

Programming Generalization of Recruitment of Praise in Boys Who Have Been Physically Abused.

by

Leonard J. Greenwood, M.A.

A dissertation submitted

to the Faculty of Graduate Studies, in partial fulfilment of requirements for the

Degree of Doctor of Philosophy

Department of Psychology

University of Manitoba

Winnipeg, Manitoba

December, 1996

Running head: PROGRAMMING GENERALIZATION



National Library
of Canada

Acquisitions and
Bibliographic Services Branch

395 Wellington Street
Ottawa, Ontario
K1A 0N4

Bibliothèque nationale
du Canada

Direction des acquisitions et
des services bibliographiques

395, rue Wellington
Ottawa (Ontario)
K1A 0N4

Your file *Votre référence*

Our file *Notre référence*

The author has granted an irrevocable non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of his/her thesis by any means and in any form or format, making this thesis available to interested persons.

L'auteur a accordé une licence irrévocable et non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de sa thèse de quelque manière et sous quelque forme que ce soit pour mettre des exemplaires de cette thèse à la disposition des personnes intéressées.

The author retains ownership of the copyright in his/her thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without his/her permission.

L'auteur conserve la propriété du droit d'auteur qui protège sa thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

ISBN 0-612-16144-7

Canada

Name Leonard J. Greenwood

Dissertation Abstracts International and Masters Abstracts International are arranged by broad, general subject categories. Please select the one subject which most nearly describes the content of your dissertation or thesis. Enter the corresponding four-digit code in the spaces provided.

SUBJECT TERM

Behavioral Psychology

0384

UMI

SUBJECT CODE

Subject Categories

THE HUMANITIES AND SOCIAL SCIENCES

COMMUNICATIONS AND THE ARTS

Architecture 0729
 Art History 0377
 Cinema 0900
 Dance 0378
 Design and Decorative Arts 0389
 Fine Arts 0357
 Information Science 0723
 Journalism 0391
 Landscape Architecture 0390
 Library Science 0399
 Mass Communications 0708
 Music 0413
 Speech Communication 0459
 Theater 0465

EDUCATION

General 0515
 Administration 0514
 Adult and Continuing 0516
 Agricultural 0517
 Art 0273
 Bilingual and Multicultural 0282
 Business 0688
 Community College 0275
 Curriculum and Instruction 0727
 Early Childhood 0518
 Elementary 0524
 Educational Psychology 0525
 Finance 0277
 Guidance and Counseling 0519
 Health 0680
 Higher 0745
 History of 0520
 Home Economics 0278
 Industrial 0521
 Language and Literature 0279
 Mathematics 0280
 Music 0522
 Philosophy of 0998

Physical 0523
 Reading 0535
 Religious 0527
 Sciences 0714
 Secondary 0533
 Social Sciences 0534
 Sociology of 0340
 Special 0529
 Teacher Training 0530
 Technology 0710
 Tests and Measurements 0288
 Vocational 0747

LANGUAGE, LITERATURE AND LINGUISTICS

Language
 General 0679
 Ancient 0289
 Linguistics 0290
 Modern 0291
 Rhetoric and Composition 0681
 Literature
 General 0401
 Classical 0294
 Comparative 0295
 Medieval 0297
 Modern 0298
 African 0316
 American 0591
 Asian 0305
 Canadian (English) 0352
 Canadian (French) 0355
 Caribbean 0360
 English 0593
 Germanic 0311
 Latin American 0312
 Middle Eastern 0315
 Romance 0313
 Slavic and East European 0314

PHILOSOPHY, RELIGION AND THEOLOGY

Philosophy 0422
 Religion
 General 0318
 Biblical Studies 0321
 Clergy 0319
 History of 0320
 Philosophy of 0322
 Theology 0469

SOCIAL SCIENCES

American Studies 0323
 Anthropology
 Archaeology 0324
 Cultural 0326
 Physical 0327
 Business Administration
 General 0310
 Accounting 0272
 Banking 0770
 Management 0454
 Marketing 0338
 Canadian Studies 0385
 Economics
 General 0501
 Agricultural 0503
 Commerce-Business 0505
 Finance 0508
 History 0509
 Labor 0510
 Theory 0511
 Folklore 0358
 Geography 0366
 Gerontology 0351
 History
 General 0578
 Ancient 0579

Medieval 0581
 Modern 0582
 Church 0330
 Black 0328
 African 0331
 Asia, Australia and Oceania 0332
 Canadian 0334
 European 0335
 Latin American 0336
 Middle Eastern 0333
 United States 0337
 History of Science 0585
 Law 0398
 Political Science
 General 0615
 International Law and Relations 0616
 Public Administration 0617
 Recreation 0814
 Social Work 0452
 Sociology
 General 0626
 Criminology and Penology 0627
 Demography 0938
 Ethnic and Racial Studies 0631
 Individual and Family Studies 0628
 Industrial and Labor Relations 0629
 Public and Social Welfare 0630
 Social Structure and Development 0700
 Theory and Methods 0344
 Transportation 0709
 Urban and Regional Planning 0999
 Women's Studies 0453

THE SCIENCES AND ENGINEERING

BIOLOGICAL SCIENCES

Agriculture
 General 0473
 Agronomy 0285
 Animal Culture and Nutrition 0475
 Animal Pathology 0476
 Fisheries and Aquaculture 0792
 Food Science and Technology 0359
 Forestry and Wildlife 0478
 Plant Culture 0479
 Plant Pathology 0480
 Range Management 0777
 Soil Science 0481
 Wood Technology 0746
 Biology
 General 0306
 Anatomy 0287
 Animal Physiology 0433
 Biostatistics 0308
 Botany 0309
 Cell 0379
 Ecology 0329
 Entomology 0353
 Genetics 0369
 Limnology 0793
 Microbiology 0410
 Molecular 0307
 Neuroscience 0317
 Oceanography 0416
 Plant Physiology 0817
 Veterinary Science 0778
 Zoology 0472
 Biophysics
 General 0786
 Medical 0760

Geodesy 0370
 Geology 0372
 Geophysics 0373
 Hydrology 0388
 Mineralogy 0411
 Paleobotany 0345
 Paleocology 0426
 Paleontology 0418
 Paleozoology 0985
 Palynology 0427
 Physical Geography 0368
 Physical Oceanography 0415

HEALTH AND ENVIRONMENTAL SCIENCES

Environmental Sciences 0768
 Health Sciences
 General 0566
 Audiology 0300
 Dentistry 0567
 Education 0350
 Administration, Health Care 0769
 Human Development 0758
 Immunology 0982
 Medicine and Surgery 0564
 Mental Health 0347
 Nursing 0569
 Nutrition 0570
 Obstetrics and Gynecology 0380
 Occupational Health and Safety 0354
 Oncology 0992
 Ophthalmology 0381
 Pathology 0571
 Pharmacology 0419
 Pharmacy 0572
 Public Health 0573
 Radiology 0574
 Recreation 0575
 Rehabilitation and Therapy 0382

Speech Pathology 0460
 Toxicology 0383
 Home Economics 0386

PHYSICAL SCIENCES

Pure Sciences
 Chemistry
 General 0485
 Agricultural 0749
 Analytical 0486
 Biochemistry 0487
 Inorganic 0488
 Nuclear 0738
 Organic 0490
 Pharmaceutical 0491
 Physical 0494
 Polymer 0495
 Radiation 0754
 Mathematics 0405
 Physics
 General 0605
 Acoustics 0986
 Astronomy and Astrophysics 0606
 Atmospheric Science 0608
 Atomic 0748
 Condensed Matter 0611
 Electricity and Magnetism 0607
 Elementary Particles and High Energy 0798
 Fluid and Plasma 0759
 Molecular 0609
 Nuclear 0610
 Optics 0752
 Radiation 0756
 Statistics 0463
 Applied Sciences
 Applied Mechanics 0346
 Computer Science 0984

Engineering
 General 0537
 Aerospace 0538
 Agricultural 0539
 Automotive 0540
 Biomedical 0541
 Chemical 0542
 Civil 0543
 Electronics and Electrical 0544
 Environmental 0775
 Industrial 0546
 Marine and Ocean 0547
 Materials Science 0794
 Mechanical 0548
 Metallurgy 0743
 Mining 0551
 Nuclear 0552
 Packaging 0549
 Petroleum 0765
 Sanitary and Municipal 0554
 System Science 0790
 Geotechnology 0428
 Operations Research 0796
 Plastics Technology 0795
 Textile Technology 0994

PSYCHOLOGY

General 0621
 Behavioral 0384
 Clinical 0622
 Cognitive 0633
 Developmental 0620
 Experimental 0623
 Industrial 0624
 Personality 0625
 Physiological 0989
 Psychobiology 0349
 Psychometrics 0632
 Social 0451

EARTH SCIENCES

Biogeochemistry 0425
 Geochemistry 0996

**THE UNIVERSITY OF MANITOBA
FACULTY OF GRADUATE STUDIES
COPYRIGHT PERMISSION**

**PROGRAMMING GENERALIZATION OF RECRUITMENT OF PRAISE
IN BOYS WHO HAVE BEEN PHYSICALLY ABUSED**

BY

LEONARD J. GREENWOOD

A Thesis/Practicum submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Leonard J. Greenwood © 1996

Permission has been granted to the LIBRARY OF THE UNIVERSITY OF MANITOBA to lend or sell copies of this thesis/practicum, to the NATIONAL LIBRARY OF CANADA to microfilm this thesis/practicum and to lend or sell copies of the film, and to UNIVERSITY MICROFILMS INC. to publish an abstract of this thesis/practicum..

This reproduction or copy of this thesis has been made available by authority of the copyright owner solely for the purpose of private study and research, and may only be reproduced and copied as permitted by copyright laws or with express written authorization from the copyright owner.

I hereby declare that I am the sole author of this thesis.

I authorise the University of Manitoba to lend this thesis to other institutions or individuals for the purpose of scholarly research.

Leonard J. Greenwood

I further authorise the University of Manitoba to reproduce this thesis by photocopying or by other means, in total or in part, at the request of other institutions or individuals for the purpose of scholarly research.

Leonard J. Greenwood

ACKNOWLEDGEMENTS

Several people and organizations deserve acknowledgement for their contributions to my successful completion of this research project, the final step in completing my Ph.D. in Clinical Psychology.

Funding for this project came from the Manitoba Mental Health Research Foundation. Children's Home of Winnipeg, now renamed New Directions, provided three essential ingredients, clinical setting, logistic support, and financial partnership. Winnipeg Child and Family Services demonstrated confidence in the project by referring the participants. My employer, Manitoba Adolescent Treatment Centre, provided me with the needed flexibility to provide the time needed to complete this project. The positive encouragement all four of these organizations provided by their willingness to contribute to the clinical research was critical to its success.

Three individuals worked with me on this project. Carole Beaudoin contributed warmth, enthusiasm and diligence to her role as trainer. Scott Antoski and John Mergilhao were reliable, dedicated and committed to excellence in their roles as encoders. Thankyou all. I hope you enjoyed working on this project to the same degree as I valued your participation.

My friend Dr. David Patton provided essential ingredients of collegial companionship, playful competition, and unsolicited reinforcement. Thankyou my friend.

My own children, Jessica and Benjamin, demonstrated to me the essential value of cuing for praise, and amply rewarded me for any attention I returned. Thankyou both. I love you.

My wife, Linda Cantelon, provided companionship, empathy, and timely prompts throughout my graduate student career. Thankyou Linda, for reminding me of the many rewards for completing this project. I love you.

My research committee consisted of Rayleen De Luca, Ph.D., C. Psych. (Chair); John Schallow, Ph.D., C. Psych.; Walter Driedger M.S.W., Harvy Frankel, Ph.D., and Steve Holborn, Ph.D. Thankyou all for your interest and support. In particular, thankyou to Dr. De Luca for her confidence in my clinical skills and her persistent challenge that I represent my skills well in written word. Thankyou to Mr. Driedger for his friendship. A special thankyou to Dr. Holborn for his assistance in my maintaining a clear focus and appreciating the unique contribution of this research to the field of applied behaviour research.

Finally, I thank the three boys and their foster families who participated in this study. I refer to the boys as Allen, Bob and Chuck. The confidence in this project that all participants showed was inspiring, and the responsibility of ensuring that the project made a positive contribution to their lives was humbling. Thankyou very much.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	v
TABLE OF CONTENTS	vi
ABSTRACT	viii
PROGRAMMING GENERALIZATION OF RECRUITMENT OF PRAISE IN BOYS WHO HAVE BEEN PHYSICALLY ABUSED	1
Recruitment of Praise	2
Generalization	4
Changes in Adult Rates of Praise	6
Social Validity of Recruiting Praise	7
METHOD	10
Participants	10
Behaviour	13
Target Behaviour of Cuing for Praise	13
Experimental Tasks	14
Research Design	14
Data Collection	16
Indirect Measures	17
Social Validity	18
Procedure	19
Assessment of Study Nominees	19
Baseline Procedures	20
Treatment Procedures	20
RESULTS	25
Cuing for Praise	25
Cuing Effectiveness	27
Adult Praise	31
Indirect Clinical Measures	32
DISCUSSION	35
APPENDIX A.	69
Foster-care as an Alternate Placement for Children Who Have Been Abused	71

Social Skills Training	Programming Generalization	vii
		74
APPENDIX B		75
APPENDIX C		76
APPENDIX D		80
APPENDIX E		87
APPENDIX F		97
APPENDIX G		106
APPENDIX H		111

ABSTRACT

Three foster-boys who had been physically abused were trained to recruit praise from a caregiver via cuing. A direct replication design (A-B-BC-C-CD) with generalization probes in the home was used. Instruction, prompting, supplemental reinforcement and praise were used to train the 7 to 9 year old boys to cue for praise in the clinic. Generalization programming strategies were applied following Baseline (A), in four phases; Training Diversely (B), Training Diversely while Introducing Functional Mediators (BC), Introducing Functional Mediators (C), Introducing Functional Mediators and Contacting (Modifying) Naturally Occurring Contingencies (CD). All boys learned to cue for praise in the clinic. Some generalization to the foster home occurred for all boys in phase BC and was maintained above baseline levels during phase C. Most dramatic increases in cuing occurred in phase CD, when foster-parents were taught to provide both discriminative stimuli and reinforcement for cuing behaviour. Final rates of cuing (.29 to .51 cues per min) were higher than rates reported in previous studies. Boys were relatively effective in gaining praise (between 30% and 80%) in this final phase. Indirect measures reflected a reduced number of problem behaviours in the foster home and decreased perceived difficulty of the foster-boy.

PROGRAMMING GENERALIZATION OF RECRUITMENT OF PRAISE IN BOYS WHO HAVE BEEN PHYSICALLY ABUSED

Physical abuse of children has become a major clinical concern. Reviews of the literature consistently have reported children who had been physically abused to suffer from a range of neurological, emotional, and social problems (e.g., Ammerman, Cassisi, Hersen, & Hasselt, 1986; Cicchetti & Toth, 1995; McClosky, Figueroa, & Koss, 1995; Wolfe & Jaffe, 1991), (see Appendix A for a more comprehensive review). Foster care appears to be a frequently used resource for protecting children from maltreatment (Fanshel, 1982; Manitoba Child and Family Services, 1988; Proch & Howard, 1986). (See Appendix A for a more comprehensive review.) Children in foster care tend to avoid adults (Frank, 1980; Hill, Bleichfeld, Brunstetter, Hebert & Steckler, 1989; Roberts, 1979; Salter Richardson & Kairys, 1985), and to have deficits in social skills (Elmer, 1977; Hochstadt, Jaudes, Zimo, & Schachter, 1987; Kunkel, 1983). Understandably these relationship problems interfere with effective use of foster-parenting resources (Frank, 1980) and therefore, social skills training may be a worthwhile clinical intervention for such children (See Appendix A).

Social skills training is a generic term which describes training individuals to perform socially acceptable, observable behaviours which reliably occasion positive social responses from other individuals (Barton, 1986; Elliott & Gresham, 1993). A boy who is able to bring the positive qualities of his behaviour to the notice of adults often receives, in return, positive attention and positive regard (for reviews see Bell & Chapman, 1986; Emery, Binkoff, Houts & Carr, 1983). Research also has begun to employ tactics to ensure that targeted social skills generalize to other settings and individuals (Brown & Odom, 1994; Chandler, Lubeck & Fowler, 1992b). Stokes and Osnes (1989) in particular, have described tactics for obtaining stimulus generalization by systematically manipulating operant contingencies promoting transfer of behaviour from training to generalization settings.

Recruitment of Praise

In general any behaviour which invites favourable comments or positive evaluations qualifies as recruitment of praise (Stokes Fowler & Baer, 1978). Recruitment of praise by verbal cuing has been used to alter the social environment such that other newly acquired behaviours will be maintained (Stokes & Osnes, 1989). For example, recruitment of reinforcement has been used to create contingencies supportive of work performance with mentally handicapped adults (Furer & Martin, 1988; Hildebrand, Martin, Furer & Hazen, 1990), and with adolescent girls (Seymour & Stokes, 1976). It has also been used to increase task completion in a pre-school classroom (Connell, Carta & Baer, 1993). Similar methodologies have been used to upgrade the academic performance of mentally handicapped adolescents (Carr & Durand, 1985), normal and socially aggressive pre-schoolers (Stokes et al., 1978) and grade four students (Hrydowy et al., 1984). Finally, recruitment of praise for valued behaviour has been used with mentally handicapped children learning life-skill tasks (e.g., Harchik, Harchik, Luce & Sherman, 1990). However, there appear to be no published accounts of training children who have been physically abused to recruit praise from caregivers; the purpose of my research.

As an illustration of research on recruitment of praise, Stokes et al. (1978) reported two experiments in which a total of eight pre-school children were trained to cue for praise using a three step response chain which included; work carefully, evaluate the quality of your work and then query an adult about the quality of your work. Trainers used instruction, role-play, descriptive feedback and praise to teach the child to cue for evaluation of work. Cuing responses included inquiries about on-task behaviours (e.g., Have I been working carefully?) and task completion (e.g., How is it?). Children were prompted to vary their cuing statements (i.e., to avoid stereotypic responding). Stokes et al. (1978) measured two dependent variables, (a) the frequency of recruitment of praise behaviour, and (b) the effectiveness of cuing in gaining praise from naive, confederate adults. Children in both experiments acquired the cuing skill during the first training session and cued often.

By definition, a boy is effective in the social skill of cuing for praise, only if his cues reliably occasion praise. Stokes et al. (1978) reported cuing was 90% effective in gaining praise and unsuccessful only when the praiseworthy behaviour was judged by adults to be inadequate. However, Seymour and Stokes (1976) reported a somewhat leaner, though reliable reinforcement ratio of about once every 2.4 cues or on 40% of cuing attempts. In contrast, Harchik et al. (1990) presented data which suggested that cuing is less reliably effective. Four boys who lived in a group home setting were taught to cue for praise by inviting favourable comments (e.g., How was that?) regarding performance on a life skill task (e.g., reading, tooth-brushing). All boys acquired a stable rate of cuing which approximated 100% of the cuing opportunities (mean rates of .75 to .33 times per min). Rates of cuing in the generalization setting varied considerably (mean rates of .01 to .32 times per min) as did the boys' effectiveness in gaining praise (following on average 43% to 84% of cues). Anecdotal descriptions suggested cuing at times occasioned apparently punishing statements of "Play quietly". When the boys were observed in a non-training setting, the classroom, instances of generalization of cuing were rebuked by the teacher and cuing behaviour decreased.

The variations in adult response to cuing for praise indicate that it cannot be taken for granted that cuing is functional in achieving social reinforcement. Carr and Durand (1985) demonstrated that children will emit very high rates of cuing and maintain them when reinforced. Alternately, cuing will extinguish, if it is not functional in gaining reinforcers. Furer and Martin (1988) and Hildebrand et al. (1990) both reported instances where the attention recruited by cuing was not reinforcing and stable rates of cuing behaviour were not achieved.

Generalization

Broadly speaking, generalization describes the effects of training which occur in non-training conditions (Stokes & Osnes, 1989). Generalization has typically been divided into three categories, stimulus generalization, response generalization and maintenance (Edelstein, 1989). The importance of generalization has been emphasized repeatedly (for reviews see Baer, 1982; Stokes & Osnes, 1986; Fox & McEvoy, 1993; Hughes & Sullivan, 1988; Kirby & Bickel, 1988). Essentially, the value of any social skills training is measured largely by the amount of generalization observed (Fox & McEvoy, 1993). Applied research makes sound contributions to clinical practice when it identifies stimuli which control responding, describes methods of achieving that control, and manages conditions which maximize that control (Baer et al., 1987).

Stimulus Generalization

Within an operant framework, stimulus generalization occurs " . . . where contingency shaped behaviour is brought under the control of absolute qualities of stimuli that vary along one or more dimensions" (Edelstein 1989, p. 318); the adjective 'absolute' referring here to those qualities that define the stimulus class. Generalization is empirically demonstrated when a behaviour occurs with some probability in a stimulus environment to which it formerly had no correlation (Edelstein, 1989). Theoretically, for a behaviour to occur in a nontraining environment, at least one controlling stimulus must be operative, a discriminative stimulus which precludes responding must not be operative, and stimuli which control incompatible responses must be absent (Baer 1982).

Evidence of Stimulus Generalization of Cuing for Praise.

Studies have consistently reported that, if the child learns the cuing behaviour, the child will apply the behaviour in another classroom (c.g., Connell et al., 1993; Hrydowj et al., 1988; Stokes et al., 1978), in an employment preparation setting (e.g., Seymour & Stokes, 1976), or in a different room in a

group home (e.g., Harchik et al, 1990). The same studies seeking generalization across settings have reported both programmed application of cuing to other teachers (e.g., Connell et al., 1993; Stokes et al., 1978) and unprogrammed application of cuing to other group-home workers (e.g., Harchik et al., 1990). Studies have probed the continued use of cuing behaviour after training and have generally found that if cuing occasions appropriate contingencies then children maintain target levels of cuing (Connell et al., 1993; Harchik et al. 1990).

Tactics for Programming Generalization

Stokes and Osnes (1989) organized tactics for gaining generalization according to three super-ordinate principles: a) Whether the tactic involves contacting contingencies which would reinforce target behaviours, termed **exploit current functional contingencies**; b) Whether the tactic involves introducing a diverse set of stimuli or responses, termed **train diversely**; and c) whether other stimuli or behaviour are used as mediators to aid in the transfer of target behaviours to other stimulus conditions, termed **incorporate functional mediators**. These three principles have been used to structure subsequent reviews of generalization tactics in social skill research (e.g., Brown & Odom, 1994; Chandler et al., 1992b).

In a review of social skills studies, Chandler et al. (1992b), found the strategies of addressing functional target behaviours (exploit current functional contingencies), using indiscriminable contingencies (one way of training diversely), and teaching mediation strategies (incorporate functional mediators), to have been often used and often part of successful generalization strategies. Successful studies used multiple strategies, addressed both antecedent and consequent conditions, and incorporated other procedures (e.g., used a fluency or mastery criterion). Because behavioural research is outcome oriented (Azrin 1977), and interventions must continue until generalization is achieved (Johnston, 1979), Baer, Wolf, & Risley, (1987) urged tactics be progressively added to interventions which do not produce immediate or optimum generalization.

Studies have reported successful stimulus generalization of cuing for praise to other settings and adults using a combination of tactics including prompting¹ (self mediated covert stimulus)(Connell et al. 1993; Hrydoway et al., 1984; Stokes et al., 1978), reinforcing instances of generalization (train to transfer)(Stokes et al., 1978; Connell et al. 1993), using the same praiseworthy tasks (common salient physical stimuli) (Harchik et al. 1990), and having the trainer present (common salient social stimuli)(Harchik et al., 1990).

In practical terms, a child's cuing behaviour must make contact with available communities of reinforcement (i.e., a responsive adult) in the generalization setting, while none of the child's other behaviours occasion incompatible punishing adult responses (Brown & Odom, 1994). Generalization requires a functional relationship between cuing and adult response (Carr & Durand, 1985; Durand & Carr, 1991). Durand and Carr (1991) demonstrated that transfer of requests for praise or assistance may occur if the new adults provide natural maintaining consequences (praise or attention). While cuing has generally been effective in gaining praise, there have been some reports of adults responding aversively to some cues (Harchik et al. 1990) and other reports of adults varying in their definition of what form of cuing is socially valid (Hrydoway et al., 1984; Connell et al. 1993). In response to the latter, children have learned to modify their cuing behaviour in different situations (Connell et al., 1993).

Changes in Adult Rates of Praise

The strategy of cuing for reinforcement is aimed at changing reciprocal interactions (Stokes & Osnes, 1989), in our context, between child and parent. Studies have consistently reported overall increases in rates of cued praise in generalization settings (e.g., Connell et al. 1993; Hrydoway et al., 1984; Seymour & Stokes, 1976; Stokes et al, 1978). However, the majority of studies have found no change in overall rates of praise (cued and uncued) (Hrydoway et al., 1984; Stokes et al. 1978). Stokes et al. (1978) expressed the opinion that the rates of praise in the classroom were already at their optimum natural levels. Similarly, Hrydoway et al. (1984) interpreted the finding of no increase in praise to indicate that

adult praise had come under the control of the child's cuing behaviours. Finally, and as reported earlier, Harchik et al. (1990) found adult praise to be unreliable. This would suggest that Harchik et al. (1990) did not account for relevant discriminating stimuli (e.g., adult being too busy, repeated task performance not continuing to be regarded as praiseworthy).

Norms for adult's praise of children are difficult to identify. Studies of naturally occurring praise in classroom settings (Brophy, 1981) report very lean rates of praise (.001 to .01 per min). By comparison, interventions applying cuing for praise report rather high post-treatment rates of praise (e.g., Hrydowy et al. (1984), .05 to .27 per min ; Seymour & Stokes (1976).025 per minute). The naturally occurring rates of praise by mothers toward their sons has been reported at between .05 and .25 per min (Barkley, Karlsson & Pollard, 1985; Befera & Barkley, 1985; Tallmadge & Barkley 1983). It is unknown whether these rates are optimal or could be elevated with a cuing for praise behavioural intervention.

Social Validity of Recruiting Praise

Generalization is tied to the significance of intervention goals, acceptability of procedures and importance of outcomes (Fox & McEvoy, 1993). Attending to such issues of social validity requires both ratings from participants (regarding goals, procedures and outcome) (Kazdin, 1977; McMahon & Forehand, 1983; Wolfe, 1978) and data on actual reinforcement of children for target behaviours by those adults evaluating outcome (Schwartz & Baer, 1991). Hawkins (1991) has also argued that the degree to which the new behaviour benefits the individual both in the long and short term (i.e., it's habilitative validity) be evaluated. Of course, all these indices of social validity must be considered in conjunction with cost-effectiveness (Martens & Witt, 1988).

Concern has been expressed about whether adults would find it socially valid for boys to gain a measure control over their adult environment (Emery et al., 1983). While there have been no reports of such concern (Emery et al., 1983); there also appear to have been no systematic surveys of adult reactions to this target behaviour. Thus the social validity of cuing for praise has remained largely unexplored. In

addition, none of the studies reviewed provided data on whether the participants perceived themselves better able to gain desired responses from their social environment.

The literature suggests children rate reinforcement of incompatible behaviour (Gullone & King, 1989) to be an "acceptable" method of changing problem behaviour. Adults tend to rate changing behaviour by use of praise to be both an acceptable and effective treatment intervention (Calvert & McMahon, 1987; Heffer & Kelly, 1987). However, while valued, positive behaviours are not always reinforced once the experimental procedures are withdrawn (Fox & McEvoy, 1993). Thus the possibility that this study might be endorsed by adults who then did not reinforce cuing for praise had to be considered.

As with all social skills interventions, whether each boy acquired a behaviour that previously was absent (i.e., cuing for praise), must be documented. However, changes in other behaviours also may be valid indices of clinical effectiveness (Baer et al., 1987). Connell et al. (1993) for example, presented teacher rankings of irritation by the participant (versus classmates) as validation of treatment outcome. Hawkins (1991) has encouraged researchers to assess the habilitative value of an intervention by asking, does a successful outcome positively impact, over the short and long term, upon the participant's capacity to manage their personal or social environment? This is of central concern when clinical resources are intensely though narrowly applied to a population, such as children who have been maltreated, where there is such a broad span of clinical issues begging intervention. In my study, indirect measures of the child's behaviour problems were used to estimate the clinical impact of intervention.

Review of the relevant literature revealed that cuing for praise has been applied as a generalization strategy (to recruit sufficient reinforcement from the social environment) so as to acquire and maintain production of praiseworthy behaviours (other operants) in educational and special education settings, with children of normal or impaired cognitive functioning. In contrast, the present study focused solely on cuing as the target social skill (operant) with boys who had been physically abused and were

exhibiting behaviour problems in the foster home. Of paramount interest was whether cuing behaviour would generalize to the foster home environment.

Foster-parents and foster homes constituted a new stimulus environment to assess generalization of cuing for praise. Separate generalization programming packages based upon train diversely, incorporate functional mediators, and exploit current functional contingencies, (Stokes & Osnes, 1989) were added in sequence, and used in combination, to maximize generalization outcome. Following baseline observations in both the clinical (training) setting and foster home (generalization setting)(phase A), boys were trained diversely, (phase B) using sufficient stimulus exemplars (a variety of tasks and various levels of adult availability), and using sufficient response exemplars (a variety of forms of cuing behaviour). During a third phase (phase BC) diverse training continued as naturally occurring activities from the foster home were used in training. As well, functional mediators were incorporated into the generalization setting; using common physical stimuli (a response prompt sheet, and records of past praiseworthy work), incorporating self-mediated verbal covert stimuli (making promises to cue often), and incorporating self-mediated physical stimuli (self recording of cuing behaviour). Once sufficient relevant exemplars had been used, training diversely stopped while we continued to incorporate the above described functional mediators (phase C). To gain complete generalization it was necessary, in a fifth phase (phase CD), while incorporating functional mediators, to contact and modify natural contingencies. We modified maladaptive contingencies by; a) training foster-parents to prompt for praise, to provide opportunities for praiseworthy behaviour and to eliminate punishing responses, b) contacting natural consequences (scheduling praise), and c) reinforcing occurrences of generalization (supplemental reinforcement in foster home).

METHOD

Participants

Boys.

Three boys, Allen, Bob and Chuck, ages 7, 9 and 9 years respectively, served as participants. Background information on each of the boys is presented in Table 1. The boys were selected from among nominations solicited from Winnipeg Child & Family Services. The three boys met the screening criteria listed in Table 2. In each case, the principal investigator's evaluation of data from rating scales indicated that the boy had a clinically significant number of problem behaviours. Behavioural observation of the boys interacting with first the trainer and then their foster-mother revealed that each boy's behavior occasioned little positive attention. (A detailed description of the assessment interview is reserved to a later point in the text). Four other boys nominated by Winnipeg Child & Family Services were not accepted into the study following assessment interviews because they either adequately demonstrated the target skill or a placement change was imminent.

Adults

A female doctoral experimental psychology student (University of Manitoba) acted as trainer. Two masters level graduate students in Human Ecology family studies (University of Manitoba) were employed as observers. The principal investigator was responsible for recruitment of participants, and communication with social agencies, teachers and foster-parents. The principal investigator also performed checks on observer coding and treatment integrity.

Table 1

Background Information on Allen, Bob and Chuck.

Name.	<u>Allen</u>	<u>Bob</u>	<u>Chuck</u>
Age.	7 years 9 months.	9 years 6 months.	9 years 7 months
Status.	Apprehended, pursuing permanent wardship	Permanent ward.	Apprehended, pursuing permanent wardship.
History.	Physical abuse and neglect by mother. Lived with maternal aunt for 4 yrs., returned to mother for 15 months following death of uncle. Now in 3rd week of 2nd foster home.	Physical abuse by father. Neglected and abandoned by mother. Coercive corporeal parenting in previous foster settings. Now in 7th month of 12th foster home.	Physical abuse and emotional abuse by mother and stepfather. Several brief apprehensions. In present placement for 5 months.
Concerns	Aggressive, argumentative, rejecting, competitive, demanding, defiant, firesetting, stealing, temper tantrums.	Avoided foster-mother. Noncommunicative. Aggressive to peers and brother. Defiant, stealing, urinating in closet, lying, teasing, fighting..	Poor hygiene, enuretic, depressed, withdrawn, defiant, stealing. At school; electively mute ^a , avoidant.
Diagnosis	Attention Deficit Hyperactivity Disorder ^c	None ^c	Depression ^c
School	Repeating grade one.	Grade three.	Special language development program.
Foster Setting	One of two foster-boys in home. Foster-parents had some training in fostering. ^b	With younger brother and foster-parent's teenaged daughter. Foster-parents received no training in fostering.	One of four special needs foster children in blended family home. Foster-mother very experienced and had received fostering training. ^b

Note. ^a Refused to talk. ^b Two of the three foster-parents had received basic orientations to foster-parenting (not including parenting skills or special needs training) through Winnipeg Child and Family Services. ^c Diagnoses by psychiatrist or psychologist. While Bob was not diagnosed formally, his behaviour is consistent with Oppositional Disorder. Bob and Chuck could also qualify for Post-Traumatic Stress Disorder.

Table 2

Referral Criteria

Criteria for acceptance.

- 1) The boy is 6 to 9 years old.^a
- 2) The boy is a ward of Winnipeg Child and Family Services and now in a foster home.
- 3) The boy has been physically abused.^b
- 4) The boy is attending public school.
- 5) The foster-mother is willing to participate.
- 6) Winnipeg Child and Family Services and foster-parents agree to complete a post-treatment and follow-up evaluation.
- 7) The agency agrees that treatment would be confidential. A summary of the boy's progress was to be provided upon completion.

Criteria for exclusion

- 1) Clinical needs resulting from sexual abuse were not targeted for treatment in this project.
 - 2) Boys with known visual or auditory disabilities were excluded.
 - 3) Boys were in no treatment service which could confound the impact of clinical intervention.
-

Note. ^a Boys of this latency age were judged to be a relatively homogenous group for whom parental attention remained salient. Older children are more oriented to peer relationships. This is also the time when many children being mistreated at home, come to the attention of school authorities .. ^b As determined by Winnipeg Child & Family Services based on allegations from child and third party sources.

Setting

Assessment sessions and skill training took place in a room in a therapy clinic in central Winnipeg. The room was pastel blue in colour and measured 3.7 m. by 4.9 m. The room had a large one way mirror, two doors and decorative wall hangings. It contained two chairs, a round coffee table on which materials rested when not in use, and a card table at which the trainer and boy sat. A Sony CCD-TR30 video recorder camera with a f6.2 - 62mm wide-angle lens, located in a top corner of the room simultaneously recorded boy and adult behaviour.

Generalization probes took place primarily in the kitchens of the foster homes. (A living room setting was used on one occasion by Allan's foster-mother.) The boys and their foster-mothers sat at dining tables. Other people were in the home but remained out of the kitchen. A Sony CCD-TR30 video recorder camera with a f6.2 - 62mm wide-angle lens, mounted on a tripod, located in a corner of the room, recorded boy and foster-mother behaviour.

Behaviour

Target Behaviour of Cuing for Praise

Cuing for praise was defined as statements by the boy to an adult "inviting favourable comments or positive evaluations of the child's work or general behaviour" (Stokes et al., 1978, p. 287). A range of cues qualified as recruitment for praise, including: "Have I done well?", "Is this OK?" and "How is this?".

Two other dependent variables were monitored closely; skill at using the cuing behaviour chain constructed for the study, and cuing effectiveness. As with several other studies using recruitment of praise (e.g. Stokes et al. 1978), skill at cuing was defined as cuing for praise following a sequence of behaviour designed to occasion cuing behaviour. The boys were required to work carefully at a task, to check their work and identify a praiseworthy attribute, to ask for the adult's attention, and then to cue for praise. Cuing effectiveness was defined as the probability of cuing for praise occasioning adult praise within 45 seconds of the cuing response.

Experimental Tasks

Play and academic tasks formed the central activities of the training session (see Table B-1). A variety of activities was used as part of the generalization tactic of training diversely by presenting sufficient stimulus exemplars (Stokes & Osnes, 1989). Play activities were drawn from a list (compiled with the help of the boy to ensure social validity) which included but was not limited to items each boy enjoyed playing with at home. Academic activities, drawn from Learning activities for reading, 4th ed. (Herr, 1982), had varying levels of difficulty and were suitable for children from kindergarten to Grade Three. To standardise training, all boys began training while performing the task of drawing shapes. When participants began the phase of incorporating functional mediators, the same play activity was used in training sessions as in the previous and subsequent foster home session (functional mediator: incorporating common salient physical stimuli). At the same time, academic tasks selected by the boy's teacher were used in both the foster home and the training setting.

Research Design

An A-B-BC-C-CD single case replication design (Kazdin 1982, p. 284) with generalization probes was used. The three boys participated in baseline conditions (phase A) in both the clinical and foster home settings. The boys then were trained diversely to cue for praise from the trainer (phase B). Training diversely continued and functional mediators were incorporated (phase BC) by including salient stimuli from the training setting in foster home probes. Training diversely ended when sufficient relevant stimuli had been used but functional mediators remained during foster home probes (phase C). In a final phase, (phase CD) natural contingencies were modified by training the foster-parent while functional mediators also remained in place. Each boy participated in weekly 30 minute sessions in the training setting. Probes of similar frequency and duration occurred in the foster home setting. Length of training diversely was determined by the speed with which the boy reached criterion (see description below).

Table 3

Generalization Strategies Used During Treatment Phases of this Project

<u>Training diversely (Phase B)</u>	<u>Train diversely and incorporate functional mediators (Phase BC)</u>	<u>Incorporate functional mediators (Phase C)</u>	<u>Incorporate functional mediators and contact (modify) naturally occurring contingencies (Phase CD)</u>
<p>Using sufficient stimulus exemplars Include a variety of tasks both academic and play ; vary level of adult availability</p>	<p>Continue to train diversely as per (phase B).</p> <p>Using common physical stimuli Response prompt sheet, examples of past praiseworthy work</p>	<p>Stop training diversely as per (phase B).</p>	<p>Functional mediators incorporated (as per phases BC and C).</p>
<p>Using sufficient response exemplars Require a variety of forms of cuing for praise</p>	<p>Incorporate salient self-mediated verbal and covert stimuli (Self management) Self recording number of reinforcers earned. Verbal promise to cue Rule-based response to trainers praise for cuing in past probes. Rule is, if boy cues now then trainer will praise him later.</p>	<p>Functional mediators incorporated (as per phase BC).</p>	<p>Contact natural contingencies Training foster-parents to provide stimuli (prompts) and to schedule praise as a consequence of cuing.</p> <p>Modify maladaptive contingencies Training foster-parents to not use inappropriate tasks (where opportunity for praiseworthiness is absent) and to not use punishing responses.</p>
	<p>Incorporate salient self-mediated physical stimuli Mnemonic 'Do Check Ask Show sheet</p>		<p>Reinforce occurrences of generalization (train to generalize) Supplemental reinforcement (stickers) provided by foster parent for cuing behaviour in foster home</p>

Data Collection

Direct Measures

The system of coding responses of boys and adults was initially based on the Response Class Matrix (RCM) (Mash & Barkley, 1986; Mash, et al. 1973, 1981). The RCM is a structured observation coding system designed to monitor mother-child relationships (Mash & Barkley, 1986) with demonstrated validity and reliability (Foster & Cone, 1980). It was redefined through two pilot tests to better measure target behaviours and salient concurrent behaviours. Behaviour categories were redefined (boy cues for praise, help, criticism; adult praises, helps, prompts to cue). As well, the interval based time sampling method and partial interval classification system of the RCM were replaced with a continuous sampling (Bakeman & Gottman, 1986) real time event sequence system (Gottman & Roy, 1990) that was more sensitive to low frequency events (Foster, Bell-Dolan, & Burge, 1988) (see Appendix C).

Recording Procedure

Videotapes of sessions and home probes were scored according to the codes defined in Appendix C, into two timed event sequences. One observer attended to adult behaviour and the other to child behaviour. Observers recorded their observations while using a DOS-based, IBM compatible Vidtime (Driedger, 1993) computer program developed for the study. This program also read a time signal directly from the videotapes, allowing precise measurement and exact recall of observations. SPSS/PC+ V3.1™ Programs were used to combine observer records and to provide the datasets that formed the basis of graphical display.

Observation Training.

The observers were trained using pilot data. A coding manual, with definitions, examples and decision rules was provided (see Appendix C), and complimented with discussion until the researcher was satisfied encoders could conceptually differentiate behaviour categories. Observers and experimenter then jointly coded 15 pilot sessions until satisfactory estimates of point by point (one second intervals)

agreement was obtained.. The primary investigator also coded 25% of the sessions with the observers present. Issues regarding codes were discussed during coding. Interobserver agreements on the main variables were acceptable (Cuing for praise, \underline{M} = 86%, range 81% to 100%; Praise, M = 82%, range 72% to 90%). Agreement on other relevant variables varied (Get attention, \underline{M} = 74%, range 70 % to 80; Prompts M = 75%, range 66% to 86%, and Wait commands, M = 97%, range 80% to 100%). Get attention was hard to discriminate from cuing. Prompts were at times coded as Commands or as Helping. Other categories proved difficult to discriminate due to camera position and softness of speech. Coding was therefore deemed valid and reliable (see Appendix C).

Indirect Measures

Rating scales were used to obtain: a) ongoing ratings of the degree to which the boy's behaviours were a problem to the parenting adult, b) descriptions of the boy's behaviour in the foster home concurrent with treatment, and c) treatment evaluation and consumer satisfaction.

Eyberg Child Behaviour Inventory (ECBI).

Foster-mothers completed the ECBI (Eyberg & Robinson, 1983; Robinson, Eyberg, & Ross, 1980)(by permission, see Appendix D) at assessment, prior to treatment procedures, after Incorporating Functional Mediators (phase BC) and after Adjusting Natural Communities of Reinforcement (phase CD). The ECBI is a reliable and valid measure of behaviour problems (Intensity Score) and the difficulty parents have with the behaviour of children (Problem Score)(Eyberg, 1985; Eyberg & Robinson, 1982; Webster-Stratton, 1988; Webster-Stratton, Kolpacoff & Hollinsworth, 1988). (see Appendix F for an expanded discussion).

Parent Daily Report (PDR).

The PDR was used three or more times weekly to record the foster-mother's impressions of the boy's problematic behaviours. The PDR (Chamberlain & Reid, 1987) (by permission, see Appendix F) is a list of 34 items, 33 of which are child behaviours, the other being 'parent spanking'. The sum of all

occurrences of problematic items forms a PDR Target Score. A review of the literature suggested that the PDR should be stable and valid estimate of a boy's aversive behaviour (Chamberlain & Reid, 1987) (see Appendix E for an expanded discussion). The PDR was collected beginning with the assessment interview until commencement of Adjusting Natural Communities of Reinforcement (phase CD). The PDR was discontinued at that time because it was too difficult to gather reports during summer holidays.

Social Validity

Perceptions of the treatment acceptability and satisfaction of the boys were monitored after every session when the boys completed the Client Satisfaction and Treatment Evaluation (CSTE) form (see Appendix E). This form was developed specifically for this project. It required the boy to endorse or reject adjectives describing the session (tough, boring, scary, strange, OK, good, fun, happy) using a 3 point scale (No, Maybe, Yes). Two other items required the boy to rate the degree to which the trainer was clearly understood and the session helpful, using a 4 point Likert scale, with 1 being 'No' and 4 being 'Yes' or 'For sure'. The CSTE also required the boy to rate the degree to which the session was hard and other boys might enjoy the session, using a 7 point Likert scale, with 1 being 'Very hard' or 'Never!' and 7 being 'Very easy' or 'For sure!'. Additional CSTE items were included in phase A and phase BC sessions. These items required boys to use a 7 point Likert scale and rate whether it was hard or easy to be noticed by their foster-mother or other adults, whether they would like to get along better or talk more with grown-ups, and whether the meetings could be helpful in this regard. Ratings of 1 were equivalent to 'Very hard', 'No! Its worse' or 'Way less talk' and ratings of 7 equated with 'Very Easy', 'Helped allot!' or 'Way more talk'.

The foster-mother's perceptions of treatment acceptability and satisfaction were sampled at the initial assessment, after Training diversely while incorporating functional mediators (phase BC) and after Incorporating functional mediators while contacting (modifying) naturally occurring contingencies (phase CD). Foster-mothers completed selected items from the Treatment Evaluation Inventory (TEI) (Kazdin

1980) (see Appendix E) by rating on a 7 point Likert scale whether the treatment was effective, appropriate, fair, and whether they continued to be willing to participate. They also responded on a 4 point Likert scale to two items from the Client Satisfaction Questionnaire (CSQ) (Bornstein & Rychtarik, 1983) which enquired a) To what extent has our program met your needs? and; b) In an overall, general sense, how satisfied are you with the service you received? (see Appendix E).

Procedure

Assessment of Study Nominees

Each candidate spent 30 minutes in an assessment session with the trainer. During that session, the boy was invited to play with the materials present in the room. After 15 min, the trainer required the boy to complete academic tasks. After a further 15 min, the boy was asked to complete the CSTE in the trainer's presence. Foster-mothers completed the ECBI while waiting. Then the boy and foster-mother were observed in the training setting. The trainer directed the foster-mother to play with the boy for 15 min, as she would at home (as per Mash & Barkely, 1986). The trainer then prompted the foster-mother to organize the child to complete academic tasks for a further 15 min.

The three boys accepted for this study scored in the clinical range on ECBI Problem Score (11+) and Intensity Score Scales (127+)(Eyberg & Robinson, 1983). Allen, Bob and Chuck had Problem Scores of 24, 26 and 17, and Intensity Scores of 217, 143 and 151 respectively. The boys were assessed as having behaviour problems which were a problem to the foster-parent. In the assessment sessions, Allen did not cue the trainer for praise but was effective on 50% of four cues with his foster-mother. Bob was effective on 66% of his three cues with the trainer and on neither of his two cues with his foster-mother. Chuck did not cue either the trainer or his foster-mother. The foster-mothers rated highly the treatment goals and all agreed to participate. All three foster-mothers stated that they found their foster-boy to be unresponsive to their social initiations.

Baseline Procedures

Foster home Setting

Dependent measures were monitored weekly to every other week, in the foster homes during a series of half-hour probes involving the boy and foster-mother. Play activities were jointly chosen by the boy and foster-mother. Academic tasks were provided by the investigator. Phone calls were made by the investigator to the foster-mother three or more times per week. During these calls, the foster-mother completed a PDR. The investigator also provided the foster-mother with the descriptions of desired modifications so as to maintain treatment integrity. Following each taping, the investigator provided the boy and foster-mother with a box of Robin's Eggs^R (small donut pieces) as a reward for correctly completing the taping.

Training (Clinical) Setting

Baselines with Allen, Bob and Chuck followed the same protocol as foster-mother baseline probes. Boys selected play activities from those available on the table. Academic tasks were provided by the trainer. While the boy was in session, the foster-mother was given a PDR to complete.

Treatment Procedures

Studies have successfully used combinations of instruction, modelling, prompts and praise to train children to cue for praise under discriminative stimulus conditions (e.g. Harchik et al., 1990; Hrydowy et al., 1984; Stokes et al., 1978). Prompting and reinforcement in combination have been linked with successful attempts to change social skills (Chandler et al., 1992b). Training to a fluency (mastery) criterion has also been associated with greater success in achieving generalization (Chandler et al., 1992b).

Training Diversely (phase B)

The trainer described cuing for praise and provided varied examples. The praiseworthy task of drawing shapes was repeatedly presented while also presenting such supplemental stimuli as the trainer's

physical and verbal prompts to cue for praise. Using the activity of drawing shapes, the trainer prompted the boy to cue after each drawing. The boy was then praised for drawing and for cuing. Immediately after cuing behaviour was introduced to the boys by the trainer, the trainer began tactics of training diversely.

After the first cuing trial, the boy was prompted to vary the types of cues used (i.e. training diversely by using sufficient response exemplars). The trainer introduced a Response Prompt Sheet (see Appendix G), which contained examples of appropriate cues. The boy was encouraged to add his own examples to the sheet, thus enhancing its social validity in providing salient stimuli. The trainer then praised each appropriate cuing response and recorded any new ones on the Response Prompt Sheet. The trainer prompted for a different cue when the boy repeated the same cuing behaviour. As a performance criterion, boys were required to provide five unprompted different cuing responses in succession before training proceeded to the next stage

A system of least prompts (Wolery & Gast, 1984) was used throughout treatment. Such a system, because it is a gradual withdrawal of training procedures driven by the boy's own performance, qualifies as training diversely by making antecedents less discriminable (Stokes & Osnes, 1989).

Each boy was trained using a total task presentation method (Martin & Pear, 1988) to cue for praise using a four-step response chain (Stokes et al., 1978). The trainer initially praised the boy for each step correctly taken as well as noting the praiseworthy qualities of his product. A sheet of paper with the words 'Do, Check, Ask, Show' was provided as a mnemonic prompt for completing the chain of responses. Each boy was directed to check off each element of the chain he completed. As well, a sticker reinforcement program was introduced with the behaviour response chain. Boys were allowed to select a sticker each time they cued skilfully. An assortment of stickers of cars and animals (approximately 2.5 cm. x 1.5 cm. in size) were available and the boy had a sticker sheet on which to place earned stickers

Additional training diversely tactics were included in treatment at this point. Antecedents were made less discriminable when, on the second trial, the trainer introduced variability in her availability to

the boy. The trainer explained to the boy that she would sometimes ask him to wait a moment before cuing, because the trainer may be busy doing something and need to complete that first. The boy was told what to do if the trainer says "Not now", or "Wait". On that and subsequent trials the trainer randomly varied the time to wait using a VI15 schedule (0,15 or 30 seconds). The trainer responded immediately to cues when a zero interval was scheduled. Otherwise, the boy was advised, using a variety of phrases (e.g., "Hang on a sec.", "I just need to finish this.", "Just a moment.", to wait until adult attention was available. The schedule was determined by flip of the coin (interval changed after each trial therefore two choices) by the trainer before each session. The trainer prompted corrections for any steps incorrectly performed and praised each step done correctly.

With the introduction of the cuing chain, boys were trained diversely by use of a variety of play and academic activities (using sufficient stimulus exemplars) from which the boys could identify praiseworthy aspects. Training diversely continued until the boy correctly and without prompts, used the full response chain five times in each of three consecutive sessions.

Train Diversely and Incorporate Functional Mediators (phase BC)

Training diversely continued while functional mediators were introduced from the training sessions into the generalization setting . A package of discriminative stimuli from the clinical setting were transported by the boy to the generalization setting (Stokes & Osnes, 1989). Salient physical stimuli included the collection of praiseworthy tasks and the sticker page completed by the boy during training. The boys were prompted to show this collection to their foster-mothers during foster home probes. Each boy also took home copies of their response prompt sheet and the 'Do, Check, Ask, Show' mnemonic prompt sheet for use during probes (common stimuli). The trainer prompted the boy to 'do this cuing skill with your foster-mother because it is the same thing there'. Coaching, a procedure reportedly useful in gaining behaviour transfer (Elliott & Gresham, 1993) was also involved. The boy was asked to describe what play activity they might use and to rehearse how they would cue during probes (covert

mediating stimulus). During these sessions the trainer also praised the boys for skilfully cuing in each immediately previous foster home probe in the effort to introduce rule governed behaviour (i.e., if the boy cues at home, then praise by the trainer will follow later)(Hinceline & Wanchisen, 1989).

Activities during sessions were also manipulated to enhance generalization. Exemplars of activities used in foster home settings (socially valid relevant stimulus exemplars)(Stokes & Osnes, 1989) were repeatedly presented. Academic tasks selected by the boy's teacher were used in both the training sessions and generalization probes. To increase relevance of stimulus exemplars, play activities used in previous probes but not in training sessions (and therefore naturally occurring) and during which little cuing had been observed were used in subsequent training sessions. The trainer instructed the boy on how to cue skilfully during that activity.

Introduce Functional Mediators (phase C)

Training diversely stopped because it was judged sufficient stimulus exemplars had been presented. Phase C allowed some examination of whether generalization gained thus far would be maintained. In order to ensure functional mediators continued to be incorporated, the trainer telephoned each boy twice. Within a day prior to the next session the trainer called the boy to ensure he had the stimuli prepared, to ensure he had an appropriate activity chosen, and to prompt cuing. The boy was required to tell the trainer exactly what his plans for the next session were. The trainer also telephoned each boy after that session had been scored and praised their cuing during that session. As with all previous home probes, a box of 'donut holes' was provided upon completion of each taping. Phase C for Bob was limited to one session because of limits on availability of the fosterfamily.

Incorporate Functional Mediators and Contact (Modify) Naturally Occurring Contingencies (phase CD)

In order to increase the amount of generalization, as functional mediators continued to be incorporated in generalization probes, the investigator intervened to alter the contingencies in the foster

home (Stokes & Osnes, 1989). The investigator met with each foster-parent, described the target behaviour, provided examples of cuing, and discussed appropriate activities to use with the boys (see Appendix G). Foster-mothers were provided with a sheet describing the type of prompts needed. Reinforcement was structured by scheduling foster-parent praise in response to boy cuing behaviour, using the same schedule as used by the trainer while training diversely. Foster-parents were also provided with sheets of stickers with which to reward skilful cuing. The investigator debriefed with foster-parents after viewing some² of the sessions (reinforcing the "reinforcers", Martin & Pear, 1988). Phase CD, for Chuck, was delayed 13 weeks by the family's extended vacation.

Treatment Integrity

The validity of any study is dependent on evidence that the designed procedures were actually carried out (Baer et al., 1987; Billingsley, White & Munson, 1980; Gutkin, Holborn, Walker, Anderson, 1994). All sessions were videotaped providing both an objective source for validity checks (Gutkin et al., 1994) and an opportunity for weekly corrective instructions). The trainer also used a manual and check-lists as guides (Gresham et al., 1993).

Review of videotapes found that antecedent conditions in the training procedure (prompting, task provision, adult availability) were correctly applied on almost all occasions. On some occasions, prompting was appropriate but not forthcoming. Consequences of praise were provided to 89% of skilled cues, and supplementary stickers were provided correctly on 98% of occasions. On 2 of 53 occasions, equipment failure required that the trainer's check-lists be used to track treatment integrity.³

Antecedent conditions in the foster home were influenced by practical needs of the resident families. All three foster-mothers commented that it required planning with other family members in order to gain time alone with the participant. Foster-parents required instruction in order to manage the protocol (e.g., turning off telephone, clarifying choice of activities, and parents activity options when boy doing academic task).

RESULTS

Cuing for Praise

Cuing for praise, the key dependent measure, is presented as rate of cuing per min for each session, because sessions varied in length. Data for the play and academic task were combined for clarity of presentation, as results were similar⁴. Figure 1 shows the cuing rates for praise of the three boys within the training (open circles) and generalization (closed circles) settings. Mean rates of cuing in the generalization settings for each phase are indicated by horizontal dotted lines.

Baseline (phase A).

Allen cued at a very low rate during baseline, averaging (\bar{M}) .09 cues for praise per minute in the training setting and .11 cues for praise per minute during foster home probes. Replication baselines, Bob and Chuck, were similarly low, averaging (\bar{M}) .12 and .01 cues per minute during training sessions, and .02 and .01 cues for praise per minute during foster home probes, respectively.

Training Diversely (phase B)

In the training setting, Allen's rates increased substantially while training diversely, averaging .37 cues per minute. However, diverse training had only a small effect on cuing during foster home probes, where Allen averaged .16 cues per minute. In replications, in the training setting Bob and Chuck also increased their rate of cuing, averaging .53 and .28 cues per minute, respectively. While variable, training rates of cuing were consistently above baseline rates with the single exception of the first training data point for Chuck. Like Allen, diverse training had only a small effect, if any, on Bob's and Chuck's rate of cuing for praise in the generalization setting, where they averaged .07 and .02 cues for praise per minute, respectively.

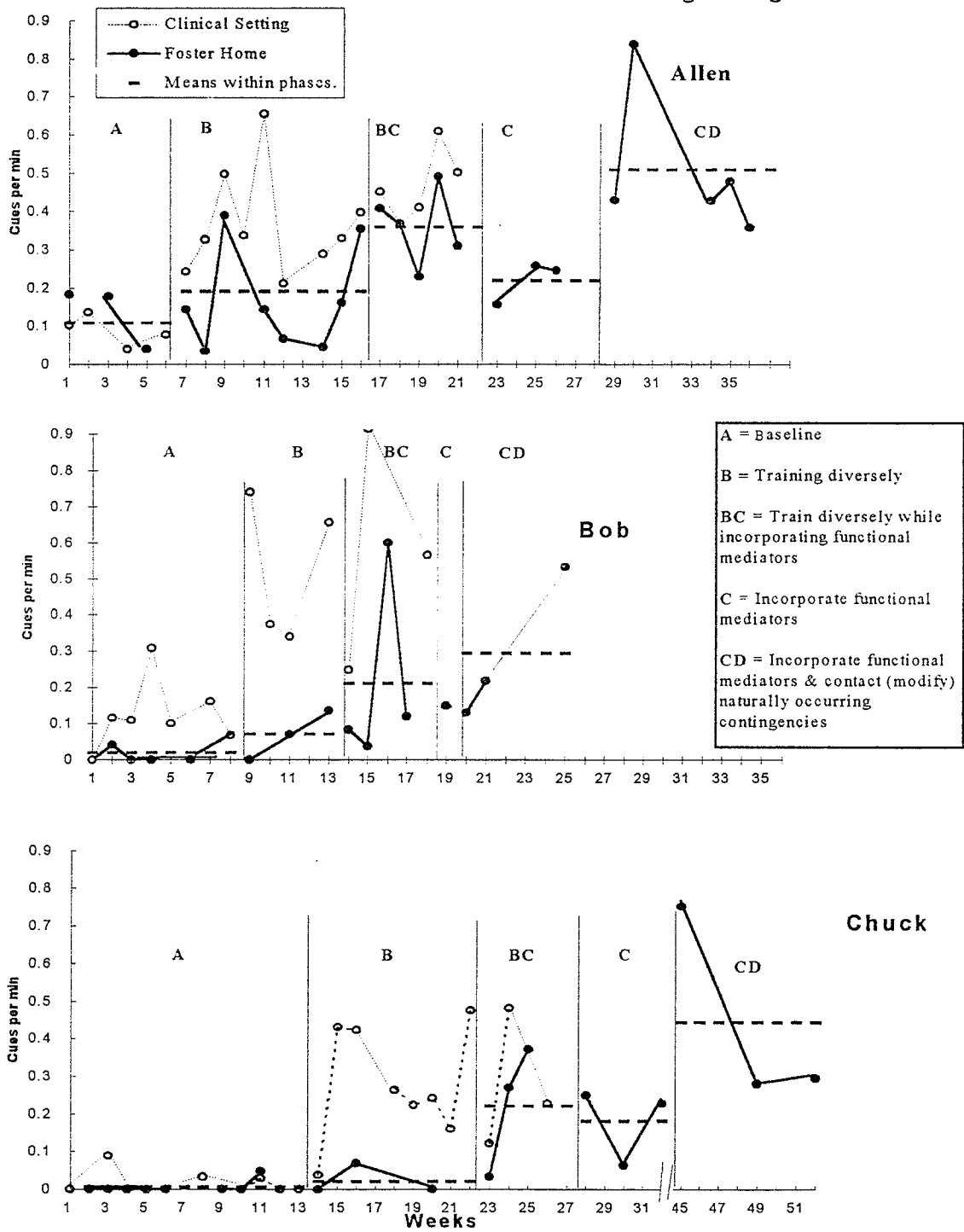


Figure 1. Cuing for praise in training setting (office) and generalization setting (foster home) across baseline and treatment phases.

Training Diversely while Incorporating Functional Mediators (phase BC)

During this phase Allen continued cuing in the training setting at near phase B levels, averaging .47 , but cuing rates increase during generalization probes, averaging .36 cues per minute. Similarly, Bob and Chuck averaged .58 and .28 cues per minute in the training setting , and increased their rates of praise in foster home probes, averaging .21 and .22 cues per minute respectively.

Incorporating Functional Mediators (phase C)

When training procedurcs were withdrawn Allen averaged .22 cues per minute, a rate similar to his rate during phase B. However, Bob and Chuck averaged .15, and .18 cues per minute, rates not noticeably different from the immediately prior phase BC.

Incorporate Functional Mediators and Contact(Modify) Naturally Occurring Contingencies (phase CD)

Phase CD resulted in substantial elevations in rates of cuing for Allen (averaging .51 cues per minute). Similarly, Bob and Chuck averaged .29 and .44 cues per minute, respectively during this phase.

Cuing Effectiveness

Cuing effectiveness in the generalization setting (gaining praise from foster-mother within 45 seconds of cuing) is presented in Figure 2 as the percentage of cues which occasioned praise averaged within study phases. Only Allen cued with sufficient frequency prior to phase BC for a valid estimate of effectiveness. Allen was effective with 11% of his cues during training diversely. Allen's cuing effectiveness. increased dramatically with phase BC, averaging 24%, but then increased only gradually over phases C , 28%, and CD 30%. In contrast, once Bob and Chuck began to cue they showed higher levels of effectiveness than Allen. As well, effectiveness levels increased for both Bob and Chuck during the final phase when naturally occurring contingencies were altered in the foster home. Bob was effective on 36% of his cues during phase CD, on 67% of his cues during a single phase C session, and 56% of his

cues during phase CD. Chuck averaged 25% cuing effectiveness during phase BC, only 12% cuing effectiveness during phase C, but 81% during phase CD.

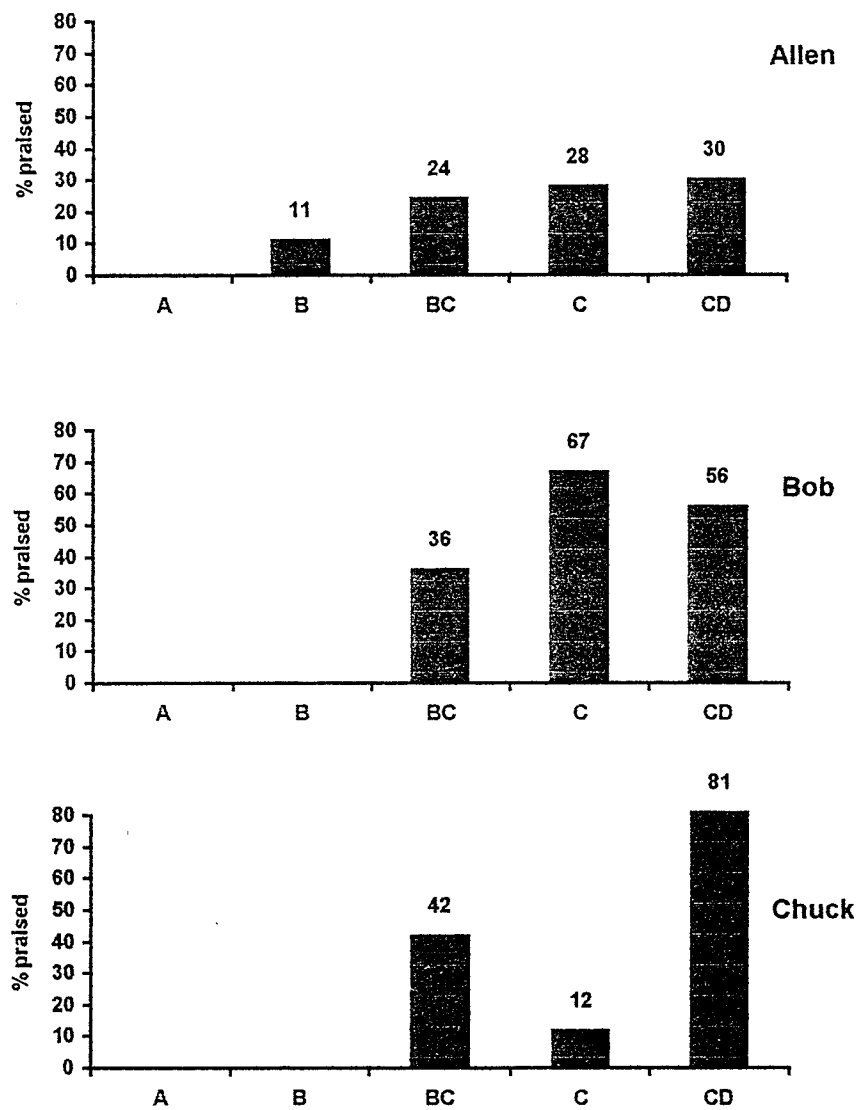


Figure 2. Cuing effectiveness (% of cues occasioning praise) in foster home probes, averaged within phases (*) Boys cued too infrequently for a valid estimate of effectiveness. A= baseline, B = training diversely, BC = incorporating functional mediators while training diversely. C = incorporate functional mediators, CD = contact (modify) naturally occurring contingencies while incorporating functional mediators..

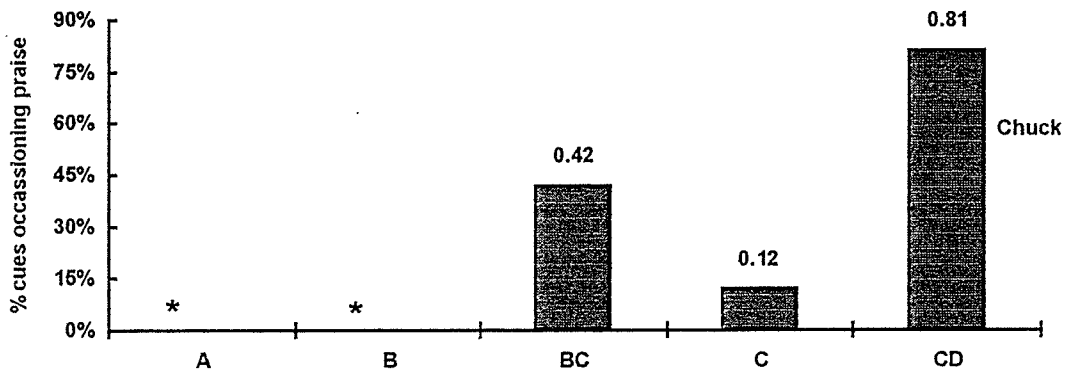
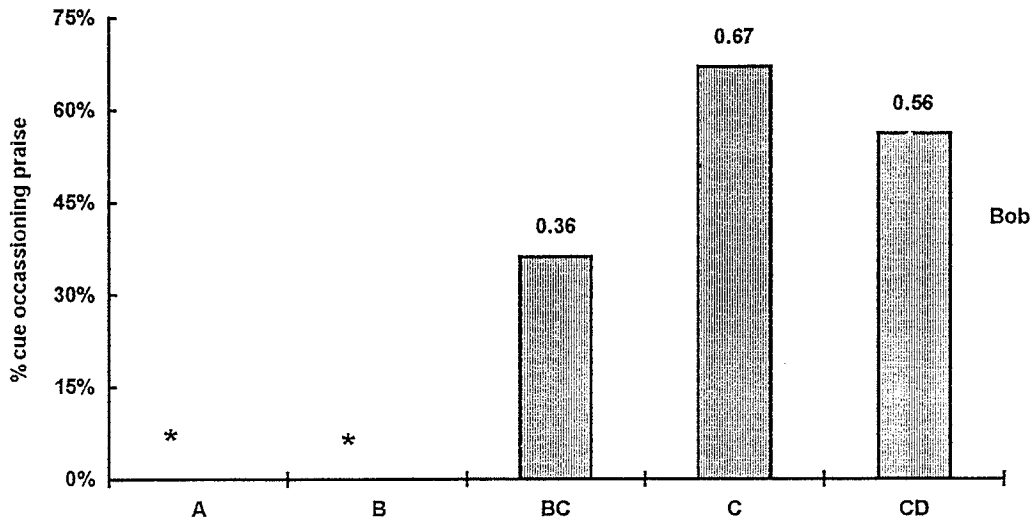
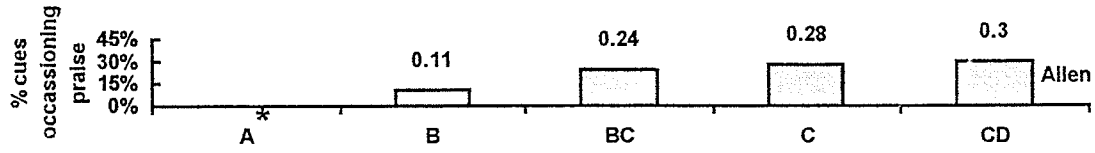


Figure 2. Cuing effectiveness (% of cues occasioning praise) in Foster Home Probes, averaged within phases. (*) Boy cued too infrequently for a valid estimate of effectiveness. A = baseline. B = training diversely. BC = incorporating functional mediators while training diversely. C = incorporate functional mediators CD = contact(modify) naturally occurring contingencies.

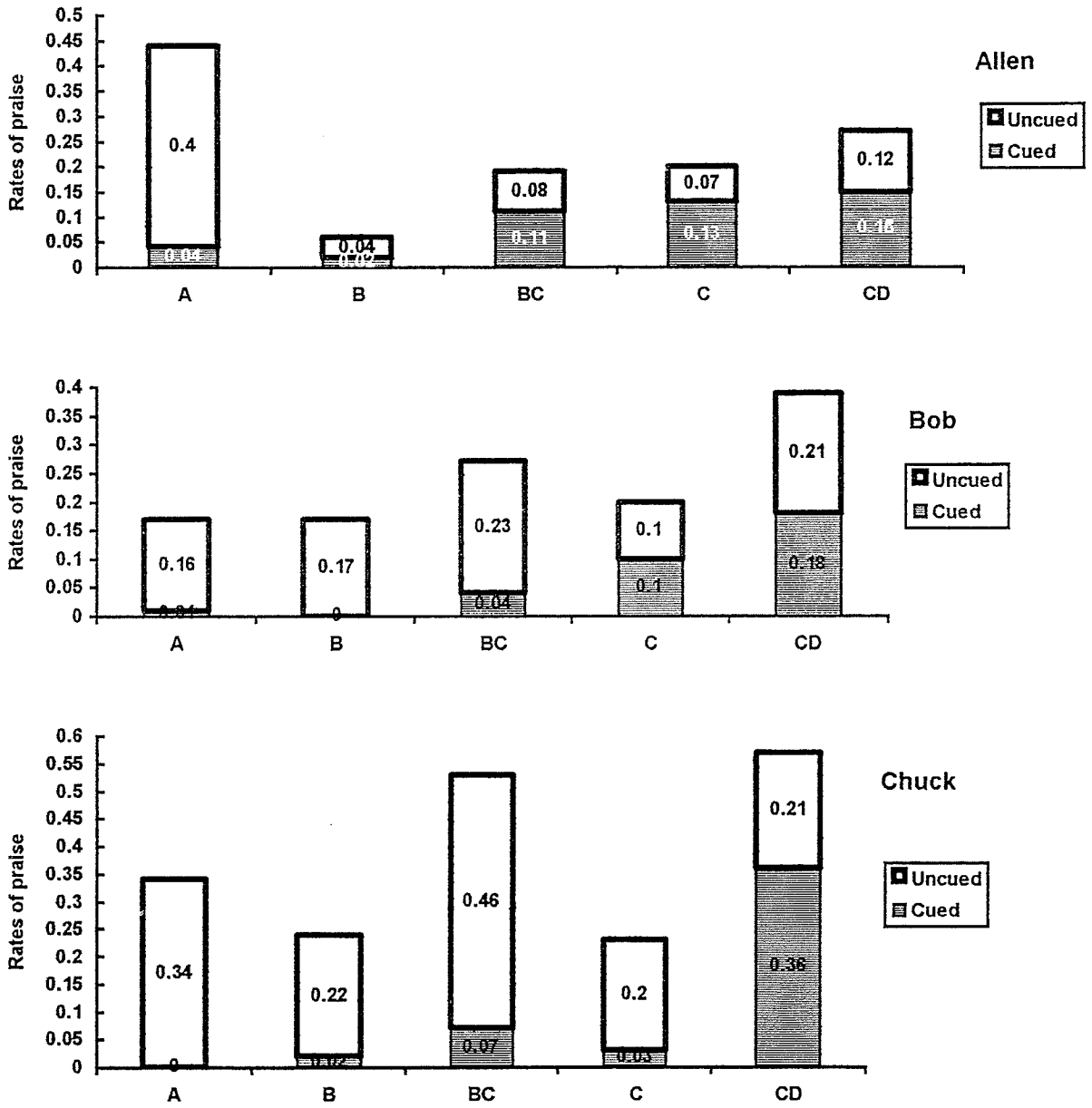


Figure 3. Rates of cued and uncued praise for Allen, Bob, and Chuck respectively, received in foster home probes, averaged within phases. A = baseline. B = training diversely. BC = train diversely while incorporating functional mediators. C = incorporate functional mediators. CD = incorporate functional mediators and contact(modify) naturally occurring contingencies.

Adult Praise

Overall rates of praise, received by the boys from their foster-mothers are represented by the height of the combined columns in Figure 3. Allen was praised at a rather high rate during baseline (.44 times per min.). His rate of being praised dropped dramatically during training diversely, phase B, (.06 times per min), then increased most dramatically during phase BC (.19 times per min). Allen's rate of being praised remained more or less stable through phases C and CD, averaging .20 and .27 times per min). In contrast to Allen, Bob received a relatively stable rate of praise, with a slight increase in phase BC, until the final phase, when rates increased markedly after natural contingencies in the home were modified. Bob was praised by his foster-mother on average, .20 times per min during baseline, .17, .27, and .20(single session) times per min during phases B, BC and C respectively, then .39 times per min during phase CD. Chuck's rate of being praised presents yet a different profile. During baseline, Chuck was praised frequently, .34 times per min, but less frequently during training diversely (phase B) (.24 times per min). Chuck's rate of receiving praise increased dramatically during phase BC (.53 times per min) but dropped to prior lower rates during phase C (.23 times per min on average). Chuck's rate of being praised again increased dramatically during the final phase where he received on averaged .57 praises per min.

The rates of adult praise occasioned by cuing, are displayed in Figure 3 by dark columns. With the exception of the high rate of uncued praise received during baseline, cued praise accounted for most of the overall increases in praise received by Allen. Allen received cued praise at averaged rates of .04, .02, .11, .13, and .15 per min for each of the phases, A, B, BC, C, and CD respectively. Increases in Bob's rates of received praise also appear to be due to increases in cued praise. Bob's rates of cued praise increased from .04 per min during phase BC to .18 during phase CD. Chuck also received a dramatically higher rate of praise during phase CD because of an elevated cued praise rate (i.e., .02, .07, .03 and then

.36 times per min for phases B, BC, C, and CD respectively). However, much of the high rate of praise received by Chuck during phase BC seems to have been uncued (.47 of .53 praises per min being uncued).

Indirect Clinical Measures

The ECBI measures were found not to be sensitive to interventions (see Appendix D). The two measures taken daily from the Daily Problem Checklist; Total Score and Target Score, were averaged within phases and are presented in Table 4. Baseline Total Score indicates these boys were well above the clinical criterion of 5.5 (Chamberlain & Reid, 1987) for conduct behaviour problems. For all three boys, Total Scores were lower⁵ during and after training diversely (phase B). Bob averaged even lower Total Scores during phase BC. These changes reflect an impressive drop in conduct problems once treatment had begun. Even so, Allan's and Chuck's averaged Total Scores remained well within the clinical range.

Target Scores referenced behaviours which were causing the foster-parent difficulty. Average Target Scores followed an identical pattern to Total Scores, with a marked⁶ drop in the foster-mother's concern for the boy's behaviour. However, only Bob's average Target Scores reached a nonclinical level (defined as 2.29, Chamberlain & Reid, 1987)

Client Satisfaction and Treatment Evaluation

All participants viewed the study as having been helpful and valid. Boys completed a client satisfaction questionnaire following every session in phases A, B, and BC (see Appendix E). They rated high agreement (on a 3 point scale, 0 = 'No', 1 = 'Maybe', 2 = 'Yes') with positive descriptors of sessions as OK, Good, Fun, and Happy, (\bar{M} = 1.8, 1.8, 1.7, and 1.7 respectively) and rejected negative descriptors of sessions as Tough, Boring, Scary and Strange, (\bar{M} = .2, .3, 0 and .2 respectively). Using a 7 point Likert scale (7 being most positive, 1 being most negative) boys reported it was easy to talk to (\bar{M} = 5.7) and be noticed by their foster-mother (\bar{M} = 6.0). Nevertheless, using the same rating scale, the boys thought it would be a good idea to get along better with grown-ups (\bar{M} =6.0), and that these meetings would 'help

alot' in this regard ($\underline{M} = 6.9$). Using post treatment ratings, the boys said they would do the program again if given the chance ($\underline{M} = 7.0$). Interestingly, prior to treatment, Allen believed he should do 'way less talk'[ing] ($\underline{M}=1$) to adults while Bob reported he should do 'a bit more talk'[ing] ($\underline{M} = 5.3$) and Chuck believed he should not change ($\underline{M} = 4.1$). At termination of treatment, Allen reported 'No change' ($=4.0$), while Bob and Chuck reported 'More talk' ($=6.0$) than when they began treatment.

Foster-mothers completed CSQ and TEI questionnaires at the beginning of baseline (phase A), beginning of training diversely (phase B), completion of training diversely while incorporating functional mediators (phase BC) and at completion of the project (after phase CD)(see Appendix E). Their reports varied little across phases but tended, if anything, to become more positive. Treatment evaluations were very high. Foster-mothers found treatment very acceptable ($\underline{M} = 6.4$), very humane ($\underline{M} = 7.0$), and were very positive ($\underline{M} = 6.8$) about the treatment. They also rated treatment as very suitable ($\underline{M} = 6.3$), and moderately to very effective ($\underline{M} = 5.9$). During the final phase of treatment (Phase CD), Allen's and Chuck's foster-mothers spontaneously expressed their satisfaction and belief in the efficacy of the cuing for praise behaviour chain. Foster-parents reported the treatment had met almost all of their needs ($\underline{M} = 3.7$, range 3 to 4) and they were very satisfied ($\underline{M} = 3.8$, range 3 to 4). At termination, Allen's foster-mother believed the project met all of the boy's needs. Bob's and Chuck's foster-mothers each believed that the boy continued to have mental health problems which warranted clinical attention.

Table 4

Parent Daily Report Total and Target Scores^a, averaged within Treatment Phases.

	Allen		Bob		Chuck	
	<u>Total</u>	<u>Target</u>	<u>Total</u>	<u>Target</u>	<u>Total</u>	<u>Target</u>
Parent Daily Report *						
Baseline (phase A)	13.2	11.9	10.1	8.7	8.9	7.0
Training diversely (phase B)	9.6	8.7	4.9	3.1	6.4	5.0
Train diversely and introduce functional mediators (phase BC).	7.8	7.2	1.0	.40	6.8	5.7

Notes: ^a Parent Daily Report taken from P. Chamberlain and J. Reid, . (1987). "Parent observation and report of child symptoms.", in Behavioral Assessment, 9, 97-109 (with permission).

DISCUSSION

The boys were successfully trained to cue for praise using instruction, verbal and physical prompts and stickers as supplemental reward. Cuing rates of .28 to .57 per minute in the training environment compare favourably to those reported in other studies (e.g., Stokes et al. 1978, at .50 per minute; Harchic et al. 1990, at .12 to .21 per minute). As satisfying as evidence of newly acquired behaviour in a clinical setting might be, the most important behaviour changes were those which took place in the generalization setting; the foster home. Changes in behaviour in one environment do not imply automatically similar behaviour changes in an alternate environment (Johnston, 1979).

Very little generalization of behaviour occurred with the initial programming technique of training diversely. Only Allen showed uneven change in his rate of cuing during generalization probes while being trained diversely. Thus, using sufficient stimulus exemplars (varying tasks and level of trainer availability), using sufficient response exemplars (varying cuing response) and making consequences less discriminable (variable interval reinforcement by praising) had little effect on generalization.

Incorporating functional mediators had a positive effect on generalized cuing. Rates obtained during phase BC, training diversely while incorporating functional mediators, averaged higher levels (.20 to .36 cues per minute) than those reported with programmed generalization in studies reviewed (e.g., Hrydowy et al. 1984, zero to .1 per minute; Stokes et al., 1978, .12 to .17 per minute). Training diversely continued as the trainer used activities from the foster home to ensure relevant exemplars were sufficiently sampled. While a variety of exemplars of activities had been presented to the boys prior to Phase BC, the low levels of generalized cuing raised questions about whether the most functionally relevant exemplars (Horner & Ablin, 1988) had been used.

Use of salient mediators has been recommended as a strategy for achieving behaviour transfer (Chandler et al., 1992b, Stokes & Osnes, 1989). With boys such as these three, who are so lacking in

adaptive social behaviours, extended episodes of training diversely and using such mediators as prompts and indirect trainer praise have been recommended (Brown & Odom, 1994). In my study, functional mediators were taken home by the boys (i.e., physical stimuli - response prompt sheets, samples of past work; self-mediated physical stimuli - mnemonic sheets and stamp to record cuing behaviour; self-mediated verbal stimuli - antecedent verbal statements rehearsed with trainer, rule that 'if boy cues trainer will be pleased and praise at next session'). Those physical mediators incorporated were either representatives of the behaviour itself (response prompt sheet) or stimuli likely to generate a reinforcing environment (samples of past work which had invoked praise from the trainer might evoke further praise from the foster-mother). While covert mediators (prompts) have been used to promote generalization of cuing behaviour (e.g., Conners et al., 1993; Hrydowy et al., 1984; Stokes et al., 1978) physical mediators do not appear to have been used. Training diversely ended after extensive presentation of salient and relevant stimulus exemplars. Separate contributions of training diversely and incorporating functional mediators cannot be teased out in the design used in this study (Barrios & Hartman, 1988). Yet, my research suggests salient mediators are an effective component of programming generalization of cuing.

Phase C, incorporate functional mediators, provided a brief examination of whether generalization would now be supported by salient mediators alone. Allan and Chuck maintained cuing levels above those obtained during phase B, training diversely. Limitations of participant availability prevented effective assessment of Bob's generalized cuing under Phase C conditions, but the single data point provided remained consistent with phase BC. I believe that phase C results reflect the cumulative effects of the two generalization tactics, training diversely and incorporate functional mediators, and provides a consistent though limited (by procedure) indication that sufficient activity stimulus exemplars had been presented.

Phase CD, incorporate functional mediators and contact(modify) naturally occurring contingencies, obtained elevated and impressive rates of cuing, (.29 to .51 cues per minute). These results reflect the combined contributions of altered generalization setting contingencies, training

diversely and incorporating functional mediators. However, generalization is not assured even when there is extensive application of combinations of strategies (Chandler et al., 1992b, Goldstein & Pentz, 1984); the success of my study in obtaining generalization is therefore, important. During phase CD, we intervened in the generalization environment; contacting natural contingencies (training foster-parents to prompt for cuing and to respond with praise), and modifying maladaptive natural contingencies (training foster-parents to select appropriate tasks, be less competitive, and to not use punishing responses). The dramatic increase in cuing behaviour demonstrates the value of this intervention. Other studies have reported incompatible contingencies in generalization settings (Connell et al., 1993; Harchik et al., 1990) and made anecdotal comments that children altered their cuing behaviour in response to these contingencies. None of the studies reviewed directly altered environmental contingencies to obtain cuing in the generalization setting .

Where cuing has been observed to contact naturally occurring contingencies, training diversely has been sufficient to support stimulus generalization of peer social skills (Chandler et al., 1992b; Ducharme & Holborn, 1996) and cuing for praise (Stokes et al., 1978). It was anticipated that the boys would be relatively effective at recruiting praise in the foster home. Cuing for praise should naturally encounter functional contingencies in the foster home setting. That is, the foster-mothers should respond with praise when cued. This proved to not be the case, as prior to phase CD effectiveness levels ranged from 11% to 42% (Bob received 67% in his one phase C probe). Final effectiveness levels of 30% to 80% (see Figure 2) compare well with those reported in other studies (e.g., Harchik et al., 1990, 43% to 84%; Stokes et al. 1978, 82%). However, it was necessary to directly alter the current functional contingencies in the foster homes in order to gain these levels of effectiveness.

Prior to our direct intervention in the generalization setting, there was evidence that acquisition of cuing behaviour in the foster home was encountering both incompatible controlling stimuli (Baer, 1982), and response competition. Some dimensions of cuing behaviour appeared to be stimuli incompatible with stimuli occasioning praise. For instance, participants at times chose activities that

made cuing more difficult, while at others the boy's appeared so reinforced by the activities that they were reluctant to socialize. All foster-mothers repeatedly chose competitive games as play activities. Allen's and Bob's foster-mothers both played to win and usually succeeded. As well, Allen's foster-mother confided that she sometimes wanted less rather than more contact with Allen. Bob's foster-mother stated that she feared what Bob might need from her should he begin to talk about his past. Not surprisingly, the boys' cues for praise at times occasioned responses incompatible with praise. Allen's foster-mother frequently ignored cues or asked Allen to do more activity before cuing. Bob's foster mother frequently responded to cues with challenges such as "How come you can't do that at other times?". Chuck's mother frequently responded with silent observation or alternative positive interactions.

Even though the generalization environment contained maladaptive contingencies, overall rates of praise by foster-mothers, prior to phase CD, varied widely (averaged within phases rates of praise ranged between .06 to .53 per min). During phase CD rates of praise (.27 to .57 per min) exceed by far those reported in the literature reviewed for mothers and sons (.05 to .25 per min, Befera & Barkley, 1985) and those reported in cuing for praise from teachers (.05 to .27 per min, Hrydoway et al., 1984). These findings are in contrast with cuing for praise studies which found no overall increase in praise and therefore concluded rates of praise were already at optimal levels (i.e., Stokes et al., 1978). Valid norms for cuing behaviour in a foster home, where expectations for the rehabilitative nature of the foster placement are much higher than in other family settings (see Appendix A), remain unknown. However, my data show that increases in overall rates of praise were primarily due to increases in cued praise, suggesting that, like other studies (e.g., Hrydoway et al., 1984), praise was coming under control of cuing behaviour. The high rate of uncued praise received by Allen during baseline remains unexplained and may have been better understood with a longer baseline phase during which a functional assessment was performed.

A matter of some concern, is the possibility that adult praise is contingent on distant antecedents or setting events (Dumas, 1989). Two foster-mothers expressed concern regarding the study's goal.

Allen's foster-mother more than once commented that Allen became uncontrollably assertive when praised. Bob's foster-mother confided that, should Bob begin to confide in her, she feared failing to respond appropriately to what she anticipated would be painful stories of mistreatment. In contrast, the optimal generalization setting for these boys would be one where the adults are vigilant and ready to reinforce positive social initiations such as cuing for praise, (especially when the adults have all stated this was their treatment goal).

Research has demonstrated that while positive methods of replacing unacceptable behaviour are usually endorsed, parents and teachers may, nevertheless, still resort to punitive methods to engineer behaviour change (Fox & McEvoy, 1993). These foster-mothers appear to be no exception. Foster-mothers reported almost unreserved validation of treatment methods and goals. Yet, their parenting responses suggest a need for help in performing their role as nurturing parent. The unavoidable conclusion is that while the targeted behaviour has subjective social validity, the foster-parents require training in order to provide the appropriate reinforcing environment. Whether the foster-mothers would continue to provide functional contingencies for cuing once this study was terminated is also worthy of investigation.

The three boys regarded the sessions as enjoyable, effective and worthwhile. However, they believed they were already able to talk well with adults. This may not be as contradictory as it first appears. These boys, were so lacking in adaptive social behaviours, that more intense levels of positive interaction may have been outside their experience. The question presented to the boys therefore has different stimulus characteristics for the boys than for the clinical researcher. Such a discrepancy points to Brown and Odom's (1994) belief that direct intervention, by prompting and rewarding generalization of social initiations, is likely a prerequisite for success with children with extensive social skill deficits.

Habilitative validity (Hawkins, 1991) refers to the clinical utility of the intervention. All three boys presented as very challenging for their foster-parents. Indirect measures strongly suggest that the foster-mothers had progressively less difficulty with the boys' behaviours over the course of treatment..

It must be noted (Gutkin, Holborn, Walker, & Anderson, 1994) that the total treatment package required considerable time commitment. Each boy was involved in one half hour training time per week and one half hour in foster home probes per week. Daily telephone calls to the home also consumed considerable amounts of the investigator's time. There are elements of the program which might be combined to make a more cost-effective package. In this study, boys quickly learned to cue. If training thereafter moved into the foster-parent setting, comparable results might be achieved in a much briefer period of time. In my study, considerable time was spent in the training setting, training the boys in a behaviour chain which proved to have little discriminative value. Both the training and the generalization environments were quite clearly providing a diverse set of stimuli and competing contingencies. While this is consistent with Stokes and Osnes (1989) advice to train loosely, it also makes for highly variable data and the need for extended periods of training.

Among the limitations to this research, issues of design must be considered. Research designs attempt to demonstrate experimental control through logical manipulation where possible (Baer et al., 1968). In a clinical setting the goal becomes a more practical one of providing convincing evidence to an audience which will judge the power of the intervention (Baer et al., 1987). Under ideal conditions, a reversal design (Baer et al., 1968) clearly demonstrates experimental control over a target behaviour. Presumed (and desired) changes in the environment across treatment phases precluded use of a reversal design. A multiple baseline design across settings might best demonstrate successful generalization (Barrios & Hartman, 1988). A multiple baseline design could not be used because of the low rate of referral and need for immediate intervention upon referral. Higher intensity (Kazdin, 1987) briefer interventions (Elliott & Gresham, 1993) give audiences greater confidence that experimental control has been demonstrated. However, more frequent contact with the boys was impractical.

Given the variable functional environment of the foster home setting, extended phases were required (Carr, 1984; Iawata, 1984). Our flexible design allowed us to intervene in the functional environment. It did not allow us to systematically record those setting events (Dumas, 1989) which added

variability to performance of the target behaviour. For example, Chuck thought he might be returning unwillingly to a biological parent during week 47. While anecdotal comments record his extreme upset, there is no technology in this design for measuring the influence of that setting event (Baer et al., 1987) on his cuing for praise behaviour, excepting through increased data points. Contextual events change the functional value of a behaviour (Horner, 1984). There were instances where Allen's fostermother did not want to praise Allen because she was responding to distant antecedent events (e.g., earlier antisocial behaviour). Contextual events likely had strong but unmeasurable effects on both cuing for praise and cuing effectiveness. More data points would give an audience greater confidence in the presented outcomes of this study.

Claims of generalization to the targeted settings can be made with confidence. But, there is no absolute assurance that the behaviour recorded on video was representative of what took place between recordings (Johnson, Christensen & Bellamy, 1976). Changes in the number of symptoms recorded by secondary measures give some reassurance. Random recordings of parent-child conversations would have provided an even greater demonstration of generalization.

There have been criticisms leveled at using a single target behaviour (Evans et al., 1988) when many response classes of social skills have been identified (e.g. Elliott & Gresham, 1993; cooperation, assertion, responsibility, empathy, and self control). A larger selection of target behaviour might have greater impact on the boys' social skill repertoire. However, unless the functional relationship among those behaviours was known, multiple targets stand the chance of confounding evidence of the effects of generalization strategies (e.g., will a boy ask for help or cue for praise or both, and will the adult respond differentially to these cues?).

When the generality of findings from this study are explored, several issues must be considered. This study used a selective rather than representative sample of foster-homes. Some foster-parents were unwilling to involve themselves in treatment. Others did not have a working relationship with their caseworker. Still others could not organize themselves to meet with the clinician. The study only used

foster-mothers, even when the foster-father played an effective role, likely influencing both setting events and contextual events (Dumas, 1984). Several of these issues will be revisited. Suffice at this time to note that not all fosterparents are able to participate in this type of treatment. Nor can it be assumed that the same cuing behaviour will have the same functional value across foster settings. Where a functional analysis demonstrates cuing for praise training may encounter reinforcing contingencies, we can say with more confidence that this treatment approach likely will be effective.

Having taken these limitations of design (construct validity) and of generality (external validity) into account, this research does give some direction to future research and to clinical practice. This study succeeded at gaining generalization because of the cumulative effects of the combined applied strategies. Interventions were applied until possible failure was turned into a success (Chandler et al., 1992b).

Environmental events which introduce remote antecedent stimuli into a targeted setting have been referred to as setting events (Chandler, Fowler & Lubeck, 1992a). Setting events were observed to alter boy's cuing and the availability of reinforcements. For example, the foster home probes were an invasive procedure which had an unintentional iatrogenic effect. Allen's foster-mother reported that in the hours prior to a probe, Allen's behaviour would become more intensely provocative, demanding and aversive toward her. Then, when the probe began and Allen was praiseworthy, she remained angry toward him and had difficulty responding to his immediate behaviour. Chuck's foster-mother reported that Chuck became quite agitated before a probe, worried about whether the probe would go well and often acted up in order to delay the probe. Clearly, more effort at normalizing probes would be helpful to the participants. One alternative would be to introduce variability into the recording procedure (as per Johnson, Christensen & Bellamy, 1976). These boys had severe social skill deficits as well as problems with self management. That, as well as some of the foster-parent's rules about parenting, is part of the context (Dumas, 1989) which might be better addressed in a multi-target intervention package (Evans et al., 1988).

Brown and Odom (1994) outline three assumptions necessary for successful peer entry in social situations, that seem relevant in the context of my study; boys must have an adequate repertoire of social behaviour, socially responsive adults must be present, and the boy's maladaptive behaviour must not interfere with the target interactions. In my study, training focused first on behaviour acquisition, and then on environmental contingencies. Results strongly support the relevance of Brown and Odom's (1994) criteria.

Given the research design used, no strategy can be given sole credit for this success.. Yet, modifying current functional contingencies was a necessary step to achieving generalization (Carr & Durand, 1985; Stokes & Osnes, 1989).. It is a tactic which warrants greater attention. My research suggests that each foster setting be evaluated to establish whether desired functional contingencies are active. If such contingencies do not exist, then it would be more efficient to immediately include the foster-mother in the training , and to use the foster home as a training setting. Behaviour therapists are advised to perform a complete, functional assessment prior to designing a program. My results direct us to ensure that supportive contingencies for the targeted behaviour are available in the natural setting, and in particular to ensure foster parents have the requisite skills. Under such circumstances the generalization programming strategies of training diversely and incorporating functional mediators may be enabled, and cuing behaviours which will entrap the boy and foster mother into continuing positive social exchanges may be freely operative (Stokes & Osnes, 1989).

This research took place in an arena (foster-parenting) where little behaviour research has been published. Yet, because it is applied, behavioural (direct training), analytical and conceptual (deals with setting, context and functional variables), values simple pragmatic technologies, attempts generalized outcomes, and is effective, (Baer et al. 1968,1987), it is very suited for interventions targeting the foster-child foster-parent relationship. Behaviour analysis is challenged by a negative reputation (Baer et al., 1987) of lacking in treatment validity outside the laboratory. This study stands in the face of that perception and argues for further work in this area. However, behaviour analysis needs to develop

efficient methods of experimental manipulation, in the foster-home environment, with specific attention to functional analysis (Carr, 1984; Iawata, 1984), and to measuring setting events (as distant antecedent stimuli) and contextual events as modifiers of functional relations.

This study presumed that foster-parents were able and receptive to working actively in the treatment program. The fact that this was not always true points to some needed changes. Ideally, foster-parents might see themselves as part of a team which has a shared goal; a goal defined by a child's development, problem behaviour, social skills and social competence. Ideally, foster-parents also work with and are supported by caseworkers. As our study and the literature reviewed in Appendix A indicate, such ideals are not often approximated. In addition, well regarded homes such as the three that did participate in this study, are not reliably providing the appropriate reinforcing environments to these children. I recommend that mandated agencies: a) anonymously evaluate their working relationships with each foster parent and address problematic issues where discovered, b) ensure that a child's placement is goal directed and interaction sequences of concern are described in concrete terms, c) view foster parents as a rehabilitative resource given charge of specific placement goals rather than as surrogate parents (and orient them as such), and d) give consideration to contracting foster-parent support services to organizations committed to maintaining close support and yet free of the stigma (see Appendix A) which appears to be a barrier to caseworker foster-parent relationships. Finally therapists might be alerted to the possibility that behaviour problems which challenge a foster-parent might be more quickly addressed, if they had direct observation of the foster-parent and foster-child interacting. Clearly the challenges to improving direct services to foster children are many; however, the gauntlet representing these challenges must be accepted if society is to meet the developmental needs of all members of its most valuable resource, its children!

REFERENCES

- Achenbach, T. M. & Edelbrock, C. S. (1981). Behavioral problems and competencies reported by parents of normal and disturbed children aged four through sixteen. Monographs of the Society for Research In Child Development, 46 (Serial No. 188).
- Ammerman, R. T., Cassisi, J. E., Hersen, M., Van Hasselt, V. B. (1986). Consequences of physical abuse and neglect in children. Clinical Psychology Review, 6, 291-386.
- Anderson, K. E., Lytton, H., & Romney, D. M. (1986). Mother's interactions with normal and conduct-disordered boys: Who affects whom? Developmental Psychology, 22, 604-609.
- Augoustinos, M. (1987). Developmental effects of child abuse: Recent findings. Child Abuse and Neglect, 11, 15-27.
- Azar, S. T. (1986). A framework for understanding child maltreatment: An integration of cognitive behavioural and developmental perspectives. Canadian Journal of Behaviour Science, 18, 340-355.
- Azar, S. T., Barnes, K. T., & Twentyman, C. T. (1988). Developmental outcomes in physically abused children: Consequences of parental abuse or the effects of a more general breakdown in caregiving behaviours? the Behaviour Therapist, 11, 27-32.
- Azar, S. T., Fantuzzo, J. W., & Twentyman, C. T. (1984). An applied behavioral approach to child maltreatment: Back to basics. Advances in Behaviour Research and Therapy, 6, 3-11.
- Azrin, N. H. (1977) A strategy for applied research. Learning based but outcome oriented. American Psychologist, Feb., 140-149.
- Baer, D. M. (1982). The role of current pragmatics in the future analysis of generalization technology. In R. B. Stuart (Ed.), Adherence, compliance, and generalization in behavioral medicine (pp. 192-212). New York: Brunner/Mazel.
- Baer, D. M., Wolf, M. M., & Risley, T. R. (1968). Some current dimensions of applied behaviour analysis. Journal of Applied Behaviour, 1, 91-97.

- Baer, D. M., Wolf, M. M., & Risley, T. R. (1987). Some still-current dimensions of applied behaviour analysis. Journal of Applied Behaviour Analysis, 20, 313-327.
- Bakeman, R. & Gottman, J. M. (1986). Observing interaction. An introduction to sequential analysis. Cambridge: Cambridge University Press
- Barahal, R. M., Waterman, J., & Martin, H. P. (1981). The social cognitive development of abused children. Journal of Consulting and Clinical Psychology, 49, 508-516.
- Barkley, R. A., Karlsson, J., & Pollard, S. (1985). Effects of age on the mother-child interactions of ADD-H and normal boys. Journal of abnormal child psychology, 13, 631-637.
- Barrios, B. A. (1988). On the changing nature of behavioural assessment. In A. S. Bellack & M. Hersen (Eds.), Behavioral assessment. (3rd ed.) (pp. 1-41). Toronto: Pergamon Press.
- Barrios, B. A. & Hartmann, D. P. (1988). Recent developments in single-subject methodology: Methods for analyzing generalization, maintenance and multicomponent treatments. Progress in Behaviour Modification, 22, 11-47.
- Barth, R. P. & Berry, M. (1987). Outcomes of child welfare services under permanency planning. Social Service Review, 10, March, 71-90.
- Barton, E. J. (1986). Modification of children's prosocial behaviour. In P. S. Strain, M. J. Guralnick, & H. M. Walker (Eds.), Children's social behaviour: Development, assessment and modification (pp. 331-372). Orlando: Academic Press Inc.
- Befera, M. S. & Barkley, R. A. (1985). Hyperactive and normal girls and boys: Mother-child interaction, parent psychiatric status and child psychopathology. Journal of Child Psychology and Psychiatry, 26, 439-452.
- Bell, R. Q., & Chapman, M. (1986). Child effects in studies using experimental or brief longitudinal approaches to socialization. Developmental Psychology, 22, 595-603.
- Berberich, J. P. (1971). Do the child's responses shape the teaching behaviour of adults? Journal of Experimental Research in Personality, 5, 92-97.

- Berridge, D. & Cleaver, H. (1987). Foster home breakdown. The practice of social work. (Vol 16). New York: Basil Blackwell Inc.
- Bickel, W. K. (1987). The quantal interpretation of stimulus control. In W. K. Bickel (Chair), Stimulus control: Continuity or discontinuity? Views from the study of interceptive and exteroceptive stimuli. The Psychological Record, 37, 153-198.
- Bickel, W. K., & Etzel, B. C. (1985). The quantal nature of controlling stimulus-response relations as measured in tests of stimulus generalization. Journal of the Experimental Analysis of Behaviour, 44, 245-270.
- Bierman, K. L., Miller, C. L., & Stabb, S. D. (1987). Improving the social behaviour and peer acceptance of rejected boys: Effects of social skill training with instructions and prohibitions. Journal of Consulting and Clinical Psychology, 55, 194-200.
- Bierman, K. L., & Montminy, H. P. (1993). Developmental issues in social skills assessment and intervention with children and adolescents. Behavior Modification, 17, 229-254.
- Billingsley, F., White, O. R., & Munson, R. (1980). Procedural reliability: A rationale and an example. Behavioral Assessment, 2, 229-241.
- Blythe, B. J. (1983) A critique of outcome evaluation in child abuse treatment. Child Welfare, 62, 4, 325-335.
- Boggs, S. R., Eyberg, S. M., & Reynolds, L. A. (1990). Concurrent validity of the Eyberg Child Behaviour Inventory. Journal of Clinical Child Psychology, 19, 75-78.
- Bornstein, M., Bellack, A. S., & Hersen, M. (1980). Social skills training for highly aggressive children. Behaviour Modification, 4, 173-186.
- Bornstein, P. H., & Rychtarik, R. G. (1983). Consumer satisfaction in adult behaviour therapy: Procedures, problems, and future perspectives. Behaviour Therapy, 14, 191-208.

- Bousha, D. M., & Twentyman, C. G. (1984). Mother-child interactional style in abuse, neglect, and control groups: Naturalistic observations in the home. Journal of Abnormal Psychology, 93, 106-114.
- Brody, G. H., Stoneman, Z., & Wheatley, P. (1984). Peer interaction in the presence and absence of observers. Child Development, 55, 1425-1428.
- Brophy, J. (1981a). Teacher praise: A functional analysis. Review of educational research, 51, 5-32.
- Brophy, J. (1981b). On praising effectively. Elementary School Journal, 81(5), 269-278.
- Brown, W. H. & Odom, S. L. (1994). Strategies and tactics for promoting generalization and maintenance of young children's social behavior, Research in Developmental Disabilities, 15, pp. 99-118.
- Browne, A., & Finkelhor, D. (1986). Impact of child sexual abuse: A review of the research. Psychological Bulletin, 99, 66-77.
- Buist, C. A. & Schulman, M. D. (1979). Toys and games for educationally handicapped children. Springfield, Ill.: Thomas.
- Burgess, R. L., & Conger, R. D. (1978). Family interaction in abusive, neglectful, and normal families. Child Development, 49, 1163-1173.
- Canras, L. A., Ribordy, S., Hill, J., Martino, S., Spaccarelli, S., & Stefani, R. (1988). Recognition and posing of emotional expressions by abused children and their mothers. Developmental Psychology, 24, 776-781.
- Cantor, N. L., & Gelfand, D. M. (1977). Effects of responsiveness and sex of children on adult's behaviour. Child Development, 48, 232-238.
- Cantor, N. L., Wood, D. D., & Gelfand, D. D. (1977). Effects of responsiveness and sex of children on adult male's behaviour. Child Development, 48, 1426-1428.
- Caplin, P., White, G., Watters, J., Parry, R., & Bates, R. (1985). Referral, intervention, and outcome in Canadian child abuse cases. Canadian Journal of Behavioral Science, 150-159.

- Carr, E. G., (1994). Emerging themes in the functional analysis of problem behavior. Journal of Applied Behavior Analysis, 27, 393-399.
- Carr, E. G., & Durand, V. M. (1985). Reducing behaviour problems through functional communication training. Journal of Applied Behaviour Analysis, 18, 111-126.
- Catania, C. (1988). The operant behaviorism of B. F. Skinner. In A. C. Catania & S. Harnad (Eds.), The selection of behaviour. The operant behaviorism of B. F. Skinner: Comments and consequences (pp. 3-10). Cambridge: Cambridge University Press.
- Cautley, P.W. & Aldridge, M. J. (1975). Predicting success for new foster parents. Social Work, 20, 48-53.
- Chamberlain, P., & Reid, J. B. (1987). Parent observation and report of child symptoms. Behavioral Assessment, 9, 97-109.
- Chandler, L. K., Fowler, S. A., & Lubeck, R. C. (1992a). An analysis of the effects of multiple setting events on the social behavior of preschool children with special needs. Journal of Applied Behavior Analysis, 25, 249-263.
- Chandler, L. K., Lubeck, R. C., & Fowler, S. A. (1992b). Generalization and maintenance of pre-school children's social skills: A critical review and analysis. Journal of Applied Behavior Analysis, 25, 415-428.
- Christensen, A., Johnson, S. M., Phillips, S., & Glasgow, R. E. (1980). Cost effectiveness in behavioral family therapy. Behaviour Therapy, 11, 208-226.
- Christoff, K. A., Scott, W. O. N., Kelly, M. L., Schlundt, D., Baer, G. & Kelly, J. A. (1985). Social skills and social problem-solving training for shy young adolescents. Behaviour Therapy, 16, 468-477.
- Cicchetti, D. & Toth, S. (1995). A developmental psychopathology perspective on child abuse and neglect. American Academy of Child and Adolescent Psychiatry, 34, 5, 541-565.
- Cohen, A. H., & Daro, D. (1987). Is treatment too late: What ten years of evaluative research tell us. Child Abuse and Neglect, 11, 433-442.

- Conger, J. C. & Keane, S. P. (1981). Social skills intervention in the treatment of isolated or withdrawn children. Psychological Bulletin, 90, 478-495.
- Connell, M. C., Carta, J. J., & Baer, D. M. (1993). Programming generalization of in-class transition skills: teaching preschoolers with developmental delays to self-assess and recruit contingent teacher praise. Journal of Applied Behavior Analysis, 26, 345-352.
- Cook, T. D. & Campbell, D. T. (1979) Quasi-experimentation. Boston: Houghton Mifflin Company.
- Cooper, C. S., Peterson, N. L., & Meier, J. H. (1987). Variables associated with disrupted placement in a select sample of abused and neglected children, Child Abuse and Neglect, 11, 75-86.
- Cox, B. (1990). Nobody's kids. The Winnipeg Sun, May 22, p.17.
- Cross Calvert, S., & Johnston, C. (1990). Acceptability of treatments for child behaviour problems: Issues and implications for future research. Journal of Clinical Child Psychology, 19, 61-74.
- Cross Calvert, S., & McMahon, R. J. (1987). The treatment acceptability of a behavioral parent training program and its components. Behaviour Therapy, 2, 165-179.
- Culp, R. E., Richardson, M. T., & Heide, J. S. (1987). Differential developmental progress of maltreated children in day treatment. Social Work, 32, 497-499.
- Cunningham, C. E., & Barkley, R. A. (1979). The interactions of normal and hyperactive children with their mothers in free play and structured tasks. Child Development, 50, 217-224.
- Davis, & Fantuzzo, J. W. (1989). The effects of adult and peer social initiations on the social behaviour of withdrawn and aggressive maltreated preschool children. Journal of Family Violence, 4, 227-248.
- Ducharme, D. E., & Holborn, S. W. (1991). Training and generalization of social skills in hearing-impaired preschool children. Unpublished manuscript. Winnipeg: University of Manitoba.
- Ducharme, D. E., & Holborn, S. W. (1996). Programming generalization of social skills in preschool children who are hard-of-hearing. Under revision, University of Manitoba, Winnipeg, Manitoba.

- Dumas, J. E. (1984). Indiscriminate mothering: Empirical findings and theoretical speculations. Advances in Behavioural Research and Therapy, 6, 13-27.
- Dumas, J. E. (1989). Lets not forget the context in behavioral assessment. Behavioral Assessment, 11, 231-247.
- Durand, V. M. & Carr, E. G. (1991). Functional communication training to reduce challenging behavior: maintenance and application in new settings. Journal of Applied Behavior Analysis, 24, 251-264.
- Eastman, K. S. (1982). Fosterparenthood: A nonnormative parenting arrangement. Marriage and Family Review, 5, #2, 95 - 117.
- Edelstein, B. A. (1989). Generalization: Terminological, methodological and conceptual issues. Behaviour Therapy, 20, 311-324.
- Egeland, B., Sroufe, L., & Erickson, M. (1983). The developmental consequence of different patterns of maltreatment. Child Abuse and Neglect, 7, 459-469.
- Elliot, S. N., & Gresham, F. M. (1993). Social skills interventions for children. Behavior Modification, 17, 287-313.
- Elmer, E. (1977). A follow-up study of traumatized children. Pediatrics, 59, 273-279.
- Emery, R. E., Binkoff, J. A., Houts, A. C., & Carr, E. G. (1983). Children as independent variables: Some clinical implications of child-effects. Behaviour Therapy, 14, 398-412.
- Evans, I. M., Meyer, L. H., Kurkjian, J. A. & Kishi, G. S. (1988). An evaluation of behavioral interrelationships in child behaviour therapy. In J. Witt, S. Elliot & F Gresham (Eds.), Handbook of behaviour therapy in education (pp. 189-215). New York: Plenum Press.
- Eyberg, S. M. (1985). Behavioral assessment: Advancing methodology in paediatric psychology. Journal of Paediatric Psychology, 10, 123-139.
- Eyberg, S. M., & Robinson, E. A. (1982). Parent-child interaction training: Effects on family functioning. Journal of Clinical Child Psychology, 11, 130-137.

- Eyberg, S. M., & Robinson, E. A. (1983). Conduct problem behaviour: Standardization of a behavioral rating scale with adolescents. Journal of Clinical Child Psychology, *12*, 347-354.
- Fanshel, D. (1982). On the road to permanency. New York, NY: Child Welfare League of America, Inc.
- Fantuzzo, J. W. (1990). Behavioral treatment of the victims of child abuse and neglect. Behaviour Modification, *14*, 316-339.
- Fantuzzo, J. W., Jurecic, L., Stovall, A., Hightower, A. D., Goins, C., & Schachtel, D. (1988). Effects of adult and peer social initiations on the social behaviour of withdrawn, maltreated preschool children. Journal of Consulting and Clinical Psychology, *56*, 34-39.
- Faust, D. (1986). Research on human judgement and its application to clinical practice. Professional Psychology Research and Practice, *17*, 420 - 430.
- Fawcett, S. B. (1991). Social validity: A note on methodology. Journal of Applied Behavior Analysis, *24*, 235-239.
- Finkelhor, D. H. (1979). Sexually victimized children. New York, N.Y.: Free Press.
- Finkelhor, D. H., & Browne, A. (1985). The traumatic impact of child sexual abuse: A conceptualization. American Journal of Orthopsychiatry, *55*(4), 530-541.
- Finney, J. W. (1991). On further development of the concept of social validity. Journal of Applied Behavior Analysis, *24*, 245-249.
- Fliess, J. L., Cohen, J., & Everitt, B. S. (1970). Large sample standard errors of kappa and weighted kappa. Psychological Bulletin, *72*, 323-327.
- Foster, S. L. (1987). Issues in behavioral assessment of parent-adolescent conflict. Behavioral Assessment, *9*, 253-269.
- Foster, S. L., Bell-Dolan, D. J., & Burge, D. A. (1988). Behavioral observation. In A. S. Bellack & M. Hersen (Eds.), Behavioral assessment. (3rd ed.) (pp. 119-160). Toronto: Pergamon Press.
- Foster, S. L., & Cone, J. D. (1980). Current issues in direct observation. Behavioral Assessment, *2*, 313-338.

- Fox, J. J., & McEvoy (1993). Assessing and enhancing generalization and social validity of social-skills interventions with children and adolescents. Behaviour Modification, 17, 339-366.
- Fox, J. J., Sores, R., Lindeman, D. & Strain, P. (1986). Maintaining social initiations of withdrawn handicapped and nonhandicapped preschoolers through a response-dependent fading tactic. Journal of Abnormal Child Psychology, 14, 387-396.
- Frank, G. (1980). The treatment needs of children in foster care. American Journal of Orthopsychiatry, 50, 2, 256-264.
- Furer, P. B. (1990). Recruitment of praise: Programming generalization of work behaviors of developmentally handicapped adults. Unpublished, dissertation proposal, University of Manitoba, Winnipeg.
- Furer, P. B., & Martin, G. L. (1988). Recruitment of praise: A potential strategy for supervising developmentally handicapped workers. Journal of Practical Approaches to Developmental Handicap, 12, 31-36.
- George, C., & Main, M. (1979). Social interactions of young abused children: Approach, avoidance, and aggression. Child Development, 50, 306-318.
- Gil, E. (1984). Fosterparents: Set-up to fail. Child Abuse & Neglect, 8, 121-123.
- Godfred, D. (1991). Video counting package. Winnipeg: University of Manitoba, Department of Psychology.
- Goldstein, A. P., & Pentz, M. A. (1984). Psychological skill training and the aggressive adolescent. School Psychology Review, 13, 311-323.
- Gottman, J. M., & Roy, A. K. (1990). Sequential analysis: a guide for behavioral researchers. Cambridge: University of Cambridge.
- Gresham, F. M., Gansle, K. A., & Noell, G. H. (1993). Treatment integrity in applied behavior analysis with children. Journal of Applied Behavior Analysis, 26, 257-263.

- Guevremont, D. C., Osnes, P. G., & Stokes, T. F. (1988). The functional role of preschoolers' verbalizations in the generalization of self-instructional training. Journal of Applied Behavior Analysis, 21, 45-55.
- Gutkin, A.J., Holborn, S. W., Walker, J. R., & Anderson, B. A. (1994). Cost-effectiveness of home relaxation training for tension headaches. Journal of Behaviour Therapy and Experimental Psychiatry, 25, 69-74.
- Harchik, A. E., Harchik, Amy, J., Luce, S. C., & Sherman, J. A. (1990). Teaching autistic and severely handicapped children to recruit praise: Acquisition and generalization. Research in Developmental Disabilities, 11, 77-95.
- Harris, S. L., & Ferrari, M. (1988). Developmental factors and their relationship to identification and treatment of behavior problems of childhood. In J. Witt, S. Elliot & F Gresham (Eds.), Handbook of behaviour therapy in education (pp. 151-169). New York: Plenum Press.
- Hawkins, R. P. (1991). Is social validity what we are interested in? Argument for a functional approach. Journal of Applied Behavior Analysis, 24, 205-213.
- Heffer, R. W., & Kelly, M. L. (1987). Mother's acceptance of behavioral interventions for children: The influence of parent race and income. Behaviour Therapy, 2, 153-163.
- Helfer, R.E., & Kempe, R. E. (Eds.). (1987). The battered child (rev 4th ed.). Chicago: University of Chicago Press.
- Hepworth, H. P. (1980). Foster care and adoption in Canada. Ottawa: The Canadian Council on Social Development.
- Herr, S. E. (1982). Learning activities for reading, 4th ed. Iowa: Wm. C. Brown Co.
- Hildebrand, R. G., Martin, G. L., Furer, P. L., & Hazen, A. (1990). A recruitment-of-praise package to increase productivity levels of developmentally handicapped workers. Behaviour Modification, 14, 97-113.

- Hill, S. D., Bleichfeld, B., Brunstetter, R. D., Hebert, J. E., & Steckler, S. (1989). Cognitive and physiological responsiveness of abused children. Journal of the American Academy of Child and Adolescent Psychiatry, 28, 219-224.
- Hineline, R. H., & Wanchisen, B. A. (1989). Correlated hypothesizing and the distinction between contingency-shaped and rule-governed behavior. In S. C. Hayes, Rule governed behavior: Cognition, contingencies and instructional control (pp. 221-268). New York: Plenum Press.
- Hochstadt, N. J., Jaudes, P. K., Zimo, D. A., & Schachter, J. (1987). The medical and psychosocial needs of children entering foster care. Child Abuse and Neglect, 11, 53-62.
- Hoffman-Plotkin, D., & Twentyman, C. T. (1984). A multimodal assessment of behavioral and cognitive deficits in abused and neglected preschoolers. Child Development, 55, 794-802.
- Hoir, T. S., & Cone, J. D. (1987). Target selection of social skills for children. Behaviour Modification, 11(2), 137-163.
- Hollin, C. R., & Trower, P. (1984). Development and applications of social skill training: A review and critique. In M. Hersen, R. M. Eisler, & P. M. Miller (Eds.), Progress in Behaviour Modification: Vol 8. Orlando: Academic Press, Inc.
- Hops, H. (1983). Children's social competence and skill: Current research practices and future directions. Behaviour Therapy, 14, 3-18.
- Horner, R. H. (1994). Functional assessment: Contributions to future directions. Journal of Applied Behavior Analysis, 27, 401-404.
- Howes, C., & Espinosa, M. P. (1985). The consequences of child abuse for the formation of relationships with peers. Child Abuse and Neglect, 9, 397-404.
- Hrydowy, E. R., Stokes, T. E., & Martin, G. L. (1984). Training elementary students to prompt teacher praise. Education and Treatment of Children, 7, 99-108.
- Hughes, J. N., & Sullivan, K. A. (1988). Outcome assessment in social skills training with children. Journal of School Psychology, 26, 167-183.

Humphry (1988). Foster care, Ch. 2., in Families with a difference: varieties of surrogate parenthood.

Routledge, New York N.Y.

Hunter, Mic. (1990). Abused boys. The neglected victims of sexual abuse. New York: Ballantine Books.

Iwata, B. A. (1994). Functional analysis methodology: Some closing comments. Journal of Applied Behavior Analysis, 27, 413-418.

Jaffe, P., Wolfe, D., Wilson, S., & Zak, L. (1986). Similarities in behavioral and social maladjustment among child victims and witnesses to family violence. American Journal of Orthopsychiatry, 56, 142-146.

Johnson, S. M., Christensen, A., & Bellamy, G. T. (1976). Evaluation of family intervention through unobtrusive audio recordings: Experiences in "bugging" children. Journal of Applied Behavior Analysis, 9, 213-219.

Johnston, J. M. (1979). On the relation between generalization and generality. Behavior Analyst, 2, Fall 1-6.

Jones, D. P. H. (1987). The untreatable family. Child Abuse and Neglect, 11, 409-420.

Kaplan, S. J., Pelcovitz, D., Salzinger, S., & Ganeles, D. (1983). Psychopathology of parents of abused and neglected children and adolescents. Journal of the American Academy of Child Psychiatry, 22, 238-244.

Katz, L. L. () An overview of current clinical issues in separation and placement. Child and Adolescent Social Work, 4, 61-77.

Kaufman, J., & Cicchetti, D. (1989). Effects of maltreatment on school-age children's socioemotional development: Assessments in a day-camp setting. Developmental Psychology, 25, 516-524.

Kazdin, A. E. (1980). Acceptability of alternate forms of treatment for deviant child behaviour. Journal of Applied Behaviour Analysis, 13, 259-273.

Kazdin, A. E. (1982). Single-case research designs. Methods for clinical and applied settings. New York: Oxford University Press.

- Kazdin, A. E. (1987). Treatment of antisocial behaviour in children: Current status and future directions. Psychological Bulletin, *102*, 187-203.
- Kazdin, A. E. (1989). Developmental psychopathology: Current research, issues, and directions. American Psychologist, *44*, 180-187.
- Kazdin, A. E., Esveldt-Dawson, K., French, N. H., & Unis, A. S. (1987). Problem-solving skills training and relationship therapy in the treatment of antisocial child behavior. Journal of Consulting and Clinical Psychology, *55*, 76-85.
- Kazdin, A. E., & Krouse, (1983). The impact in variations in treatment rationales on expectancies for therapeutic change. Behaviour Therapy, *14*, 657-671.
- Kempe, C. H., Silverman, F. N., Steele, B. F., Droegemueller, W., & Silver, H. K. (1962). The battered child syndrome. Journal of the American Medical Association, *181*, (1), 17-24.
- Kiesler, C. A. (1983). Social psychological issues in studying consumer satisfaction with behaviour therapy. Behaviour Therapy, *14*, 226-236.
- Kinard, E. M. (1980). Emotional development in physically abused children. American Journal of Orthopsychiatry, *50*, 686-696.
- Kirby, K. C., & Bickel, W. K. (1988). Toward an explicit analysis of generalization: A stimulus control interpretation. The Behaviour Analyst, *11*, 115-129.
- Kirby, K. C., Bickel, W. K., & Holborn, S. W. (1983, May). Toward an explicit analysis of generalization: A stimulus control interpretation. Paper presented at the annual meeting of the Association for Behaviour Analysis, Milwaukee, Wisconsin.
- Kogan, K. L., & Gordon, B. M. (1975). A mother-instruction program: Documenting change in mother-child interactions. Child Psychiatry and Human Development, *5*, 189-200.
- Kohler, F. W. & Fowler, S. A. (1985). Training prosocial behaviors to young children: An analysis of reciprocity with untrained peers. Journal of Applied Behaviour Analysis, *18*, 187-200.

- Kratochwill, T.R., Mott, S. E., & Dodson, C. L. (1984). Case study and single-case research in clinical and applied psychology. In A. S. Bellack & M. Hersen (Eds.), Research methods in clinical psychology, (pp. 55 - 99). Toronto: Peragamon Press Inc.
- Kratochwill, T. R., & Wetzel (1977). Observer agreement, credibility and judgement: Some considerations in presenting observer agreement data. Journal of Applied Behaviour Analysis, 10, 133-139.
- Kravic, J. N. (1987). Behaviour problems and social competence of clinic-referred abused children. Journal of Family Violence, 2, 111-120.
- Kunkel, B. E. (1983). The alienation response of children abused in out-of-home placement. Child Abuse & Neglect, 7, 479-484.
- Ladd, G. W. & Mize, J. (1983). A cognitive-social learning model of social-skill training. Psychological Review, 90, 127-157.
- Lahey, B. B., Conger, R. D., Atkeson, B. M., & Treiber, F. A. (1984). Parenting behaviour and emotional status of physically abusive mothers. Journal of Consulting and Clinical Psychology, 52, 1062-1071.
- Lamphear, V. S. (1985). The impact of maltreatment on children's psychosocial adjustment: A review of the research. Child Abuse and Neglect, 9, 251-263.
- Lamphear, V. S. (1986). The psychosocial adjustment of maltreated children: Methodological limitations and guidelines for future research. Child Abuse and Neglect, 10, 63-69.
- Livingston, R. (1987). Sexually and physically abused children. Journal of the American Academy of Child and Adolescent Psychiatry, 26, 413-415.
- Lorber, R., Felton, D. K., & Reid, J. B. (1984). A social learning approach to the reduction of coercive process in child abusive families: A molecular analysis. Advances in Behaviour Research and Therapy, 6, 29-45.

- Main, M. & George, C. (1985). Responses of abused and disadvantaged toddlers to distress in age mates: A study in the daycare setting. Developmental Psychology, *21*, 407-412.
- Maluccio, A. N. & Fein, E. (1987). Effects of permanency planning on foster children: A response. Social Work, *32*, 546-547.
- Maluccio, A. N. & Fein, E. (1985). Growing up in foster care. Children and Youth Services Review, *7*, 123-134.
- Manitoba Department of Community Services and Corrections (1989). Manitoba guidelines on identifying and reporting child abuse. Winnipeg: Manitoba Department of Community Services and Corrections, Government of Manitoba.
- Mann, P. (1984). Children in care revisited. New York: St. Martin's Press.
- Marcus, R. F. (1975). The child as elicitor of parental sanctions for independent and dependent behaviour; A simulation of parent-child interaction. Developmental Psychology, *11*, 443-452.
- Martens, B. K. & Witt, J. C. (1988). On the ecological validity of behaviour modification. In J. C. Witt, S. N. Elliot, & F. M. Gresham (Eds.) Handbook of behaviour therapy in education. New York: Plenum Press.
- Martin, G. & Pear, J. (1988). Behaviour modification. Englewood Cliffs, New Jersey.
- Martin, H. P. (1980) Working with parents of abused and neglected children. In R. A. Akidın (Ed.) Parent education and intervention handbook (pp. 252-271). Springfield, Illinois: Charles C. Thomas.
- Martin, H. P. (1982). Abused children: What happens eventually. In K. Oates (Ed.), Child abuse: A community concern. New York: Brunner/Mazel. pp. 154-169.
- Mash, E. J. (1985). Some comments on target selection in behaviour therapy. Behaviour Assessment, *7*, 63-78.
- Mash, E. J., & Barkley, R. A. (1986). Assessment of family interaction with the response-class matrix. In R. J. Prinz (Ed.), Advances in Behavioral Assessment of Children and Families, *2*, 29-67.

- Mash, E. J., Johnston, C., & Kovitz, K. (1983). A comparison of the mother-child interactions of physically abused and non-abused children during play and task situations. Journal of Clinical Child Psychology, 12, 337-346.
- Mash, E. J., Terdal, L., & Anderson, K. (1973). The response class matrix: A procedure for recording parent-child interactions. Journal of Consulting and Clinical Psychology, 40, 163-164.
- Mash, E. J., Terdal, L., & Anderson, K. (1981) The response class matrix: A procedure for recording parent-child interactions. In R. A. Barkley (Ed.), Hyperactive children (pp. 419-438). New York, N.Y.: The Guilford Press.
- Mason, S. A., McGee, G. G., Farmer-Dougan, V., & Risley, T. R. (1989). A practical strategy for ongoing reinforcer assessment. Journal of Applied Behaviour Analysis, 22, 171-179.
- Matyas, T. A., & Greenwood, K. M. (1990). Visual analysis of single-case time series: effects of variability, serial dependence and magnitude of intervention effects. Journal of Applied Behaviour Analysis, 23, 341-351.
- McCloskey, L. A., Figueredo, A. J., & Koss, M. P. (1995). The effects of systemic family violence on children's mental health. Child Development, 66, 1239-1261.
- McMahon, R. J., & Forehand, R. L. (1983). Consumer satisfaction in behavioral treatment of children: Types, issues and recommendations. Behaviour Therapy, 14, 209-225.
- Milner, J. L. (1984). Factors affecting duration of foster care: A review of research. Acta Paedologica, 1(2), 151-174.
- Minenko, R. (1993) The foster home study: an exploration of factors associated with abusive and exceptional fosterhomes. A thesis, University of Manitoba, Master of Social Work.
- Molin, R. (1988). Treatment of children in foster care: Issues in collaboratin. Child Abuse & Neglect, 12, 241-250.
- Moran, G., Dumas, J. E., & Symons, D. K. (1992). Approaches to sequential analysis and the description of contingency in behavioral interaction. Behavioral Assessment, 14, 65-92.

- Olson, R. L., & Roberts, M. W. (1987). Alternative treatments for sibling aggression. Behaviour Therapy, 18, 243-250.
- Osofsky, J. D. (1971). Children's influences upon parental behaviour: An attempt to define the relationship with the use of laboratory tasks. Genetic Psychology Monographs, 83, 147-169.
- Osofsky, J. D., & O'Connell, E. J. (1972). Parent-child interaction: Daughters' effects upon mothers' and fathers' behaviors. Developmental Psychology, 7, 157-168.
- Parloff, M. B. (1983). Who will be satisfied by "Consumer satisfaction" evidence? Behaviour Therapy, 14, 242-246.
- Patterson, G. R. (1977). Naturalistic observation in clinical assessment. Journal of Abnormal Child Psychology, 5, 309-322.
- Patterson, G. R., Chamberlain, P., & Reid, J. B. (1982). A comparative evaluation of a parent-training program. Behaviour Therapy, 13, 638-650.
- Patterson, G. R., DeBaryshe, B. D., & Ramsey, E. (1989). A developmental perspective on antisocial behavior. American Psychologist, 44, 329-335.
- Pecora, P. J., Whittaker, J. K., Maluccio, A. N. with Barth, R. P., & Plotnick, R. D. (1992). The child welfare challenge: Policy, practice, and research. Walter de Gruyter Inc., New York.
- Peterson, L., Homer, An. L., & Wonderlich, S. A. (1982). The integrity of independent variables in behaviour analysis. Journal of Applied Behaviour Analysis, 15, 477-492.
- Pett, M. A., Wampold, B. E., Vaughan-Cole, B., & East IV, T. D. (1992). consistency of behaviors within a naturalistic setting: An examination of the impact of context and repeated observations on mother-child interactions. Behavioral Assessment, 14, 367-385.
- Proch, K., & Howard, J. A. (1986). Parental visiting of children in foster care. Social Work, 37, 178-181.
- Proch, K., & Taber, M. H. (1985). Placement disruption: A review of research. Children and Youth Services Review, 7, 309-320.

- Radbill, S. X. (1987) Children in a world of violence: A history of child abuse. In R. E. Helfer & R. S. Kempe (Eds.), The battered child. (4th. rev. ed.), (pp. 3-22), Chicago: University of Chicago Press.
- Reid, J. B., Kavanaugh, K., & Baldwin, D. V. (1987). Abusive parents' perceptions of child problem behaviors: An example of parental bias. Journal of Abnormal Child Psychology, 15, 457-466.
- Reidy, T. J. (1977). The aggressive characteristics of abused and neglected children. Journal of Clinical Psychology, 33, 1140-1145.
- Rivara, F. P. (1985). Physical abuse in children under two: A study of therapeutic outcomes. Child Abuse and Neglect, 9, 81-87.
- Roberts, J. (1979). The behaviour of abused children in foster care. Child Abuse and Neglect, 3, 1011-1016.
- Robinson, E. A., & Anderson, L. L. (1983). Family adjustment, parental attitudes, and social desirability. Journal of Abnormal Child Psychology, 11, 247-256.
- Robinson, E. A., & Eyberg, S. M. (1981). The dyadic parent-child interaction coding system. Journal of Clinical Child Psychology, 9, 22-28.
- Robinson, E. A., Eyberg, S. M., & Ross, A. W. (1980). Inventory of child problem behaviors. The standardization of an inventory of child conduct problem behaviors. Journal of Clinical Child Psychology, 8, 22-29.
- Rocklin, R., & Lavett, D. K. (1987). Those who broke the cycle: Therapy with nonabusive adults who were physically abused as children. Psychotherapy, 24, 769-778.
- Rowe, J. (1987). Fostering outcomes: interpreting breakdown rates. Adoption & Fostering, 11(1), 32-34.
- Rzepnicki, T. & Stein, (T. J. 1985). Permancy planning for children in foster care. Children and Youth Services Review, 7, 95-108.
- Salter, A. C., Richardson, C. M. & Kairys, S. W. (1985). Caring for abused preschoolers, 64, 343-356.

- Sanders, M. R., & Christensen, A. P. (1985). A comparison of the effects of child management and planned activities training in five parenting environments., Journal of Abnormal Child Psychology, 13, 101-117.
- Sanders, M. R., Dadds, M. R., & Bor, W. (1989). Contextual analysis of child oppositional and maternal aversive behaviors in families of conduct-disordered and nonproblem children. Journal of Clinical Child Psychology, 18, 72-83.
- Schindler, F., & Arkowitz, H. (1986). The assessment of mother-child interactions in physically abusive and nonabusive families. Journal of Family Violence, 1, 247-257.
- Schneider-Rosen, K., & Cicchetti, D. (1984). The relationship between affect and cognition in maltreated infants: Quality of attachment and the development of visual self-recognition. Child Development, 55, 648-658.
- Schlundt, D. G. & McFall, R. M. (1985). New directions in the assessment of social competence and social skills. In L. L'Abate & M. A. Milan (Ed.s), Handbook of Social Skills Training and Research (pp. 22-49). New York: John Wiley & Sons.
- Schrier, A. M., & Thompson, C. R. (1980). Conditional discriminaion learning: A critique and amplification. Journal of the experimental analysis of behavior, 33, 291-298.
- Schwartz, I. S. (1991). The study of consumer behavior and social validity: an essential partnership for applied behavior analysis. Journal of Applied Behavior Analysis, 24, 241-244.
- Schwartz, I. S., & Baer, D. S. (1991). Social validity assessments: is current practice state of the art? Journal of Applied Behavior Analysis, 24, 189-204.
- Seagull, E. A. W. (1987). Social support and child maltreatment: A review of the evidence. Child Abuse and Neglect, 11, 41-52.
- Sechrest, L. (1984). Reliability and validity. In A. S. Bellack & M. Hersen (Eds.), Research methods in clinical psychology. (pp. 24-54). Toronto: Pergamon Press.

- Seltzer, M.M. & Bloksberg, L. M. (1987) Permanency planning and its effects on fosterchildren: A review of the literature. Social Work, 32, 65 - 68.
- Seymour, F. W., & Stokes, T. F. (1976). Self-recording in training girls to increase work and evoke staff praise in an institution of offenders. Journal of Applied Behaviour Analysis, 9, 41-54.
- Sidman (1980). A note on the measurement of conditional discrimination. Journal of the Experimental Analysis of Behaviour, 33, 285-289.
- Simms, M. D. (1989). The foster care clinic: A community program to identify treatment needs of children in foster care. Development and Behavioral Pediatrics, 10, 121-128.
- Skinner, B. F. (1988a). Methods and theories in the experimental analysis of behaviour. In A. C. Catania and S. Harnad (Eds.) The selection of behaviour. The operant behaviorism of B. F. Skinner: Comments and consequences (pp. 77-103). Cambridge: Cambridge University Press.
- Skinner, B. F. (1988b). The operational analysis of psychological terms. In A. C. Catania and S. Harnad (Eds.) The selection of behaviour. The operant behaviorism of B. F. Skinner: Comments and consequences (pp. 150-161). Cambridge: Cambridge University Press.
- Skinner, B. F. (1988c). Behaviorism at fifty. In A. C. Catania and S. Harnad (Eds.) The selection of behaviour. The operant behaviorism of B. F. Skinner: Comments and consequences (pp. 278-291). Cambridge: Cambridge University Press.
- Smith, J. E. (1984). Non-accidental injury to children - I: A review of behavioural interventions. Behaviour Research and Therapy, 23, 331-347.
- Smith, S. M., & Kunjukrishnan, R. (1985). Child abuse: Perspectives on treatment and research. Psychiatric Clinics of North America, 8, 665-683.
- Steele, B. E. (1986). Notes on the lasting effects of early child: Abuse throughout the life cycle. Child Abuse and Neglect, 10, 283-291.

- Steele, B. F., & Alexander, H. (1981). Long-term effects of sexual abuse in childhood. In P. B. Mrazek, & A. H. Kempe (Eds), Sexually abused children and their families, (pp. 223 - 234). Oxford: Pergamon Press.
- Stein, T. J. (1985). Projects to prevent out-of-home placement. Child and Youth Services Review, *7*, 109 - 121.
- Stokes, T. F. (1992). Discrimination and generalization. Journal of Applied Behaviour Analysis, *25*, 429-432.
- Stokes, T. F. & Baer, D. M. (1977). An implicit technology of generalization. Journal of Applied Behaviour Analysis, *10*, 349-367.
- Stokes, T. F., Fowler, S. A., & Baer, D. M. (1978). Training preschool children to recruit natural communities of reinforcement. Journal of Applied Behaviour Analysis, *11*, 285-303.
- Stokes, T. F. & Osnes, P. G. (1986). Programming the generalization of children's social behavior. In P. S. Strain, M. J. Guralnick & H. Walker (Eds.), Children's social behavior: development, assessment and modification. (pp. 407-443). Orlando, FL: Academic Press.
- Stokes, T. F., & Osnes, P. G. (1989). An operant pursuit of generalization. Behaviour Therapy, *20*, 337-355.
- Stone, N. M. & Stone, S. F. (1983). The prediction of successful foster placement. Social Casework: The Journal of Contemporary Social Work, *64*, (January), 11-17.
- Strain, P. S. & Shore, R. E. (1977). Social reciprocity: A review of research and educational implications. Exceptional Children, *8*, 526-530.
- Straus, M. A. & Gelles, R. J. (1986). Societal change and change in family violence from 1975 to 1985 as revealed by two national surveys. Journal of Marriage and the Family, *48*, 465-479.
- Straus, M. A. & Kantor, G. K. (1987). Stress and child abuse. In R. E. Helfer and R. S. Kempe (Eds.). The battered child (4th ed. revised) (pp. 42-60). Chicago: University of Chicago Press.
- Tactzsh, S. Z., & Tactzsh, L. (1974). Pre-school games and activities. Calif.: Fearson Pub.

- Tapp, J. T. (1992). Sequential analysis of transcripts system. (Available from J. T. Tapp, Vanderbilt University).
- Tallmadge, J. & Barkley, R. A. (1983). The interactions of hyperactive and normal boys with their fathers and mothers. Journal of Abnormal Child Psychology, 1, 565-580.
- The Winnipeg Sun (May 22, 1990). Nobody's kids. by Bob Cox.
- Tinney, M. (1985). Role perceptions in fosterparent associations in British Columbia. Child Welfare, LXIV, #1, 73 - 79.
- Tremblay, A., Strain, P. S., Hendrickson, J. M., & Shores, R. E. (1981). Social interactions of normal preschool children. Behaviour Modification, 5, 237-253.
- Wahler, R. G., & Dumas, J. E. (1984). Changing the observational coding styles of insular and noninsular mothers. In Richard F. Dangel and Richard A. Polster (Eds.), Parent training. (pp. 379-416). New York: The Guilford Press.
- Wahler, R. G., Williams, A. J., & Cerezo, A. (1990). The compliance and predictability hypotheses: Sequential and correlational analyses of coercive mother-child interactions. Behavioral Assessment, 12, 391-407.
- Walker, E., Downey, G., & Bergman, A. (1989). The effects of parental psychopathology and maltreatment on child behaviour: A test of the Diathesis-Stress Model. Child Development, 60, 15-24.
- Wasik, B. H. (1989). The systematic observation of children: Rediscovery and advances. Behavioral Assessment, 11, 201-217.
- Wassermann, G. A., Green, A., & Allen, R. (1983). Going beyond abuse: maladaptive patterns of interaction in abusing mother-infant pairs. Journal of the American Academy of Child Psychiatry, 22, 245-252.
- Webster-Stratton, C. (1985). Comparison of abusive and nonabusive families with conduct disordered children. American Journal of Orthopsychiatry, 55, 59-69.

- Webster-Stratton, C. (1988). Mothers' and fathers' perceptions of child deviance: Roles of parent and child behaviors and parent adjustment. Journal of Consulting and Clinical Psychology, *56*, 909-915.
- Webster-Stratton, C. (1989). Systematic comparison of consumer satisfaction of three cost-effective parent training programs for conduct problem children. Behaviour Therapy, *20*, 103-115.
- Webster-Stratton, C., & Eyberg, S. M. (1982). Child temperament: Relationship with child behaviour problems and parent-child interactions. Journal of Clinical Child Psychology, *11*, 123-129.
- Webster-Stratton, C., Kolpacoff, M., & Hollinsworth, T. (1988). Self-administered videotape therapy for families with conduct-problem children: Comparison with two cost-effective treatments and a control group. Journal of Consulting and Clinical Psychology, *56*, 558-566.
- White, R., Benedict, M. I., Wulff, L., & Kelly, M. (1987). Physical disabilities as risk factors for child maltreatment: A selected review. American Journal of Orthopsychiatric, *57*, 93-101.
- Widom, C. S. (1988). Sampling biases and implications for child abuse research. American Journal of Orthopsychiatric, *58*, 260-270.
- Williams, C. A. & Forehand, R. (1984). An examination of predictor variables for child compliance and noncompliance. Journal of Abnormal Child Psychology, *12*, 491-504.
- Williams, G. J. R. (1983). Child abuse. In E. C. Walker & M. C. Roberts (Eds.), Handbook of Clinical Child Psychology, (pp. 1219-1248). Wiley, NY.
- Willner, G., Braukmann, C. J., Kirigin, K. A., Fixsen, D. L., Phillips, E. L., & Wolf, M. M. (1977). The training and validation of youth preferred social behaviors of child-care personnel. Journal of Applied Behaviour Analysis, *10*, 219-230.
- Winnipeg Children's Hospital (1990). Unpublished hospital admissions summary data.
- Wolery, M. & Gast, D. L. (1984). Effective and efficient procedures for the transfer of stimulus control. Topics in Early Childhood Special Education, *4*, 52-77.
- Wolfe, D. A. (1985). Child-abusive parents: An empirical review and analysis. Psychological Bulletin, *97*, 462-482.

- Wolfe, D. A., & Jaffe, P. (1991). Child abuse and family violence as determinants of child psychopathology. Canadian Journal of Behavioural Science, 23, 282-299.
- Wolfe, D. A., Sandler, J., & Kaufman, K. (1981). A competency-based parent training program for child abusers. Journal of Consulting and Clinical Psychology, 49, 633-640.
- Wolfe, M. M. (1978). Social validity: The case for subjective measurement or how applied behaviour analysis is finding its heart. Journal of Applied Behaviour Analysis, 11, 203-214.
- Yoder, P. & Tapp, J. T. Sr. (1990) SATS: Sequential analysis of transcripts system. Behaviour Research Methods, Instruments & Computers, 22(3), 339-343.
- Zigler, E. & Hall, N. W. (1989). Physical child abuse in America: past, present, and future. In D. Cicchetti & V. Carlson (Eds.), Child maltreatment: theory and research on the causes and consequences of child abuse and neglect (pp. 38-75). New York, N.Y.: Cambridge University Press.
- Zimrin, H. (1986). A profile of survival. Child Abuse and Neglect, 10, 339-349.

APPENDIX A.

Violence against children has always been part of human history (Radbill, 1987; Zigler & Hall, 1989), although only for the last century have there been systematic efforts to protect children from severe violence (Zigler & Hall, 1989). A clinical focus on treatment of physically abused children has a much briefer history. Seminal works highlighting the prevalence and negative consequences of physical abuse (e.g., Kempe, Silverman, Steele, Droegemueller & Silver, 1962; Helfer & Kempe, 1987) have presented a challenge to the clinical community to respond to the treatment needs of these children.

Estimates of the incidence of child physical abuse have varied from 0.4% per year (Helfer, 1987) to 14% per year (Straus & Gelles, 1986; Straus & Kantor, 1987) depending of definitions used. Among children aged 5 to 9 years, this rate has reportedly exceeded 20% per year (Straus & Kantor, 1987). Province wide, in 1989, Manitoba Child and Family Services reported 717 documented cases of physical abuse. More locally, in 1989, the Winnipeg Children's Hospital Child Protection Centre confirmed 261 cases of physical abuse (Winnipeg Children's Hospital, 1990).

Physically abused children to suffer from a range of neurological, emotional and social problems (e.g., Ammerman, et al., 1986; Augoustinos, 1987; Wolfe & Jaffe, 1991). Social problems appear to manifest themselves in several ways (Wolfe & Jaffe, 1991). Studies have reported, for example, that children who have been physically abused are less able to manage their emotions during intense interactions with peers (Main & George, 1985). They have also been reported to be less likely to initiate interactions with their mothers (Bousha & Twentyman, 1984), less competent at interpreting their mother's emotional expressions (Camras, Ribordy, Hill, Martino, Spaccarelli, & Stefani, 1988), and less able to recognise social roles (Barahal, Waterman, & Martin, 1981). Studies also report a tendency for children who have been physically abused to have negative expectations about the outcome of adult-child interactions (Hill et al., 1989). Finally, studies have linked being physically abused with increased levels of aggression toward adults (e.g., Bousha & Twentyman, 1984; George & Main, 1979; Jaffe, Wolfe,

Wilson, & Zak, 1986; Kaufman & Cicchetti, 1989; Reidy, 1977) although there have also been some contradictory reports (Burgess & Conger, 1978; Mash, Johnston & Kovitz, 1983).

The type of maltreatment to which the child is subjected also appears to influence the clinical profile of the impact of maltreatment upon the child (Wolfe & Jaffe, 1991). To the extent that physically abused children have experienced maternal neglect, they are more likely to be socially isolated from peers and from adults (Davis & Fantuzzo, 1989; Egeland, Sroufe, & Erickson, 1983; Howes & Espinosa, 1985; Strain, Kerr, & Alpher, 1979) and are less likely to develop social skills in treatment (Culp, Richardson & Heide, 1987).

It also is clear that the clinical profile for children who have been physically abused is significantly different from that of children who have been sexually abused (Hunter, 1990; Livingston, 1987). Intra-familial sexual assault is conceptualised quite differently (Browne & Finkelhor, 1986; Wolfe & Jaffe, 1991). Also, the impact of sexual assault includes unique aspects such as premature sexualization, vulnerability to revictimization, behaviours consistent with post-traumatic stress syndrome, and assault specific stimuli (Finkelhor, 1979; Steele & Alexander, 1981).

Research has suggested that physical abuse occurs in a relationship which typically involves frequent aggressive and aversive behaviours on the part of otherwise neglectful parents (Azar, 1986; Bousha & Twentyman, 1984; Lahey, Conger, Atkeson, & Treiber, 1984; Lorber, Felton, & Reid, 1984). Further, the parenting behaviour of mothers who have physically abused their child, has also been reported to have little contingent relationship to the child's behaviours. Finally, there is evidence that abused children, more often than non-abused children, act in a manner which draws aversive attention toward themselves by being non-compliant (Bousha & Twentyman, 1984; Schindler & Arkowitz, 1986) or by engaging in extended aversive exchanges (Lorber et al., 1984).

Foster-care as an Alternate Placement for Children Who Have Been Abused

As part of efforts to protect children from further abuse, Child and Family Service agencies are mandated to apprehend children who have been physically abused and are at risk for further abuse, and place them in alternative custodial settings such as foster homes (Hepworth, 1980). Manitoba Child and Family Services have reported that, of confirmed cases of all types of maltreatment (e.g., physical abuse, neglect and sexual abuse) identified in 1987, 48% were living outside of their natural parents' home at the end of that year (Manitoba Child and Family Services, 1988). Also during that year, 813 Winnipeg children were living in foster care (Manitoba Child and Family Services, 1988). Thus, foster care appears to be a frequently used resource for protecting children from maltreatment.

Unfortunately, while foster placements are defined as "temporary" settings they typically are not short term (Proch & Howard, 1986) and the child must deal with prolonged separation from natural parents. For example, in the United States in 1980, two thirds of foster children had been in care longer than 1 year and one third longer than 5 years (Fanshel, 1982; Maluccio & Fein, 1985; Milner, 1984).

Even more troubling is the fact that multiple placements are the norm rather than the exception (Maluccio & Fein, 1985). One half of all placements breakdown within 18 months (Humphrey, 1988) and children average four placements over their tenure as a foster-child (Cooper, Peterson & Meier, 1987). Reasons for placement breakdown are varied. Most often cited are foster-parent reactions to child behaviour problems, reactions precipitated by a gradual wearing away of the foster-child foster-parent relationship (Simms, 1989; Stone & Stone, 1983). However, the relationship between the foster-parent and caseworker is also often cited as a strong predictor of success/failure of any placement (e.g., Proch & Taber, 1985). Fosterparent skills, flexibility, and willingness to work with the caseworker are strong predictors of success (Cautley & Aldridge, 1975).

Foster-care is a resource under siege (e.g., Frank 1980). Articles have described children rejecting foster-care and turning to 'street life' (Cox, 1990). Critics have also depreciated foster-care as a

transitional resource which impedes permanent resolution (permanency planning) through adoption or a return to the home of biological parents (Maluccio, 1987; Seltzer & Bloksberg, 1987). However, children do become integrated into foster-homes, recover some developmental delay, and show some reduction in behaviour problems (Barth & Berry, 1987), and the rates of placement breakdown are lower than in cases of children returned to their biological parents (Barth & Berry, 1987; Rzepnicki & Stein, 1985). Foster-care is therefore, a valuable resource needing further refinement and support (Stein, 1985).

The literature suggests foster-parenting needs further role definition, more professionalization (Pasztor, 1985), and greater inclusion in the communications among treatment resources focused on a foster-child. Foster-parents are too often isolated, untrained and placed in a difficult position as brokers of a child's relationship with themselves, their caseworkers and their past (Eastman, 1982; Humphrey, 1988; Gil, 1984). Foster-parents tend to be unclear about their role, primarily seeing themselves as replacement parents (Tinney, 1985). They and foster-children tend to not differentiate between foster-care and adoption (Tinney, 1985). Foster-parents tend to mistrust caseworkers and isolate themselves rather than form a working partnership (Pasztor, 1985). Caseworkers have been noted to have infrequent contact with foster-parents, and to do only superficial preparations for foster-parent accreditation (Minenko, 1993) and placement (Gil, 1984). Therapists have also been criticised for not recognising the relationship between a child's behaviour and their current adjustment to a foster placement (Katz, 1987). They also tend to not include the foster-parent in treatment partnerships (Katz, 1987; Molin, 1988). Research shows that children bond to adult parents with whom they have been residing for periods of 18 months or more (Molin, 1988). But if that placement ends, even for reasons of adoption, the child will have difficulty making another child-parent bond, may show increased developmental delay and behaviour problems may re-emerge. While successful attachment is a global criteria for successful placement, what does a caseworker and a therapist do to support a foster-parent when they become a child's fourth or fifth placement?

A foster child is likely to experience a series of tenuous relationships with care-giving adults (Berridge & Cleaver, 1987; Mann, 1984; Proch & Taber, 1985). Yet, multiple placements reduce the likelihood of a child socially connecting with adults, and thereby predict further placement disruptions (Simms, 1989; Stone & Stone, 1983). Placement disruption is has been correlated with developmental delay, increased behaviour problems and increased reluctance to become involved in the life of the new foster-family (Katz, 1987; Kunkel, 1983). It is no surprise that children in foster care tend to distrust adults (Frank, 1980; Hill, Bleichfeld, Brunstetter, Hebert & Steckler, 1989; Roberts, 1979; Salter Richardson & Kairys, 1985), and have deficits in social skills (Elmer, 1977; Hochstadt, Jaudes, Zimo, & Schachter, 1987; Kunkel, 1983).

Social Skills Training

Peer social skills training has improved the skills of children who have been physically abused to engage positively with their peers (e.g., Fantuzzo, Jurecic, Stovall, Hightower, Goins, & Schechtel, 1988; Kohler & Fowler, 1985; see Fantuzzo, 1990 for a review). However, there appears to be no evidence that peer social skills training has an impact on the child's relationships with either foster or natural parents. Parent training represents the tactic of bringing the children's pro-social behaviour under control of parent managed reinforcement contingencies (for reviews of this literature relative to abusive parents see Cohen & Daro, 1987; Smith, 1984; e.g., Wolfe, Sandler & Kaufman, 1981). While parent training for abusive parents can be effective (Wolfe et al., 1981), there are several parent-related factors (e.g., not participating, noncompliance, psychopathology and behaviour disorders) which appear to limit the contexts in which such parent training may benefit the boy who has been abused (Cohen & Daro, 1987; Jones, 1987; Kaplan, Pelcovitz, Salzinger, & Ganeles, 1983; Martin, 1980, 1982).

Thus the clinical validity of this proposed study is supported by three arguments. First, physical abuse occurs with an alarming frequency in Winnipeg, and as a result many boys enter into foster care. Second, the stability and success of foster placement appears to depend on whether the boys are able to gain support from fostering adults. Third, physically abused boys may have skill deficits which include gaining adult attention by performing unacceptable rather than praiseworthy behaviours.

APPENDIX B

Table B-1

Activities used in Training Sessions and Fosterhome Probes

Academic Tasks ^a

Comprehension Skills

Sentence Completion Complete the sentence e.g., He saw tracks on the? Also match words to phrases such that a sentence correctly describes a picture.

Match Pictures and Sentences. Pictures from magazines and sentences written on cards are drawn from a box and matched.

Developing Word Power

Match Words. Link the list of nouns with a word form the list of words best describing it (e.g., knife . . sharp).

Play Activities

Drawing, Play doh^f, card games, Leggo^f, pogs, paper airplanes.

Note: ^a Tasks adapted from Learning activities for reading, 4th ed., S. E. Herr, 1982, Iowa: Wm. C. Brown Co.

APPENDIX CInter-observer Reliability (IOR):

During observer training, the observer of adults obtained 100% retest agreement on Praise, and other concurrent codes at 76% agreement or better. The observer of boys coded cues for praise at 100% agreement and other codes at 90% or better during training. . During the study, IORs on adult praise ranged from 72 to 100% (\bar{M} = 83%). IORs for boys getting attention ranged from 80% to 100% (\bar{M} = 95%), and cuing for praise ranged from 70% to 100% (\bar{M} = 90%). No decline in IORs was detected over time.

Table C-1

Definitions of Codes for Boys' Behaviour

Get Attention CODE 1 Any direct and explicit request for attention. Excludes any initiating of contact which does not enquire whether the adult is actually available.

Examples: "Are you free?", "Can I show you something?", "Got a minute?".

Negative CODE 2 Verbal and non-verbal statements indicating anger, refusal or discouragement.

Examples: "This is bad!", "Rats!", pushing, pulling away, saying 'no', swearing.

Interaction CODE 3 Any attempt to initiate or maintain some type of mutual contact (other than by negative behaviour). Includes expressions of attention, interest, but only when none of the other categories apply. Also includes gestures or proximity which communicates attention or interest. Also includes category formerly called questions: any request for information where the request is not negatively stated.

Examples: answering a question, naming objects, handing object to adult, physical contact.

Cue-help CODE 4 Any request for help or indication that assistance is needed. Code as cue-negative if negatively stated. May be a statement or a question. Supersedes question category.

Examples: "I need your help.", "Can you show me?", "What am I supposed to do?", "I don't get it."

Cue-negative CODE 5 Statements by the boy to an adult inviting unfavourable comments or negative evaluations of the child's work or general behaviour. Any negative (Code 2) which invites adult criticism.

Examples: "See how I can't do this.", "You aren't going to like this."

Cue for praise CODE 6 Cuing for praise is defined statements by the boy to an adult "inviting favourable comments or positive evaluations of the child's work or general behaviour". The cue may be in the form of a statement, question, or non-verbal gesture. Cue may be unprompted or prompted.

Examples: "Here it is.", "See this.", "Did I do well?", "is this OK?".

Signal Distress CODE 7 Any expression of sadness, pain, hurt feelings which is not anti-social by nature.

Examples: Crying, "I feel sad".

Checking Work CODE 8 Boy checks over work. Is observed placing a checkmark, or a sticky paper, on his work (signifying he has indeed checked it over). Checking work pre-empts independent play activity.

Independent play CODE 9 Boy is playing or working alone and not interacting with anyone. Therefore excludes both interaction and parallel play. Also excludes play that is compliance.

Examples: Child sits w/back to adult & plays. Boy silently looks at, handles toys.

No response CODE 0 No occurrence of the above behaviours. Boy is neither playing nor responding to an interaction.

Table C-2

Superordinate Categories of Boy Behaviour Articulated by this Coding Scheme

Interaction							Check Work	Independent Play	No Response
Cue Praise	Cue Help	Cue Negative	Express Distress	Negative	Get Attention	Interaction			
6	4	5	7	2	1	3	8	9	0

Superordinate Categories of Adult Behaviour Articulated by this Coding Scheme

Interaction	Interaction						Active Observation	Wait	No Response
	Command		Nurture	Negative	Praise	Assist			
	Command	Prompt							
3	4	6	1	2	5	7	8	9	0

Table C-3

Definitions of Coded Adult Behaviours

Nurture CODE 1 Any form of nurturance including soothing, comforting, cuddling, stroking, feeding.

Negative CODE 2 Includes both verbal statements and non-verbal actions indicating discouragement, nonacceptance and/or disapproval of the boy's behaviour. Includes the correcting of mistakes.

Examples: "No, don't", "Stop", "You can do better", "I'm busy."

Interaction CODE 3 A verbal or non-verbal attempt to initiate or maintain mutual contact, that contains none of the above categories (Commands, Prompt, Assistance, Question, Praise or Negative):

Examples: 'Mmm-Hmmm'; handing object to boy, physical contact.

Command CODE 4 Direct commands or statements which include imperatives or which imply a command and include an interrogative. Includes declarations of how time will be spent in the sessions. Excludes prompts to cue and giving of directions or assistance on how to do things.

Praise CODE 5 Includes both verbal statements and non-verbal actions indicating encouragement, acceptance, and/or approval of the child's behaviour,

Examples "Good", "That's fine", head nod.

Prompt CODE 6 Directions to cue or to perform elements of the cue response chain. This is a command to do something specific to the target behaviour. All other prompts are commands. Includes instructing on how to cue, providing cue examples or asking boy to provide examples. Includes any invitation to answer a question where it is implicit that the boy will be affirmed, receive positive evaluations or favourable comments once they have responded.

Examples: "Tell me how you did that.", "How did you do that.?"

Assistance CODE 7 Giving of explanations on how a task is done, how a toy works or a problem might be solved. Any type of helping behaviour.

Examples: "Here let me show you.", "This needs to happen this way."

Active Observation CODE 8 Watching the child while the child is not interacting with her. If mother talks then active observation becomes something else.

Wait CODE 9 Direct command or signal that boy must wait for the adult's attention. If adult signals that attention is not available but does not indicate the boy should wait and try again, then it is coded as a negative. Wait is coded solely in response to a request for attention

No Response CODE 0 Scored when no occurrence of above categories. Mother is neither interacting nor observing child.

Notes. Adapted from "The response class matrix: A procedure for recording parent-child interactions" by E. J. Mash, L. Terdal and K. Anderson, 1981, in Barkley, R. (Ed.), Hyperactive children. (pp 419-437). New York: The Guilford Press.

APPENDIX D

Table D-1

The Eyberg Child Behavior Inventory (ECBI)

Table D-2

ECBI Intensity and Problem Scores

<u>ECBI</u> ^{a, d}	Allen		Bob		Chuck	
	<u>Int.</u> ^b	<u>Prob.</u> ^c	<u>Int.</u>	<u>Prob.</u>	<u>Int.</u>	<u>Prob.</u>
Assessment	217	24	143	26	151	17
Pre Phase B	186	17	101	10	155	17
Pre-Phase C	149	18	86	15	137	5
Completion	167	16	116	14	171	22

Notes. ^a Eyberg Child Behavior Inventory. ^b Int = Intensity. ^c Prob = Problem Score, ^d Norms for clinical and nonclinical samples; Intensity $\bar{M} = 137.2$ $sd. = 38.3$, $\bar{M} = 103.8$ $sd. = 34.6$; Problem $\bar{M} = 15$ $sd. = 9.6$, $\bar{M} = 6.9$, $sd. = 7.8$. From "The Standardisation of an Inventory of Child Conduct Problem Behaviours", by E. A. Robinson, S. M. Eyberg, & A. W. Ross, 1980, Journal of Clinical Child Psychology, 9, pp. 22-28.

The ECBI is an easy-to-use, reliable and sensitive indicator of conduct problem behaviour (Eyberg, 1985). It has a high index of internal consistency (Eyberg & Robinson, 1983). It also has demonstrated satisfactory concurrent validity (Boggs, Eyberg & Reynolds, 1990), construct validity and convergent validity (Sechrest, 1984). In particular, convergent validity has also been demonstrated by significant correlation with observations of mother-child interactions (Webster-Stratton & Eyberg, 1982). Sensitivity of the ECBI has been supported by its ability to discriminate between clinical problem-behaviour children and non-problem-behaviour children (Eyberg & Robinson, 1983), and covary with clinical changes recorded by direct observation (Eyberg & Robinson, 1982; Webster-Stratton, 1988; Webster-Stratton, Kolpacoff & Hollinsworth, 1988).

The ECBI required foster-mothers to rate the frequency of a 36 item list of noncompliant, aversive, asocial and hyperactive behaviours using a seven point scale ranging from 1 (never) to 7 (always) (see Table D-1).

ECBI Intensity Scores (See Table D-2) reflected a large drop in conduct problems across phases. A large proportion of that drop occurred between initial data points and the data collected at the end of baseline. The final Intensity Score provided by Chuck's mother was very high, and coincided with particularly stressful events in Chuck's life.

ECBI Problem Scores also dropped significantly for Allen and Bob between Assessment and beginning of Training. This suggests the boy's behaviours had become less problematic to the foster-mother. Problem Scores from Chuck's foster-mother suggested that, at the end of the study, his behaviours had become of increasing concern. With the exception of Chuck's third data point, Problem Scores remained within the norms for clinical populations.

Parent Daily Report (PDR).

The PDR (Chamberlain & Reid, 1987) is a list of 34 items, 33 of which are child behaviours, the other being 'parent spanking' (See Table D-3). The sum of all occurrences of problematic items forms a PDR Target Score. The sum of all items checked forms a PDR Total Score.

EYBERG CHILD BEHAVIOR INVENTORY

Directions: Below are a series of phrases that describe children's behavior. Please (1) circle the number describing how often the behavior currently occurs with your child, and (2) circle either "yes" or "no" to indicate whether the behavior is currently a problem.

	How often does this occur with your child?							Is this a problem for you?	
	Never	Seldom	Sometimes	Often	Always	YES	NO		
1. Dawdles in getting dressed	1	2	3	4	5	6	7	YES	NO
2. Dawdles or lingers at mealtime	1	2	3	4	5	6	7	YES	NO
3. Has poor table manners	1	2	3	4	5	6	7	YES	NO
4. Refuses to eat food presented	1	2	3	4	5	6	7	YES	NO
5. Refuses to do chores when asked	1	2	3	4	5	6	7	YES	NO
6. Slow in getting ready for bed	1	2	3	4	5	6	7	YES	NO
7. Refuses to go to bed on time	1	2	3	4	5	6	7	YES	NO
8. Does not obey house rules on own	1	2	3	4	5	6	7	YES	NO
9. Refuses to obey until threatened with punishment	1	2	3	4	5	6	7	YES	NO
10. Acts defiant when told to do something	1	2	3	4	5	6	7	YES	NO
11. Argues with parents about rules	1	2	3	4	5	6	7	YES	NO
12. Gets angry when doesn't get own way	1	2	3	4	5	6	7	YES	NO
13. Has temper tantrums	1	2	3	4	5	6	7	YES	NO
14. Sasses adults	1	2	3	4	5	6	7	YES	NO
15. Whines	1	2	3	4	5	6	7	YES	NO
16. Cries easily	1	2	3	4	5	6	7	YES	NO
17. Yells or screams	1	2	3	4	5	6	7	YES	NO
18. Hits parents	1	2	3	4	5	6	7	YES	NO
19. Destroys toys and other objects	1	2	3	4	5	6	7	YES	NO
20. Is careless with toys and other objects	1	2	3	4	5	6	7	YES	NO
21. Steals	1	2	3	4	5	6	7	YES	NO
22. Lies	1	2	3	4	5	6	7	YES	NO
23. Teases or provokes other children	1	2	3	4	5	6	7	YES	NO
24. Verbally fights with friends own age	1	2	3	4	5	6	7	YES	NO
25. Verbally fights with sisters and brothers	1	2	3	4	5	6	7	YES	NO
26. Physically fights with friends own age	1	2	3	4	5	6	7	YES	NO
27. Physically fights with sisters and brothers	1	2	3	4	5	6	7	YES	NO
28. Constantly seeks attention	1	2	3	4	5	6	7	YES	NO
29. Interrupts	1	2	3	4	5	6	7	YES	NO
30. Is easily distracted	1	2	3	4	5	6	7	YES	NO
31. Has short attention span	1	2	3	4	5	6	7	YES	NO
32. Fails to finish tasks or projects	1	2	3	4	5	6	7	YES	NO
33. Has difficulty entertaining self alone	1	2	3	4	5	6	7	YES	NO
34. Has difficulty concentrating on one thing	1	2	3	4	5	6	7	YES	NO
35. Is overactive or restless	1	2	3	4	5	6	7	YES	NO
36. Wets the bed	1	2	3	4	5	6	7	YES	NO

Table D-3

The Parent Daily Report (Initial Problem Checklist)

Please put a checkmark after any of these behaviours which have been problems for this foster-boy.

Behaviour	Yes	Behaviour	Yes
Aggressiveness	___	Noncomplying	___
Arguing	___	Not eating meals	___
Bedwetting	___	Pants wetting	___
Competitiveness	___	Pouting	___
Complaining	___	Running around	___
Crying	___	Running away	___
Defiance	___	Sadness	___
Destructiveness	___	Soiling	___
Fearfulness	___	Stealing	___
Fighting w/sibs	___	Talking back	___
Firesetting	___	Teasing	___
Hitting others	___	Temper tantrum	___
Hyperactiveness	___	Whining	___
Irritableness	___	Yelling	___
Lying	___	Police contact	___
Negativism	___	School contact	___
Noisiness	___	Parents spank	___

Boy's Name, _____, Date ____, Your Initials _____.

Table D-3 continued.

The Parent Daily Report (Daily version)

Put a checkmark after any of these behaviours which have occurred in the previous 24 hours.

Behaviour	Yes	Behaviour	Yes
Aggressiveness	___	Noncomplying	___
Arguing	___	Not eating meals	___
Bedwetting	___	Pants wetting	___
Competitiveness	___	Pouting	___
Complaining	___	Running around	___
Crying	___	Running away	___
Defiance	___	Sadness	___
Destructiveness	___	Soiling	___
Fearfulness	___	Stealing	___
Fighting w/sibs	___	Talking back	___
Firesetting	___	Teasing	___
Hitting others	___	Temper tantrum	___
Hyperactiveness	___	Whining	___
Irritableness	___	Yelling	___
Lying	___	Police contact	___
Negativism	___	School contact	___
Noisiness	___	Parents spank	___

Boy's Name, _____, Date ____, Your Initials _____.

Notes. From "Parent observation and report of child symptoms" by P. Chamberlain and J. B. Reid, 1987, Behavioral Assessment, 9, p. 99.

Reliability of the PDR is variable. Of concern is that PDR reports from the first day are typically inflated and unreliable (Chamberlain & Reid, 1987). Inter-parent reliability's are moderate on average and highly variable (Christensen et al., 1980). A final concern is that the items form not one but rather four interrelated subscales under cluster analyses (Aggression, Immature, Unsocialized and Retaliation; Chamberlain & Reid, 1987). In spite of these concerns, the PDR would appear to be a reliable measure of one adult's awareness of boys behaviours at home. Chamberlain and Reid (1987) report that there is a high temporal stability to the measure. Item by item agreement and Total Score correlation of test and retest (one and two week periods) are both high. They also report that stable estimates of home behaviour can be achieved with six reports over a two week period.

The PDR scores would appear to have good concurrent and construct validity. Chamberlain and Reid (1987) reported significant correlation with indices of child aggression, conduct problems and being less relaxed⁷. PDR Target Scores have also shown associations with aversive behaviour⁸, (Chamberlain & Reid, 1987). Concurrent validity is supported by PDR scores indicating significant pre to post treatment changes in child behaviour (Christensen et al., 1980; Patterson, Chamberlain & Reid, 1982). Concern has been expressed that PDR Total Scores may be influenced by self-report biases (Chamberlain & Reid, 1987) and by parental expectancies (Patterson et al., 1982).

APPENDIX E

Measuring Treatment Acceptability and Satisfaction

Treatment acceptability. Item from the Treatment Evaluation Inventory (TEI) (Kazdin 1980) have been found to have acceptable internal reliability and load on one factorial dimension. Reviews describe the TEI as reliable, but there is concern that much of the information about the relation between TEI scores and various treatments is based on the attitudes of undergraduate students, not parents or social workers (Cross Calvert & Johnston, 1990; McMahon & Forehand, 1983). Items which appear vulnerable to these criticism were not used.

Consumer satisfaction. The satisfaction with treatment received is a separate issue from the acceptability of treatment (Cross Calvert & Johnston, 1990; Kiesler, 1983; Parloff, 1983). Satisfaction is an outcome measure. The two items used from the Client Satisfaction Questionnaire (CSQ) (Bornstein & Rychtarik, 1983) are listed in Table E-2.

Table E-1

The Treatment Evaluation Inventory^a

Please complete the items listed below. The items should be completed by placing a checkmark on the line under the question that best indicates how you feel about the treatment. Please read the items very carefully because the checkmark accidentally placed on one space rather than another may not represent the meaning you intended.

1. How acceptable do you find this treatment to be for the child's problem behaviour?

_____	_____	_____	_____	_____	_____	_____
Not at all acceptable.			Moderately acceptable			Very acceptable

3. How suitable is this procedure for children who might have other behavioral problems than those described for this child?

_____	_____	_____	_____	_____	_____	_____
Not at all suitable.			Moderately suitable			Very suitable

5. How cruel or unfair do you find this treatment?

_____	_____	_____	_____	_____	_____	_____
Very cruel			Moderately cruel			Not at all cruel

7. How consistent is this treatment with common sense or everyday notions about what treatment should be?

_____	_____	_____	_____	_____	_____	_____
Very different or inconsistent			Moderately consistent			Very consistent with everyday notions

Table E 1 Continued

The Treatment Evaluation Inventory^a

8. To what extent does this procedure treat the child humanely?

_____	_____	_____	_____	_____	_____	_____
Does not treat humanely at all			Treats them moderately humanely			Treats them very humanely

10. How much do you like the procedures used in this treatment?

_____	_____	_____	_____	_____	_____	_____
Do not like them at all			Moderately like them			Like them very much

11. How effective is this treatment likely to be?

_____	_____	_____	_____	_____	_____	_____
Not at all effective.			Moderately effective			Very effective

12. How likely is this treatment to make permanent improvements in the child?

_____	_____	_____	_____	_____	_____	_____
Unlikely			Moderately			Very likely

15. Overall, what is your general reaction to this form of treatment?

_____	_____	_____	_____	_____	_____	_____
Very negative			Ambivalent			Very positive

Notes. ^a Items from "Acceptability of alternate forms of treatments for deviant child behaviour" by A. E. Kazdin, 1980, Journal of Applied Behaviour Analysis, 13, pp. 259-273.

Manual for
Boy #2

Foster Boy Social Skills Training
Baseline 90

Table E-2

The Client Satisfaction Questionnaire (CSQ)

Please^b help us by answering some questions about the services you have received. We are interested in your honest opinions, whether they are positive or negative. We also welcome your comments and suggestions. Thankyou very much, we appreciate your help.

CIRCLE YOUR ANSWER

To what extent has our treatment^a met your needs?

4	3	2	1
Almost all of my need have been met	Most of my needs have been met	Only a few of my needs have been met	None of my needs have been met

In an overall, general sense, how satisfied are you with the service you received?

4	3	2 Indifferent or mildly dissatisfied	1
Very satisfied	Mostly satisfied		Quite dissatisfied

Note. ^aThe word treatment replaces the word program.

^b Taken from Philip H. Bornstein and Robert G. Rycharik, 1983, Consumer satisfaction in adult behaviour therapy: Procedures, problems, and future perspectives. Behaviour Therapy, 14, 191 - 208.

Table E-3

Client Satisfaction and Treatment Evaluation form for Boys.

(Pre-treatment Version)

Boys will circle the responses to these questions in the presence of the trainer.

What do you think these meetings might be like?

Tough	No	Maybe	Yes
Boring	No	Maybe	Yes
Scary	No	Maybe	Yes
Strange	No	Maybe	Yes
OK	No	Maybe	Yes
Good	No	Maybe	Yes
Fun	No	Maybe	Yes
Happy	No	Maybe	Yes

Do think these meetings will be easy or hard?

Very hard Hard Not hard A bit easy Easy Very Easy

Were you clear about what Carole will want you to do?

No Not really Mostly Yes

Do you think what you learn will be help you get along in your foster home?

No Not likely Might be. For sure.

Table B-5 continued

Do you think other boys would enjoy these meetings?

Never! Not likely Not sure Maybe Some would Lots would For sure!

Is it easy or hard for you to get your fostermom to notice you?

Very hard Hard A bit hard Not hard A bit easy Easy Very easy

Is it easy or hard for you to talk to your fostermom?

Very hard Hard A bit hard Not hard A bit easy Easy Very easy

Is it easy or hard to get grown-ups to notice the good things you do?

Very hard Hard A bit hard Not hard A bit easy Easy Very easy

Do you think these meetings could help you get along with grown-ups?

No! Its worse. No, its not better Not much help A bit of help Helped more than a bit. It has helped Helped Alot!

Would it be a good idea to get along better with grown-ups than you now do?

No way! I doubt it Maybe Not Not sure Maybe Yes I think so. Yes!

Would it be a good idea to talk more or talk less with grown-ups?

Way less talk Less talk A bit less talk No change A bit more talk More talk Way more talk

Table E-4

Client Satisfaction and Treatment Evaluation form for Boys.
(During clinical intervention Version)

Boys will circle the responses to these questions in the presence of the trainer.

Do these words describe this meeting?

Tough	No	Maybe	Yes
Boring	No	Maybe	Yes
Scary	No	Maybe	Yes
Strange	No	Maybe	Yes
OK	No	Maybe	Yes
Good	No	Maybe	Yes
Fun	No	Maybe	Yes
Happy	No	Maybe	Yes

Did you find today's meeting easy or hard?

Very hard Hard Not hard A bit easy Easy Very Easy

Are you clear about what Carole wanted you to do today?

No Not really Mostly Yes

Do you think what you learned today might be helpful in your foster home?

No Not likely Might be. For sure.

Do you think other boys who would enjoy these meetings?

Never! Not likely Not sure Maybe Some would Lots would For sure!

Table E-5

Client Satisfaction and Treatment Evaluation form for Boys.
(Post-treatment Version)

Boys will circle the responses to these questions in the presence of the trainer.

Do these words describe the meetings you attended here?

Tough	No	Maybe	Yes
Boring	No	Maybe	Yes
Scary	No	Maybe	Yes
Strange	No	Maybe	Yes
OK	No	Maybe	Yes
Good	No	Maybe	Yes
Fun	No	Maybe	Yes
Happy	No	Maybe	Yes

Did you find these meetings easy or hard?

Very hard Hard Not hard A bit easy Easy Very Easy

Were you clear about what Carole wanted you to do during this meetings?

No Not really Mostly Yes

Do you think what you learned might be helpful in your foster home?

No Not likely Might be. For sure.

Table E-5 continued

Do you think other boys who would enjoy these meetings?

Never! Not likely Not sure Maybe Some would Lots would For sure!

Is it easy or hard for you to get your fostermom to notice you?

Very hard Hard A bit hard Not hard A bit easy Easy Very easy

Is it easy or hard for you to talk to your fostermom?

Very hard Hard A bit hard Not hard A bit easy Easy Very easy

Is it easy or hard to get grown-ups to notice the good things you do?

Very hard Hard A bit hard Not hard A bit easy Easy Very easy

Do you think these meetings have helped you get along with grown-ups?

No! Its worse. No, its not better Not much help A bit of help Helped more than a bit. It has helped Helped Allot!

Would you do this program again if you had a chance?

No way! I doubt it Maybe Not Not sure Maybe Yes I think so. Yes!

Do you talk more or less than when you started this program?

Way less talk Less talk A bit less talk No change A bit more talk More talk Way more talk

APPENDIX F

Trainers Manual

Baseline

First Session Date _____

During baseline there is no adult response protocol to a child behaviour. However, observe the following guidelines.

Explain the session	Note that he will be video'd. "We will do things like you did when you first visited here with your fostermom <i>name</i> ."	Check when done —
Have boy select play activity	Play with the boy as you normally would if you had free time.	
Chose an alternate activity after 15 minutes.	Interrelate to the boy in a manner consistent with the activity	
At the end of 30 minutes:	Give boy client satisfaction sheet & help him fill it out. Thank the boy & let him know when the next session is.	
As you go, record the number of times you praise the child	_____ _____	

Comments _____

Give the boy the 'during intervention' version of the client satisfaction questionnaire

Baseline

Session Number _____ Date _____

During baseline there is no adult response protocol to a child behaviour. However, observe the following guidelines.

Explain the session	"We will do things like you did when you were here last.	Check when done —
Have boy select play activity	Play with the boy as you normally would if you had free time.	
Chose an alternate activity after 15 minutes.	Interrelate to the boy in a manner consistent with the activity	
At the end of 30 minutes:	Give boy client satisfaction sheet & help him fill it out. Thank the boy & let him know when the next session is.	
As you go now, record the number of times you praise the child	_____ _____	

Comments _____

Training to use varied Responses

Behaviour Sequence.

antecedent (boy)	behaviour (me)	consequence (boy)	behaviour (me)
working at praiseworthy behaviour	prompt to cue	cue for praise	praise
OR if no prompt is necessary			
working at a praiseworthy behaviour	attending to the boy	cue for praise/wait	praise
OR if same cue used twice			
	prompt to use another cue	uses alternate cue	praise

After 5 error free cues, the boy will be directed to cue for praise in a different way each time.

Step 1 Congratulate the boy & introduce the next step

You have really picked up the basics of getting grown-ups to notice the good.
I suggest you make grown-ups even more curious about the good stuff by pointing out different things each time you do something.
Look at the response prompt sheet. See all the ways written on this sheet? Lets write in a couple of ways that you can think of saying things.
OK. Lets see how it works.

Step 2 Resume trials.

Step 3 Prompting.

If the same cue is repeated. "That is what you said last time. Can you use another way of getting me to look?"

If there is no cue within 5 sec. Prompt as before.

Training under these conditions will continue until 10 consecutive error-free tasks have been completed or the end of a 30 minute training session has been reached.

Trainer Prompt Sheet

Remember, in this session they must do the same as last time, that is asking for my attention and then cueing for praise. They must also however use a different question each time to get my attention.

Prompts you can use Prompts you can use Sample Praises
to have them ask for to have them cue
attention

Are you busy?	<u>Praiseworthy task</u>	<u>Praising their</u>
Do you have a moment?	Tell me what you did well.	<u>performance.</u>
Got a second?	Show me the good part.	That is pretty. Neat.
		Oh. Look how you figured it out.

I want to show you something.	<u>Praiseworthy behaviour</u>	<u>About their behaviour</u>
I have something to show you.	Show me how you worked.	Good job. You worked hard.
I want you to check something.	Show me what you thought up.	You worked neatly. You sure did some thinking.
	Show me how you did it.	You stayed with it 'til you had it figured out.

Can we talk?
Can I butt in?
Hey Carole?
Can you look at this?

I need you.
I'm waiting to talk to you.
Are you free?
Will you be free soon?

General praises
Great.
I like that.
I'm impressed.
You did well.
Hey, well done.

Training to use the S-R chain

Each boy will have the response chain explained and will be given a rationale such as "It is important that people notice the good things you do. These are the things that you can do to make that happen." The boy will then be directed to do a simple task. Then he will be told to check whether he has done it well and if so to put a check-mark beside the diagram. He then should look at the trainer and say "Can I show you something" and wait for a response. In the first drawing the trainer will respond "Yes". The boy will either cue for praise or be prompted to do so. The trainer will verbally praise the boy for each step correctly taken.

Step 1. Congratulate the boy & introduce the next step.

You have really picked up the skill of getting an adult like myself to notice what you do well. I am impressed. Now we will look at how to get others to do this noticing. Sometimes other people are not already talking to you, they are doing something else, and it takes more work to get them to notice the good things you do. Right?

OK. Here is what I suggest we do to practise getting others to notice the good things you do.

First, we will work and play as usual.

Second, after every little thing you do and maybe even more often than that, check over what you are doing, even put a little sticky with a checkmark beside it to show you did that.

Then, try to get my attention so you can show me something. I will pretend to be busy until you ask me to notice. We will make a game of it!

When you get my attention, then you can show me what you do well.

Behaviour Sequence for First Trial

antecedent (boy)	behaviour (me)	consequence (boy)	behaviour (me)	comment
working at praiseworthy behaviour				
evaluating quality of work does he make a check?				
asking for adult's attention	yes	cue for praise	praise	
<u>Note.</u> Also praise for every step done correctly.				

Describe the task that you asked him to do.

Training to wait & the S-R chain

Second trial

Step 2. Congratulate and explain waiting.

Good. You have the hang of it. Now, I am going to make it a little more realistic. I bet you notice that sometimes grown-ups are busy and when you call for them they do not come and look right away. Right?

So, I will be busy too. Sometimes I will say OK, when you ask for my attention, and sometimes I will say, hang on a minute. Then I will do busy stuff for a bit of time before saying, "OK what was it you wanted?" Lets try it.

On the second drawing you say "Wait". After 5 seconds the you will say "Yes, you can show me now".

Using a variable interval schedule, the trainer will respond to the boy's request for attention; either saying "Yes" or requiring the boy to "Wait" 15 or 30 seconds. Every 15 minutes, the child is to change tasks.

Prompting Throughout the training sessions, the trainer will prompt for any steps incorrectly performed and direct the boy to try again with a new diagram.

Praise At completion of the task praise the boy for each step completed correctly.

After 4 perfect tasks the trainer will fade the extent of detail in praising the boy, from praising correct performance of every step in the response chain, to only saying "I can see you have learned this skill well" and then praising the boy noting the qualities of the praiseworthy task.

Checking their work After doing the task, they must check their work and put a checkmark on a sticky pad to show me that they've checked it over. I will then remove the sticky and put a check right on the work to show that I've seen that they've checked it.

Criterion 4 trials then drop praise of each steps. A further four perfect trials completes criterion.

Trainer Prompts

When explaining the S-R chain:

- keep the explanation simple: "There are four things I want you to do here with me. 1) work at the task, 2) check your work, 3) ask me to look, and 4) show me the good parts." - explain he is to physically make a checkmark on the sticky when he's done checking it.

Always repeat the steps they've done correctly and the cues they've used in order to reinforce the process and the idea of using varied cues.

Ask them "What other things could you have said to get my attention. Well how about ... Go ahead. Try asking me that one."

Make sure I say to them how pleased I am that they did everything that I asked them to do:

- then restate: you checked your work, asked for my attention, then asked me to see how good you did.

Remember to not let the boy work at one task the entire time without cuing for praise:

- keep prompting him "I can see that you've been working really hard and I'd like to see what you've done. How about if you show me something good that you've done?"

Training to wait and use the S-R chain.

Session # _____, Date _____

antecedent (boy)	behaviour (me)	consequence (boy)	behaviour (me)	comment Length of wait
working at praiseworthy behaviour	?			
evaluating quality of work.	?	make a check mark?		
asking for adult's attention	yes/wait	cue for praise/wait	praise	5 sec wait
<p>Record under each column the steps for each trial and whether you praised or prompted for each step. Also, write in the length of waiting for each trial (Right column).</p> <p>Trial number & Yes, check, cue prompt or: wait activity, & ask for wait, or or : attention. or ? : waiting :praise :duration</p>				
2				

CRITERION OF FOUR ERROR FREE TRIALS THEN DO NOT CUE EVERY STEP. A FURTHER FOUR ERROR FREE TRIALS COMPLETES CRITERION

Introduce Functional Mediators

Date

antecedent TASK	behaviour (check?)	consequence (get attn?)	WAITING TIME (0, 15, 30)	cue

I. Remind them of the S-R chain.

II. Tell them this is stuff they can do more of at home.

Congratulate him on cuing during previous probe.

III. In this session:

A. Tell them the things he can take home.

B. Use his tasks if he brought any.

C. 1. For the play, use playdough & set a criterion of four. If he is able to complete and cue four stickers during the play time he can take the sticker sheet home (and use it during the home session).

1. For the tasks, use our tasks and reward him with stickers (not the colouring ones). If he gains seven stickers he gets to take the sticker sheet home .. again to use in the home session. If he doesn't do seven, then he takes home everything he has earned, but the remaining stickers wait until next week.

D. Tell him frequently that he is to do this at home.

E. Get him to tell you that he will do it at home and to say explicitly what he will do.

F. Do not prompt for cues for praise. At the beginning, tell him that he has to earn the four, and then the five stickers and that he only gets a sticker for doing things right.

Manual for
Boy #2

Foster Boy Social Skills Training
S-R Chain 106

APPENDIX G

Salient Stimuli

Is this okay?

See how well I did?

Manual for
Boy #2

Foster Boy Social Skills Training
S-R Chain 108

See how hard I worked?

name

See how much I did?

See how good this looks?

Manual for
Boy #2

Foster Boy Social Skills Training
S-R Chain 110

Look I did it.

name

Manual for
Boy #2

Foster Boy Social Skills Training
S-R Chain 111

APPENDIX H

Instruction sheet supplied to foster mothers during phase CD

Date _____

Set a target number of times the boy will do this four step sequence in each 15 minute activity. In our experience, 6 times is a high rate and two times is a low rate.

Step:

- 1) Doing any activity that provides opportunities to do things well (Praiseworthy behaviour).
- 2) Self-evaluating quality of their work.
- 3) Asking for adult's attention. (Calling your name. "Excuse me." "Can I show you something?").

(Sometimes you have to ask them to wait because you are also doing something important).

Wait Sequence(seconds): 0 15 30 15 30 0 30 15 0 30 15.

(Circle each one as it is used).

- 4) Cue for praise. (The boy must show you what it is that he thinks he has done well and wants you to see.).

When the boy completes each step he uses the stamp and check-off sheet to remind himself of what he has done correctly.

If the boy gets confused or forgets to do the sequence within a reasonable amount of time, the adult prompts the boy by pointing out which step he hasn't done. If he hasn't done any step, the adult points out something the boy did well and could have showed them.

If you are choosing play tasks, chose those that allow the frequent showing of things well-done. Things well-done can be good card moves, good guesses in a game. Drawing, modelling and building things are very good activities. When doing academic sheets, make sure the activity is broken up so that there are frequent opportunities to show you what was done well.

For your counting records, check off the number of times the boy actually does the sequence.

Play period: 1 2 3 4 5 6 7 8

Activity: 1 2 3 4 5 6 7 8

At the end of the session the boy receives one sticker for each sequence done correctly and without prompting (No partial credits).

¹ Brown and Odom (1994) correctly point out that prompts create a self-managed mediating stimulus only if the child's behaviour has been known to correspond to prior descriptions of what they would do in the generalization setting. Without such correspondence (or correspondence training) prompts are a weak generalization strategy.

2. Allen's fostermother was debriefed after the second and fourth probe because sessions could not be encoded any quicker. Bob's and Chuck's fostermother's were debriefed between sessions.
3. The trainer tended to underestimate the number of cues.
4. Wilcoxon nonparametric signed ranks test found a similar distribution of task and play setting cues across phases ($z = -.74$, $p > .45$).
5. A.N.C.O.V.A results PDR Total Scores.
Covariate Time: $F(1,155) = 3.804$, $p < .053$
Main effects: $F(5,155) = 5.412$, $p < .000$.
Design: $F(3,155) = 3.037$, $p < .031$.
Boy: $F(2,155) = 9.887$, $p < .000$.
Interaction: $F(6,155) = .739$, $p < .619$.
6. A.N.C.O.V.A. on Target Scores.
Covariate Time: $F(1,155) = 2.500$, $p < .116$.
Main effects: $F(5,155) = 8.201$, $p < .000$.
Design: $F(3,155) = 2.846$, $p < .040$.
Boy: $F(2,155) = 17.554$, $p < .000$.
Interaction: $F(6,155) = .965$, $p < .451$
7. Becker Adjective Checklist. See "Selective responsiveness to social reinforcers and deviant behaviour in children.", by G. R. Patterson and B. I. Fagot, 1967, The Psychological Record, 17, 369-378.
8. Total Aversive Behaviour. A behaviour category in the Family Interaction Coding System (FICS). For further information on the FICS see G. R. Patterson, R. S. Ray, D. A. Shaw, & J. A. Cobb, 1969, Manual for coding of family interactions. New York: Microfiche Publications.