SD)	Neglect (n = 9) M(SD)	Clinic (n = 11) M(SD)	Community (n = 11) M(SD)	F^c	$p <$
Demographics						
Annual family income (dollars)	8963(5506)	12475(6647)	14458(12183)	17070(15299)	0.84	NS
Parent age (years)	37.3(8.4)	38.0(12.6)	37.3(4.1)	32.8(9.2)	0.69	NS
Parent education (years)	10.6(2.4)[a]	10.6(1.7)[b]	13.1(2.0)[b]	12.4(1.8)[a,b]	3.58	0.03
Number of children	2.6(0.9)	2.8(1.4)	2.3(0.8)	2.9(1.3)	0.57	NS
Age of target child (years)	8.8(2.4)	9.9(4.6)	8.5(2.4)	7.4(3.3)	1.00	NS
Age of youngest child (years)	5.9(3.1)	7.6(4.8)	6.8(3.1)	5.1(4.0)	0.79	NS
Age of oldest child (years)	12.1(6.7)	12.2(4.7)	11.7(4.7)	11.3(6.8)	0.06	NS
SCL-90-R						
Global severity index	1.21(0.92)	0.92(0.77)	0.64(0.35)	0.60(0.42)	MANOVA was not significant	
Positive symptom total	52.5(29.5)	38.7(20.5)	36.0(26.8)	32.3(17.9)		

[a,b]Groups with matching superscript letters were not found to be significantly different in post-hoc analyses.
[c]df = 3, 36.

differences, subjects completed the Symptom Checklist-90-Revised (SCL-90-R: Derogatis, 1983). The SCL-90-R has been shown to have adequate internal consistency, test-retest reliability, generalizability across populations, and concurrent validity (Derogatis, 1983). Table I presents the means and standard deviations of each of the groups on these SCL-90-R measures: (a) Global Severity Index, which is a measure of level of psychopathology; and (b) Positive Symptom Total, which is the number of symptoms. A multivariate analysis of variance (MANOVA) for the SCL-90-R measures was not significant, indicating that the groups were not substantially different in level of self-reported symptoms of psychopathology.

Measures

Problem-Solving Skill

Although the child-management problem-solving skills of abusive and neglectful mothers have been assessed (e.g., Azar *et al.*, 1984; Dawson *et al.*, 1986), a measure designed specifically to assess the general problem-solving skills of abusive and neglectful parents has not been previously published. Following procedures used by Hansen *et al.* (1985), a problem-solving measure was constructed. A relevant pool of 50 problematic situations was created by sampling from: (a) previous literature that describes problematic situations for abusive and neglectful parents (e.g., Azar *et al.*, 1984; Dawson *et al.*, 1986; Kelly, 1983); (b) completion of a "Problems Questionnaire" by eight parents identified as abusive and/or neglectful; and (c) completion of the Problems Questionnaire by four mental health professionals with experience treating abusive and neglectful families. Each of these 50 problematic situations was classified into one of five problem areas: child behavior and child management problems, anger and stress control problems, financial problems, child-care resource problems, and interpersonal problems. Five situations were randomly chosen from each of these five problem areas and were randomly ordered into the final list of 25 "Problematic Situations." The following is an example situation pertaining to child behavior problems:

> Your child's teacher calls you and says that your child is misbehaving at school. Your child teases other children, is disruptive in the classroom, and gets in fights on the playground. The teacher is very upset and says you must do something.

The following is an example situation pertaining to financial problems:

> You won't get paid for one week and you are out of money. You are almost out of groceries, and do not have enough to feed you and the children for that week.

The measure is administered by reading each problematic situation to the parent, and asking the parent to imagine being in that situation and to

"Tell me all of things you *could do* to solve the problem, and what you *would do*." The solution that the subjects said they "would do" was considered the "best solution" (i.e., the solution the subject considered the best solution to implement). The parent's responses were audio recorded and later rated by trained raters, who are unaware of the parent's group assignment, for number of alternative solutions generated and effectiveness of the best solution. Effectiveness was rated on a 7-point Likert-type scale, with the following anchors: (a) 1 = *very ineffective*—the solution was highly unlikely to resolve the problem and highly likely to make the existing problem worse or result in negative consequences; (b) 3 = *ineffective*—the solution was unlikely to resolve the problem and likely to make the existing problem worse or result in other negative consequences; (c) 5 = *effective*—the solution was likely to resolve the problem and unlikely to make the existing problem worse or result in other negative consequences; and (d) 7 = *very effective*—the solution was highly likely to resolve the problem and highly unlikely to result in any negative consequences. (The measure and scoring system are available from the first author upon request.)

Raters, who were undergraduate psychology majors and blind to group status, independently evaluated the problem-solving audio tapes. The raters received approximately 20 hr of instruction, practice, and feedback prior to scoring subjects' tapes. Inter-rater reliability was assessed on approximately 30% of the problem-solving assessments randomly sampled from each group.

Research has supported the psychometric properties of an abbreviated 15-item version of the problem solving measure (Smith *et al.*, 1988). The total scale and five subscales have been shown to have adequate internal consistency, inter-rater reliability, temporal stability over approximately 2 weeks, and concurrent and predictive validity (Smith *et al.*, 1988). In addition, the full 25-item problem-solving measure has been useful as an outcome measure in a clinical treatment study (MacMillan et al., 1989).

Child Behavior Problems

Estimates of child behavior problems were obtained by parent completion of the Eyberg Child Behavior Inventory (ECBI) (Eyberg and Ross, 1978). The ECBI consists of a list of 36 child behaviors for which the parent rates: (a) the frequency of occurrence on a 7-point Likert-type scale (where 1 = *Never*, 7 = *Always*); and (b) whether or not the behavior is a problem. The ECBI has been shown to have adequate internal consistency, split-half and test-retest reliability, and predictive validity (e.g., Eyberg and Robinson, 1983; Eyberg and Ross, 1978; Robinson *et al.*, 1980).

The parent completed the ECBI for the child that they reported exhibited the most problem behavior or, in the case of families with equally problematic

children, the child nearest age 7. Age of target children did not significantly differ between groups (see Table I).

RESULTS

Evaluation of the Problem-Solving Measure

Inter-rater Reliability

Mean Pearson product-moment correlations between the independent raters for the total list of problems and the five subscales were: Number of Solutions Generated, 0.83 (Range = 0.73–0.91); and Effectiveness of Best Solution, 0.76 (Range = 0.67–0.91).

Internal Consistency

Since the problem-solving measure was developed for the present investigation, an item analysis was used to evaluate the internal consistency of the measure. Pearson product-moment correlations were used to assess the item-total correlations. Means and ranges for each subscale and the total scale are presented in Table II. The results support the internal consistency of the scale.

Intercorrelation of Scales

The Pearson product-moment intercorrelations of the problem-solving scales are presented in Table III. The results demonstrate that the scales have

Table II. Means and Ranges of Pearson Product-Moment Correlations of Items with Total Scores on Problem-Solving Scales

	Rating	
	Number of solutions	Effectiveness of best solution
Scale		
Total problems	0.73(0.50-0.86)	0.51(0.32-0.71)
Child behavior problems	0.73(0.57-0.79)	0.55(0.43-0.71)
Interpersonal problems	0.75(0.67-0.86)	0.50(0.32-0.58)
Anger/stress problems	0.76(0.69-0.86)	0.50(0.47-0.53)
Financial problems	0.73(0.64-0.82)	0.51(0.38-0.60)
Child care problems	0.66(0.50-0.83)	0.49(0.40-0.53)

Table III. Pearson-Product-Moment Intercorrelations of Problem-Solving Scales

	Child behavior	Interpersonal	Anger/stress	Financial	Child care
			Number of solutions		
Total problems	0.857[a]	0.918[a]	0.900[a]	0.907[a]	0.938[a]
Child behavior		0.624[a]	0.706[a]	0.743[a]	0.773[a]
Interpersonal			0.790[a]	0.851[a]	0.849[a]
Anger/stress				0.725[a]	0.831[a]
Financial					0.808[a]
			Effectiveness of best solution		
Total problems	0.787[a]	0.771[a]	0.722[a]	0.745[a]	0.749[a]
Child behavior		0.518[b]	0.482[b]	0.520[b]	0.460[b]
Interpersonal			0.416[c]	0.482[b]	0.527[b]
Anger/stress				0.413[c]	0.389[c]
Financial					0.486[b]

[a] $p < 0.0001$.
[b] $p < 0.01$.
[c] $p < 0.05$.

moderate relationships and are not completely overlapping or redundant. The highest correlations are found for number of solutions generated, suggesting that subjects tended to generate a similar number of possible solutions for the various problems.

Problem-Solving Skill

MANOVAs revealed significant group differences ($p < 0.05$) for five of six problem areas: Total, Interpersonal, Financial, Anger/Stress, and Child Behavior problems. The MANOVA for Child Care problems was not significant. Table IV presents the means and standard deviations for each measure by group, and the results of the ANOVAs and post hoc Duncan comparisons.

An interesting pattern of differences and similarities between groups is evident. Community and Clinic groups did not differ significantly on any problem-solving measure, and neither did Abusive and Neglectful parents. Overall, nonmaltreating subjects exhibited more skill than maltreating subjects. Clinic parents generally exhibited the highest level of skill, followed by Community, Neglectful, and then Abusive parents.

Community parents exhibited significantly higher number of solutions and effectiveness of best solution than Abusive parents for the Total list of problems and Child Behavior problems, and significantly more solutions for the Interpersonal, Financial, and Anger/Stress problems. Community parents also exhibited significantly higher number of solutions and effective-

ness of best solution than Neglectful parents for the Interpersonal problems, and significantly more solutions for the Total, Child Behavior, Financial, and Anger/Stress problems.

Clinic parents demonstrated significantly higher number of solutions and effectiveness of best solution than Abusive parents for the Total, Interpersonal, Financial, and Child Behavior problems, and higher number of solutions for Anger/Stress problems. Clinic parents also did significantly better than the Neglectful parents for number of solutions and effectiveness of best solution for the Total and Interpersonal problems, and for number of solutions for the Child Behavior, Financial, and Anger/Stress problems.

The number of solutions measure was the strongest measure of group differences. It clearly separated maltreating from nonmaltreating subjects in four of the five significant comparisons (i.e., Total, Interpersonal, Financial, and Anger/Stress problems).

Child Behavior

A MANOVA revealed a significant difference between the groups on the ECBI measures ($p < 0.05$). Table IV presents the means, standard deviations, ANOVAs, and post hoc Duncan comparisons for the ECBI. Community parents rated their children as significantly less problematic than Abusive parents for both frequency and number of problem behaviors. Community parents also rated the number of problem behaviors as significantly less than the Clinic parents. Clinic parents rated their children as exhibiting a significantly lower number of problem behaviors than Abusive parents, but their intensity scores did not differ significantly. ECBI scores for Clinic and Neglectful parents did not differ. Neglectful parents reported that their children exhibited significantly lower frequency and number of problem behaviors than Abusive parents.

Robinson et al. (1980) collected normative data on 512 children (between the ages of 2 and 12) seen in a Pediatric clinic for mostly health reasons (e.g., physical exam, temporary illness). The mean frequency ("intensity") score was 103.8 (SD = 34.6), and the mean problem score was 7.0 (SD = 7.8). Compared to these normative data, Abusive and Clinic subjects' scores were substantially higher, Neglectful subjects' scores were slightly higher, and Community subjects' scores were slightly below.

Relationship of Problem-Solving Skill and Child Behavior Problems

Pearson product-moment correlations were calculated between the ECBI measures the problem-solving measures. The correlations were generally nega-

Table IV. Means, Standard Deviations, Analyses of Variance, and post hoc Duncans for Problem-Solving Measure and Eyberg Child Behavior Inventory

	Group					
	Abuse M(SD)	Neglect M(SD)	Clinic M(SD)	Community M(SD)	F[d]	$p <$
Total problems						
No. of solutions	2.11(0.68)[a]	2.14(0.71)[a]	3.11(0.69)[b]	3.11(0.94)[b]	4.38	0.01
Best solution	4.73(0.82)[a]	4.84(0.62)[a]	5.60(0.40)[b]	5.26(0.25)[a,b]	4.42	0.01
Child behavior problems						
No. of solutions	2.34(.095)[a]	2.35(0.67)[a]	3.50(1.14)[b]	3.22(0.92)[a,b]	3.28	0.04
Effect. of best	4.25(1.30)[a]	4.61(0.67)[a,b]	5.46(0.53)[b]	5.11(0.72)[a,b]	3.20	0.04
Interpersonal problems						
No. of solutions	2.01(0.87)[a]	1.95(0.68)[a]	3.00(0.67)[b]	3.16(1.02)[b]	4.96	0.007
Effect. of best	5.21(1.02)[a,b]	5.00(0.47)[a]	6.17(0.38)[c]	5.73(0.42)[c,b]	6.31	0.002
Financial problems						
No. of solutions	2.26(1.02)[a]	2.14(0.59)[a]	3.26(0.91)[b]	3.20(1.06)[b]	3.51	0.03
Effect. of best	5.03(0.68)[a]	5.31(0.87)[a,b]	6.03(0.67)[b]	5.51(0.56)[a,b]	2.80	0.057
Anger/stress problems						
No. of solutions	1.87(0.79)[a]	2.15(0.89)[a]	3.15(0.79)[b]	3.16(1.23)[b]	3.87	0.02
Effect. of best	4.16(0.91)	4.53(0.96)	5.20(0.89)	4.82(0.73)	2.00	NS
Child care problems						
No. of solutions	1.97(0.31)	2.04(0.82)	2.66(0.72)	2.80(0.85)	MANOVA was	
Effect. of best	4.93(1.05)	4.71(0.92)	5.15(0.60)	5.24(0.51)	not significant	
ECBI						
Frequency of behaviors	161.9(59.8)[a]	108.3(40.6)[b]	138.6(41.4)[a,b]	91.1(27.2)[b]	4.89	0.01
Number of problems	22.5(11.2)[a]	9.7(2.2)[b,c]	14.1(5.7)[b]	6.1(6.4)[c]	8.45	0.001

[a,b,c]Groups with matching superscript letters were not found to be significantly different in post-hoc analyses.
[d]$df = 3, 35$.

tive and all were nonsignificant ($p > 0.05$). Correlations of frequency of behaviors on the ECBI with number of solutions and effectiveness of best solution were (respectively): Total (0.015, −0.127); Child Behavior (0.035, 0.133); Interpersonal (−0.078, −0.056); Anger/Stress Control (−0.037, −0.095); Financial (0.105, −0.060); and Child Care (−0.007, 0.009). Correlations of severity of behaviors on the ECBI with number of solutions and effectiveness of best solution were (respectively): Total (0.001, −0.291); Child Behavior (−0.112, −0.180); Interpersonal (−0.185, −0.305); Anger/Stress (−0.109, −0.221); Financial (−0.045, −0.238); and Child Care (−0.130, −0.254).

DISCUSSION

Both physically abusive and neglectful parents exhibited problem-solving skill deficiencies as compared with nonmaltreating community and clinic parents. The differences between the groups in parental reports of child behavior problems were generally as expected, with physically abusive and clinic parents reporting the most difficulty with child behavior. There were many similarities between maltreating and nonmaltreating parents' reports of child behavior problems, yet the maltreating parents exhibited significantly poorer problem-solving skills in a variety of domains, including dealing with child behavior problems.

The measures of parental problem-solving ability did not correlate significantly with the parental reports of child behavior problems. Differences between the groups may help account for the small, generally negative correlation coefficients. For example, the clinic group of parents exhibited the highest problem-solving skill levels and reported the second highest levels of child behavior problems, while the abusive parents exhibited the lowest skill levels and reported the highest levels of problems.

Research has indicated that abusive and neglectful parents may have unrealistic expectations and distorted perceptions of child behavior (e.g., Azar *et al.*, 1984; Bauer and Twentyman, 1985; Twentyman and Plotkin, 1982; Rosenberg and Reppucci, 1983). Thus, the data on the ECBI must be considered cautiously. It is interesting, however, that many studies with maltreating parents have relied heavily on parental reports of child behavior (cf. Conaway and Hansen, 1989). Since the problem-solving assessment procedure is designed to assess parents' *ability* rather than their perceptions, potential biases because of unrealistic expectations or problem attributions seem less of an issue. Nevertheless, these cognitive deficiencies may reduce parents' performance on the problem-solving measure by causing them to generate or choose solutions that are not appropriate or effective for the hypothetical problems.

Nonmaltreating parents seeking help for child behavior problems provided an interesting comparison group. The clinic group showed the greatest problem-solving skill differences with the maltreating groups—even more than the community parents. While the actual reasons for this are unknown, one hypothesis is that the clinic parents had a history of experiencing and solving more problems of the type assessed than did community parents. This hypothesis is supported by the fact that clinic parents were actively attempting to improve problems by seeking help from available community agencies. Another hypothesis is that educational level is related to performance on the problem-solving assessment, which is supported by the fact that the clinic group had the most years of education. A related hypothesis is that the clinic group had higher intellectual ability. Yet, research with an abbreviated version of the problem-solving measure (Smith *et al.*, 1988) found low correlation with IQ scores, and other problem-solving research has consistently found only low correlation between problem-solving skill and traditional measures of IQ or academic aptitude (D'Zurilla, 1986). It should also be noted that, although the clinic group of parents had significantly more education than the abusive and neglectful groups, there were no other significant educational differences between groups, and the four groups were not significantly different for any other demographics.

It is interesting that the number of solutions generated was the strongest measure of maltreating vs. nonmaltreating group differences. This indicates that the maltreating parents may lack creativity and skill for "brainstorming" solutions, which limits their ability to develop the most effective solution for implementation. The mean effectiveness of *all* solutions generated for each problem was not included in the present analyses because previous analyses have indicated that it is not a valuable measure of skill (e.g., MacMillan *et al.*, 1987). Nonmaltreating subjects may generate more solutions and more effective "best" solutions, but many of the other solutions generated are not necessarily more effective than the additional solutions generated by maltreating parents.

Although the sample size was relatively small, there were enough subjects to demonstrate widespread, significant group differences with multivariate analyses. The small number of subjects may reduce the generalizability of the findings to the populations of physically abusive, neglectful, clinic, and community parents, but the thorough descriptions of the samples (on a variety of demographics, maltreatment history, level of psychopathology) provide adequate information to allow an understanding of the groups that participated, and the strength of the findings provides encouragement for further research.

The method for assessing problem-solving skill was consistent with procedures described in the literature (e.g., Azar *et al.*, 1984; Dawson *et al.*, 1986). The present study provided support for the problem-solving assess-

ment procedure, but further evaluation of the procedure is needed to fully understand its properties. In particular, research might evaluate the relationship of performance on the procedure with actual problem-solving performance, to verify that the measure is indicative of skill levels.

Several methodological features of present investigation are important for making a contribution to the literature on problem-solving skill of maltreating parents, including the following: (a) separation of physically abusive and neglectful parents, and comparison of types of maltreatment; (b) documentation of maltreatment status by Child Protective Services; (c) similarity of the groups on a variety of important parent and child demographic characteristics; (d) use of a nonmaltreating clinic group; (e) ruling out differences in parental report of psychopathology symptoms; (f) assessment of problem-solving skill with a variety of types of problems encountered by abusive and neglectful parents; and (g) further support for the problem-solving assessment procedure.

The present investigation suggests that remediation of the problem-solving deficits of maltreating parents may be an important intervention strategy. Problem-solving training (cf. D'Zurilla, 1986) may be an important initial intervention for dealing with the varied and complex problems of maltreating parents (e.g., Dawson *et al.*, 1986; MacMillan *et al.*, 1989). This may provide a framework for approaching difficulties in which additional interventions or skill training procedures might be introduced to broaden the parent's repertoire of potential solutions.

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The Parental Problem-Solving Measure: Further Evaluation with Maltreating and Nonmaltreating Parents

David J. Hansen,[1] Gina M. Pallotta,[2] Jeanette S. Christopher,[2] Richard L. Conaway,[2] and Lori M. Lundquist[1]

Inability to solve problems related to parenting and other aspects of daily living is hypothesized to result in frustration or inability to cope, and contribute to the occurrence of problematic parental behavior such as physical abuse or neglect. The present investigation evaluated the Parental Problem-Solving Measure (PPSM), a procedure for measuring parental problem-solving skill of maltreating and nonmaltreating parents. Subjects were 60 parents with at least one child between the ages of 2 and 12. Subjects belonged to one of three groups: (a) physically abusive and/or neglectful parents (n = *27); (b) nonmaltreating clinic parents seeking help for child behavior problems* (n = *12); and (c) nonmaltreating, non-help-seeking community parents* (n = *21). Results demonstrated the interrater reliability, internal consistency, and temporal stability of the PPSM and its five subscales. Support is also provided for the convergent and discriminant validity of the measure.*

KEY WORDS: problem solving; assessment; physical abuse; neglect.

INTRODUCTION

A substantial amount of research literature in recent years has documented the complex nature of child abuse and neglect and highlighted the relationship between parental skill deficits and maltreatment (cf. Azar and Wolfe, 1989; Hansen and Warner, 1992; Kelly, 1983). A variety of parental deficits contribute to the development of abusive and neglectful behavior by limiting the parents' ability to control their child's, as well as their own,

[1]University of Nebraska-Lincoln, Lincoln, Nebraska 68588-0308.
[2]West Virginia University, Morgantown, West Virginia 26506.

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behavior. Parental skill deficits may be found in areas such as child-management and parent–child interaction (e.g., Bousha and Twentyman, 1984; Lahey *et al.*, 1984; Trickett and Kuczynski, 1986), child care (Watson-Perczel *et al.*, 1988; Tertinger *et al.*, 1984), anger and arousal control (e.g., MacMillan *et al.*, 1988, 1991; Wolfe *et al.*, 1983), and problem solving (e.g., Azar *et al.*, 1984; Hansen *et al.*, 1989). Inability of parents to effectively cope with stressors such as financial, employment, housing, interpersonal, and social isolation problems may also contribute to child maltreatment (Hansen and Warner, 1992; Kelly, 1983).

The relationship of child maltreatment and problem-solving skill deficits is often speculated and has recently begun to be explored (Azar *et al.*, 1984; Dawson *et al.*, 1986; Hansen *et al.*, 1989; MacMillan *et al.*, 1988). Inability to solve problems related to parenting and other aspects of daily living is hypothesized to result in frustration or inability to cope and lead to problematic parental behavior such as physical abuse or neglect.

Unfortunately, little research has been conducted, and the focus has been almost exclusively on problem-solving skills as related to child behavior problems. For example, Azar *et al.* (1984) found that abusive mothers and neglectful mothers had poorer problem-solving skills for child-rearing problems than comparison mothers. Similarly, Dawson *et al.* (1986) demonstrated that neglectful parents were deficient in problem-solving skills related to child-care judgment. Evaluation of problem-solving skill for other possible risk factors, such as familial, interpersonal, or economic stressors has generally not been conducted.

A likely reason that there has been relatively little examination of the problem-solving skills of maltreating parents, or any parents, is the lack of an available measure. Hansen *et al.* (1989) developed the initial 25-item Parental Problem-Solving Measure (PPSM) to compare the parental problem-solving abilities of maltreating and non-maltreating families. To administer the PPSM, parents are read brief problem vignettes and then asked to describe what they could and would do in response to the problem situations. Responses are audio-recorded and later rated by trained raters for the number of alternative solutions generated and the effectiveness of the best solution. Five types of problem situations are presented: child behavior, interpersonal, anger/stress, financial, and child care problems. Abusive and neglectful parents were deficient in problem-solving skill as compared to clinic and community parents, yet there were many similarities in parental reports of child behavior problems for maltreating and non-maltreating parents. This method for assessing problem-solving skill is consistent with procedures described in the literature on maltreating parents (e.g., Azar *et al.*, 1984; Dawson *et al.*, 1986) as well as the problem-solving literature with other populations (e.g., Hansen *et al.*, 1985; Tisdelle and St. Lawrence, 1988).

The present investigation further evaluates the PPSM as a measure of parents' ability to generate effective solutions to a variety of problems. The initial 25-item measure has been shown to have good interrater reliability and internal consistency and to discriminate abusive and neglectful from nonmaltreating parents (Hansen *et al.*, 1989). The present study evaluated a shortened version of the PPSM that was reduced to 15 items in previous research (Smith *et al.*, 1988). The interrater reliability, internal consistency, and temporal stability of the PPSM and its five subscales were evaluated. The convergent and discriminant validity of the measure were also explored.

METHOD

Subjects

Subjects were 60 parents with at least one child between the ages of 2 and 12. Subjects belonged to one of three groups: (a) physically abusive and/or neglectful parents (n = 27); (b) non-maltreating clinic parents seeking help for child behavior problems (n = 12); and (c) non-maltreating, non-help-seeking community parents (n = 21).

Maltreating subjects were referred by Child Protective Services (CPS) to the Family Interaction Skills Project, a clinical research and treatment program that was affiliated with a university clinic. Presence of maltreatment was classified according to records of CPS. CPS records indicated a history of abuse and neglect reports for the Abusive subjects that ranged from approximately 3 months to 8 years (Median = 23 months). Physical abuse incidents included excessive physical discipline with use of belts or other objects, and biting, hitting, or kicking a child. Neglect incidents included leaving young children unsupervised, not sending children to school, and not taking appropriate care of the children's nutritional, medical or hygiene needs. Clinical experience with the families demonstrated that abuse and neglect often co-occurred and that even when only one form of maltreatment had been officially documented, the other form was often evident or likely to have occurred. Such co-occurrence is also found in other research (e.g., Russell and Trainor, 1984).

Clinic parents were recruited from the same outpatient clinic and from the local community mental health center. These parents were seeking help for parenting or child behavior problems (e.g., noncompliance, aggression). Maltreating and Clinic subjects were assessed prior to treatment. Community parents were recruited via advertisements in local newspapers and stores. All subjects were paid five dollars for participating.

The demographic information supports the overall similarity of the groups. All subjects were primary caretakers of their child(ren) and all were from a rural/small town area. Three subjects in the Maltreating group and one in the Clinic and Community groups were male. Two subjects in the Maltreating and the Community groups were African-American, one subject in the Community group was Asian-American, and all of the remaining subjects were European-American. Approximately 37% of Maltreating subjects, 67% of Clinic subjects, and 50% of Community subjects were married.

Mean age of the parents (and standard deviation) was 34.1 (7.69) for Maltreating subjects, 35.1 (5.93) for Clinic subjects, and 31.5 (6.95) for Community subjects. Median income (and standard deviation) was $7,400 (4889) for Maltreating subjects, $10,800 (9703) for Clinic subjects, and $9,000 (8781) for Community subjects. Mean years of education (and standard deviation) was 10.6 (1.80) for Maltreating subjects, 12.7 (1.22) for Clinic subjects, and 14.2 (2.25) for Community subjects. The modal educational level for each group was 12 years. Analyses of variance (ANOVAs) revealed that the groups were not significantly different in age, $F(2,57) = 1.24$, $p < .298$, or income, $F(2,57) = 2.61$, $p < .083$. The Clinic and Community groups did not differ in years of education, while the Maltreating group was significantly lower than the other groups, $F(2,57) = 21.58$, $p < .001$. In summary, the groups were comparable in parenting status (i.e., primary caretaker), geographic location, gender, race, and marital status, and were not significantly different in parent age, family income, and age of target child (described later).

Parent Problem-Solving Measure

Initial Development

The PPSM was initially developed and used in previous research (e.g., Hansen *et al.*, 1989; MacMillan *et al.*, 1988; Smith *et al.*, 1988). A relevant pool of 50 problematic situations was created by sampling from: (a) previous literature that describes problematic situations for abusive and neglectful parents (e.g., Azar *et al.*, 1984; Dawson *et al.*, 1986; Kelly, 1983); (b) completion of a "Problems Questionnaire" by eight parents identified as abusive and/or neglectful; and (c) completion of the Problems Questionnaire by four mental health professionals with experience treating abusive and neglectful families. Each of the 50 problematic situations was classified into one of five problem areas: child behavior and child

management problems, anger and stress control problems, financial problems, child-care resource problems, and interpersonal problems (Hansen *et al.*, 1989). Five situations were randomly chosen from each of these five problem areas and were randomly ordered into the final list of 25 "Problematic Situations." The following is an example situation pertaining to child behavior problems:

> Your child's teacher calls you and says that your child is misbehaving at school. Your child teases other children, is disruptive in the classroom, and gets in fights on the playground. The teacher is very upset and says you must do something.

The following is an example situation pertaining to financial problems:

> You won't get paid for one week and you are out of money. You are almost out of groceries, and do not have enough to feed you and the children for that week.

Administration

After reading each problem situation to the parent, the parent is asked to imagine being in that situation and to "(a) Tell me *all* of the ways in which you *could* solve the problem; (b) Tell me which solution you *would* try if you were in that situation; and (c) Tell me *exactly how* you would carry out that solution." Parents' responses are audio recorded and later rated for Number of Solutions and Effectiveness of Best Solution.

Item Analyses and Scale Reduction

Item analyses were conducted on the initial 25-item measure in order to shorten administration time and increase internal consistency (Smith *et al.*, 1988). Subjects for these analyses were 31 parents in 3 groups: (a) 15 physically abusive and/or neglectful parents; (b) 5 non-maltreating clinic parents seeking help for child behavior problems; and (c) 11 non-maltreating, non-help-seeking community parents. Presence of maltreatment was substantiated by records of Child Protective Services (CPS).

Item-total correlations were used to shorten the measure to 15 items (which included 3 items for each of the 5 scales). Ten out of 11 items with the lowest correlations (i.e., .333 or less) with Total Scores for Effectiveness of Best Solution were eliminated. The one exception to this was an item with a correlation of .32 that was kept because that left 3 items on each of the 5 scales, and 15 items for the total scale.

Scoring

The parent's audio-recorded responses were rated by trained raters, who were unaware of the parent's group assignment, for Number of Alternative Solutions generated and Effectiveness of the Best Solution. Raters were undergraduate psychology majors who independently rated the audio tapes. The raters received approximately 22 hours of instruction, practice, and feedback prior to scoring subjects' tapes. Inter-rater reliability was assessed on 25% of the problem-solving assessments randomly sampled from each group.

Effectiveness was rated on a 7-point Likert-type scale, with the following anchors: (a) 1 = *very ineffective* — the solution was highly unlikely to resolve the problem and highly likely to make the existing problem worse or result in negative consequences; (b) 3 = *ineffective* — the solution was unlikely to resolve the problem and likely to make the existing problem worse or result in other negative consequences; (c) 5 = *effective* — the solution was likely to resolve the problem and unlikely to make the existing problem worse or result in other negative consequences; and (d) 7 = *very effective* — the solution was highly likely to resolve the problem and highly unlikely to result in any negative consequences.

The system for scoring Effectiveness was developed through a multistage process. First, 144 parent responses obtained in prior research with the 15 problem situations (Hansen *et al.*, 1989; Smith *et al.*, 1988) were transcribed (an average of 9.6 responses per vignette). These responses were then rated for Effectiveness (on the scale described above) by nine clinical psychology doctoral students with experience assessing and treating maltreating families. Mean ratings for each response were averaged and listed in numerical order. The experimenters (first through fourth authors) then reviewed this list and did the following: (a) retained the original responses in most cases (approximately 90%) and rounded the mean ratings for these responses to the nearest whole number; (b) revised and edited the content of a small number of responses (less than 10%) that had the most variable ratings from the nine raters and then assigned a new effectiveness rating; and (c) created sample responses to fill gaps in the continuum of ratings (e.g., if there was not a response with a rating of 2 for a problem situation, then a sample response was generated by the experimenters). The process resulted in an Effectiveness coding manual with 176 sample responses (an average of 11.7 responses per vignette). This manual was used by the raters to code Effectiveness for this study. The measure and scoring system are available from the first author upon request.

Other Measures

Estimate of Intellectual Functioning

A two-subtest short form of the Wechsler Adult Intelligence Scale — Revised (WAIS-R; Wechsler, 1981) was used to estimate general intellectual functioning of the subjects. The Vocabulary and Block Design short form is a popular short form screening instrument that has high reliability and high correlation with the Full Scale IQ (Sattler, 1988; Silverstein, 1982).

Child Behavior Problems

Estimates of child behavior problems were obtained by parent completion of the Eyberg Child Behavior Inventory (ECBI) (Eyberg and Ross, 1978). The ECBI consists of a list of 36 child behaviors for which the parent rates: (a) the frequency of occurrence on a 7-point scale (where 1 = *Never*, 7 = *Always*); and (b) whether or not they think the behavior is a problem. The ECBI has been shown to have adequate internal consistency, split-half and test–retest reliability, and predictive validity (e.g., Eyberg and Robinson, 1983; Eyberg and Ross, 1978; Robinson *et al.*, 1980).

The parent completed the ECBI for the child that they reported exhibited the most problem behavior or, in the case of families with equally problematic children, the child nearest age six. The mean ages (and standard deviations) for the target children were as follows: 7.11 (2.51) for the Maltreating group, 7.00 (2.70) for the Clinic group, and 5.49 (2.79) for the Community group. The ages of the target children were not significantly different, $F(2,57) = 2.46$, $p < .09$.

Common Hassles and Irritants

The Hassles Scale (HS; Kanner, Coyne, Schaefer, and Lazarus, 1981) is a 117-item measure of the number and severity of hassles experienced in the past month. Example hassles include misplacing or losing things, financial concerns, and not having enough time for family. For each of the hassles that have occurred in the past month, subjects rate its severity on a 3-point scale (where 1 = *Somewhat severe*, 2 = *Moderately severe*, 3 = *Extremely severe*). Research has supported the test–retest reliability, and convergent and construct validity (Kanner *et al.*, 1981).

Parental Anger

The Parental Anger Inventory (PAI), previously called the MacMillan-Olson-Hansen Anger Control scale (MOHAC; MacMillan *et al.*, 1988), was used to measure anger experienced in response to child misbehavior and other child-related situations. Parents rate 50 child-related situations (e.g., child refuses to go to bed, child throws food) as problematic or non-problematic and rate the degree of anger evoked by each situation on a 5-point scale (where 1 = *Not at all,* 3 = *Somewhat,* 5 = *Extremely*). Parents are asked to complete the PAI regarding their child(ren) between the ages of 2 and 10 years old. Research has supported the internal consistency and content validity of the measure (MacMillan *et al.*, 1988).

Socially Desirable Response Style

The Edwards Social Desirability Scale (SDS; Edwards, 1957) was administered to measure tendency to endorse items based on their social desirability rather than on their actual content. The SDS contains 39 true-false items drawn from the MMPI which were found to be most subject to the effects of a social desirability response set. Scores range from 0 to 39, with higher scores indicating a greater tendency to respond in a socially-desirable manner. The SDS has been shown to have high internal consistency (Edwards, 1957, 1990). The SDS was presented to subjects with the heading "Self-Description Scale."

Procedure

Most assessments were conducted in a small private office in a University building or in the local mental health center. Approximately 25% of the assessments were conducted in the subjects' homes because of transportation and/or child care issues. When a home assessment was conducted, efforts were made to ensure privacy and control interruptions and distractions. This included, for example, sending a second research assistant to engage the child(ren) in alternate activities.

Parents signed a consent form that explained that the nature of the project was to better understand differences in adjustment between different types of families. Subjects then signed a consent form that allowed the experimenters to contact the Child Protective Services agency to find out if the subject had a record of abuse or neglect reports. Following a demographic interview, the measures were administered in the following order:

Table I. Interrater Reliabilities: Pearson Product–Moment Correlations

	Number of Solutions[a]	Effectiveness of Best Solution[a]
Total problems	.93	.93
Child behavior problems	.92	.87
Interpersonal problems	.95	.85
Anger/stress problems	.82	.85
Financial problems	.92	.94
Child care problems	.96	.83

[a] All $p < .01$.

PAI, PPSM, abbreviated WAIS-R, ECBI, Hassles Scale, and the SDS. Subjects were paid $5.00 for participating.

Twenty subjects (33%) re-completed the PPSM between 8 and 31 days following the first administration (mean = 16.9 day, SD = 6.22) in order to measure test–retest reliability. Seven subjects were from the Maltreating group, three were from the Clinic group, and ten were from the Community group. These subjects were paid $5.00 for participating in the second session.

RESULTS

Inter-rater Reliability

Table I presents the inter-rater reliabilities for Number of Solutions and Effectiveness of Best Solution for the Total Problems scale and each of the PPSM subscales. The mean Pearson product-moment correlations between the independent raters for the total list of problems and the five subscales were: Number of Solutions Generated — .917 (Range = .82 to .96); and Effectiveness of Best Solution — .878 (Range = .83 to .94).

Internal Consistency

Cronbach's alpha coefficients were calculated to determine the internal consistency of the total scale and the five subscales. Alpha coefficients for Number of Solutions and Effectiveness of Best Solution for the 15-item Total Problems Scale were .91 and .77, respectively. Alpha coefficients for Number of Solutions and Effectiveness of Best Solution for each of the 3-item subscales were as follows: (a) Child Behavior — .79, .53; (b) Interpersonal — .67, .36; (c) Anger/Stress — .77, .44; (d) Financial — .67, .40;

and (e) Child Care — .40, .17. Thus, the results strongly support the internal consistency of the Total Problems Scales for both Number of Solutions and Effectiveness of Best Solution. The alpha coefficients for Number of Solutions were strong for the five subscales, but the coefficients were consistently weaker for Effectiveness of Best Solution. Overall, the coefficients for the subscales were good given that there were only three items on each. The Child Care subscale had the lowest internal consistency, especially for Effectiveness of Best Solution. This seemed to be primarily due to confusion of subjects regarding one vignette, which read as follows:

> It is 7:00 am and time for breakfast. The school bus picks the children up at 7:30. You forgot to get any food for breakfast last night and are completely out of food. The kids are whining that they are hungry.

Some subjects responded as if the vignette said "completely out of *breakfast* food" while others responded to the vignette as presented. This problem could be easily clarified for future use by adding a reminder that the vignette said "completely out of food."

Intercorrelation of Scales

The Pearson product-moment intercorrelations of the problem-solving scales are presented in Table II. The results demonstrate that all of the scales have moderate to strong relationships but are not completely overlapping or redundant. Consistently higher correlations are found for Number of Solutions, suggesting that subjects tended to generate a similar number of possible solutions for the various problems.

Test–Retest Reliability

Table III presents the test–retest reliabilities for Number of Solutions and Effectiveness of Solutions for the Total Problems scale and each of the subscales. The mean Pearson product-moment correlations between the independent raters for the total list of problems and the five subscales were: Number of Solutions Generated — .705 (Range = .62 to .82); and Effectiveness of Best Solution — .683 (Range = .58 to .74).

Relationship with Other Measures

Pearson product-moment correlations were calculated between the total problem-solving measures and the other measures (see Table IV). As expected, the abbreviated WAIS-R IQ was moderately positively correlated

Table II. Pearson Product–Moment Correlations of Problem-Solving Scales[a]

	Child Behavior	Inter-personal	Anger/ Stress	Financial	Child Care
Number of Solutions					
Total problems	.85	.90	.82	.85	.85
Child behavior		.67	.60	.64	.69
Interpersonal			.67	.79	.70
Anger/stress				.56	.67
Financial					.62
Effectiveness of Best Solution					
Total problems	.79	.70	.70	.59	.72
Child behavior		.53	.44	.45	.54
Interpersonal			.57	.37[a]	.49
Anger/stress				.35[a]	.47
Financial					.37[a]

[a] $p < .004$; All others $p < .001$.

with Number of Solutions and Effectiveness of Best Solution. Small to moderate negative correlations were expected between the problem-solving measures and the ECBI, Hassles Scale, and Parental Anger Inventory scores. These correlations were negative but nonsignificant ($p > .05$). As predicted, the correlations of the SDS with the problem-solving measures were small and nonsignificant. (The correlations between the problem-solving subscale scores and these measures demonstrated comparable findings and are available upon request.)

The relationship of the SDS with the other measures was also examined because of the weak relationship of the self-report measures with the problem-solving measures (see Table IV). The SDS correlated strongly and significantly with the ECBI, Hassles, and PAI scales, suggesting that these scales were excessively influenced by socially desirable response styles. The SDS was not significantly correlated with the abbreviated WAIS-R IQ.

Group Differences

The three groups of subjects were compared on each of the problem-solving scales. Table V presents the means and standard

Table III. Test-Retest Reliability: Pearson Product-Moment Correlations

	Number of Solutions	Effectiveness of Best Solution
Total problems	.78	.58[a]
Child behavior problems	.55[a]	.67
Interpersonal problems	.80	.74
Anger/stress problems	.66	.70
Financial problems	.82	.74
Child care problems	.62	.67

[a] $p < .01$, all others $p < .001$.

deviations for each measure by group, and the results of the ANOVAs and Scheffe comparisons.

An interesting pattern of differences and similarities between groups is evident. Community and Clinic groups did not differ significantly on any problem-solving measure. Overall, non-maltreating subjects consistently exhibited more skill than maltreating subjects.

The Maltreating and Community groups were the most different. Community parents exhibited significantly higher Number of Solutions and Effectiveness of Best Solution compared to maltreating parents for nearly every scale, except for Effectiveness of Best Solution on Anger/Stress and Financial Problems. Community parents exhibited significantly higher Number of Solutions and Effectiveness of Best Solution compared to maltreating parents for nearly every scale, except for Effectiveness of Best Solution on Anger/Stress and Financial Problems, on which the groups did not differ.

Clinic parents demonstrated significantly higher Number of Solutions and Effectiveness of Best Solution compared to maltreating parents for the Interpersonal, Financial, and Child Care Problems, and higher Number of Solutions for Total Problems. Clinic parents also scored significantly higher than the Maltreating parents for Effectiveness of Best Solution for the Child Behavior problems. The Clinic and Maltreating groups did not differ on Number of Solutions for Child Behavior or Anger/Stress Problems and on Effectiveness of Best Solution for Total Problems and Anger/Stress Problems.

DISCUSSION

Overall, the results provide good support for the psychometric properties of the PPSM, including the total 15-item scale and the five subscales. Results supported the use of both types of measures on the PPSM, Number of Solutions and Effectiveness of Best Solution. This problem-solving assessment procedure is comparable to other measures used in research with

Table IV. Pearson Product-Moment Correlations of Total Problem-Solving Measure and Social Desirability Scale with the Other Measures

	Total Problems		
	Number of Solutions	Best Solution	SDS
Abbreviated WAIS-R IQ			
Vocabulary, Block Design	.76[a]	.58[a]	.39
Eyberg Child Behavior Inventory			
Frequency of Behaviors	−.02	−.10	−.63[a]
Number of Problems	−.18	−.20	−.55[a]
Hassles Scale			
Number of Hassles	−.04	−.09	−.63[a]
Severity of Hassles	−.09	−.18	−.65[a]
Parental Anger Inventory			
Number of Anger Situations	−.02	−.13	−.43[b]
Total Severity Ratings	−.23	−.17	−.36
Social Desirability Scale	.10	.26	

[a] $p < .001$.
[b] $p < .01$.

maltreating parents (e.g., Azar *et al.*, 1984; Dawson *et al.*, 1986) as well as research with other populations (e.g., Hansen *et al.*, 1985; Tisdelle and St. Lawrence, 1988).

Interrater reliability for the PPSM with trained research assistants was excellent. Internal consistency of the total scale, as measured by Cronbach's alpha, was high. For the subscales, internal consistency was variable, but this is not surprising given that these subscales are comprised of only three items. Temporal stability across an average interval of approximately 17 days was moderate to strong for all of the problem-solving measures.

The problem-solving scales have moderate relationships with each other and with a measure of intellectual functioning. This indicates that the scales are not completely overlapping or redundant with each other or with an estimate of intellectual functioning. Problem-solving scores were not related to parental ratings of child behavior problems, daily hassles, or anger in child-related situations. These parental ratings, but not the scores on the PPSM, were significantly related to a measure of socially desirable response style. This suggests that the accuracy of the information obtained from the parental

Table V. Comparison of Groups on Parental Problem-Solving Measures: Means, Standard Deviations, Analyses of Variance, and Scheffe Comparisons

	Group							
	Maltreating		Clinic		Community			
	M	(SD)	M	(SD)	M	(SD)	F^a	$p <$
Total problems								
No. of Solutions	2.26	(0.69)[a]	3.27	(1.04)[b]	3.25	(1.09)[b]	8.78	.0005
Best Solution	4.67	(0.73)[a]	5.24	(1.00)[a,b]	5.37	(0.65)[b]	5.57	.007
Child behavior problems								
No. of Solutions	2.82	(1.12)[a]	3.44	(0.94)[a,b]	3.83	(1.65)[b]	3.61	.04
Best Solution	4.51	(0.85)[a]	5.39	(1.04)[b]	5.32	(1.06)[b]	5.40	.008
Interpersonal problems								
No. of Solutions	1.94	(0.82)[a]	3.39	(1.43)[b]	3.02	(1.20)[b]	9.51	.0003
Best Solution	4.63	(1.16)[a]	5.86	(1.05)	5.40	(0.85)	6.81	.03
Anger/stress problems								
No. of Solutions	2.22	(0.91)[a]	3.17	(1.56)[a,b]	3.19	(1.35)[b]	4.61	.02
Best Solution	4.58	(1.14)	5.19	(0.98)	5.12	(0.72)	2.48	.09
Financial Problems								
No. of Solutions	2.39	(1.01)[a]	3.53	(1.31)[b]	3.51	(1.25)[b]	7.87	.001
Best Solution	5.41	(1.01)[a]	6.19	(0.39)[b]	5.99	(1.66)[a,b]	5.05	.01
Child Care Problems								
No. of Solutions	1.92	(0.60)[a]	2.71	(0.99)[b]	2.72	(1.06)[b]	6.35	.004
Best Solution	4.03	(1.03)[a]	4.86	(0.83)[b]	5.01	(0.93)[b]	6.83	.003

[a] $df = 2, 57$.
[a,b] Groups with matching superscript letters were not found to be significantly different in Scheffe analyses.

ratings was limited by the subjects' socially desirable response styles. Fortunately, because the PPSM is designed as a measure of skill, as opposed to self-description, it is likely to be less susceptible to social desirability.

It is possible, however, that the actual content of what subjects said they would do in response to the problem vignettes was influenced by social desirability. This is inevitable and is a common problem with skill measures that involve hypothetical responding in analogue situations. Further research is needed to evaluate the relationship of performance on the procedure with actual, in vivo problem-solving performance, to verify that the measure is indicative of real-life skill levels. This is a common concern expressed in the problem-solving assessment literature (cf. Tisdelle and St. Lawrence, 1986).

Further support for the problem-solving measure comes from the fact that it clearly differentiated maltreating from nonmaltreating parents. Maltreating parents scored significantly lower than community parents on 10 of the 12 problem-solving scales and lower than clinic parents on 8 of 12 scales. Clinic and Community parents did not differ on any of the problem-solving scales. Thus, the measure relatively consistently discriminates between the groups and the results support the notion that problem-solving skill deficits are related to child maltreatment. It should be noted that the nonmaltreating clinic sample was particularly small, but the strong, consistent patterns of differences between the maltreating and nonmaltreating groups and the similarity of the nonmaltreating groups was informative.

The three groups were similar in many respects, including primary caretaker status, rural/small town location, gender, race, marital status, age, age of target child, and family income. It is difficult, however, to have groups that are identical in every respect. The maltreating group had significantly fewer years of education than the clinic and community groups, which did not differ. Even if educational level explains part of the variance in problem-solving skill, either or both could be a causal influence on the other. In fact, a major difference in the educational level of the groups was that the clinic and community samples were more likely to have post-high school education. The opportunity to pursue some post-high school training may be the result of their more advanced problem-solving ability. The possible relationship of educational level and problem-solving skill of maltreating parents is an area for further inquiry. Previous research with other populations indicates that problem-solving skill has relatively low correlation with tests of academic aptitude (D'Zurilla, 1986).

As found in previous research (Hansen *et al.*, 1989), the number of solutions generated appeared to be a slightly stronger measure of maltreating vs. nonmaltreating group differences than effectiveness of the best

solution. This suggests that the maltreating parents may especially lack creativity and skill for "brainstorming" solutions, which subsequently limits their ability to develop the most effective solution. The mean effectiveness of *all* solutions generated for each problem was not evaluated in this study because previous analyses with this measure have indicated that it is not a valuable measure of problem-solving skill (e.g., Hansen *et al.*, 1989; MacMillan *et al.*, 1987). For example, nonmaltreating subjects may generate more solutions and more effective "best" solutions, but many of the other solutions generated are not more effective than the additional solutions generated by maltreating parents. Similar findings have been documented with other populations (cf. D'Zurilla, 1986).

Although size of the samples in the present investigation is consistent with much of the previous research with maltreating populations, the number of subjects is small for a psychometric evaluation. The research to date indicates that a more thorough psychometric evaluation of the PPSM with a much larger sample is needed. One question to be addressed in further research is whether there is empirical support (e.g., via factor analyses) for the five subscales that were rationally derived.

The findings of the present investigation suggest that remediation of the problem-solving deficits of maltreating parents may be an important intervention strategy. Problem-solving training may be an effective intervention for dealing with the multiple and complex problems of maltreating parents (e.g., Dawson *et al.*, 1986; MacMillan *et al.*, 1988). Problem-solving assessment and training may provide a valuable framework for approaching the multifaceted difficulties of maltreating parents, including providing a model from which additional interventions or skill training procedures might be introduced to broaden the parents' repertoire of potential solutions (Hansen *et al.*, 1989). It is hoped that the PPSM will facilitate the development and evaluation of such intervention procedures.

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