Development and Validation of Problem Behavior Management Checklist

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Abstract
Background: There are many tools for identification and listing of problem behaviors in children. What is unavailable is a checklist on how parents manage them. This study attempts to describe the development and validation of the Problem Behavior Management Checklist for use by laypersons and professionals.
Materials and Methods; A 100-item checkliston commonly reported handling techniques as stated by 310 respondents were extracted from case files of children with developmental disabilities seeking clinical services at the investigating institute. The data was then submitted to coding, condensation, categorization, classification, frequency counts, correlation, and linear regression analysis.
Results: The analysis of overall scores, their distribution against the four categories of respondents (fathers, mothers, teachers, and therapists), age groups of children (<=4 years, 4+ to 8 years, and 8+ to 12 years), and their gender revealed high R^2 above 70% of the data fitting the regression model with F-test values (p=<.001). Domain-wise analysis across six demarcated categories shows strong to very strong direct linear regression relationship between predicted and observed data for "Child-Directed: Verbal and Denial" as compared to moderate direct relationship for "Child-Directed: Physical" strategies used for problem behavior management of children. There is no predictor relationship for the use of "Child-Directed: Yielding, Excess, and Self-Directed" tactics. The inter-rater and test-retest reliability agreement was satisfactory for both total scale and scores on each of the sub-scales. A panel of experts qualitatively assessed face and content validity. Test norms are derived.
Conclusion: The developed and validated tool is shown to be psychometrically robust with adequate reliability, and validity as screening instrument as well as therapeutic aid for making a quick listing of problem behavior management techniques frequently used by parents or caregivers of children with developmental disabilities.
Key Word: Challenging Behaviors; Maladaptive Behaviors; Behavior Assessment; Consequence Mapping; Scale Validation.

I. INTRODUCTION

Complaints of problem behaviors are ranked second after speech-language difficulties by both parents and teachers in children with intellectual and developmental disabilities[1-3]. In a study on parent perception of causes and management of problem behaviors, violent-destructive behaviors followed by rebellious behaviors were reported more frequently and viewed as due to the child's clinical condition than due to their poor handling or other environmental factors[4]. The parents were reported to prefer costly material or edible rewards than inexpensive, readily available social rewards like praise, approval, or affection[5]. A formal 75-item Behavior Assessment Scale for Children with Mental Retardation (BASIC-MR, Part B)[6] turned obsolete and necessitated the development of another 100-item Problem Behavior Survey Schedule (PBSS)[7-8].

Problem behavior identification and management are perceived differently by parents, teachers, and therapists for the same children under focus[9].Significant differences and inverse correlations are seen between informants on all aspects of reporting frequency, intensity, and types of problem behavior, prioritizing, and listing rewards. For example, mothers reported the highest number of problem behaviors in their children compared to teachers, fathers, and therapists. There is a blurred distinction between skill and problem behaviors for many respondents. Observed mismatch or gaps between targeted teaching objectives are known to lead to the emergence of problem behaviors[10]. Barriers and facilitators are reported in the service providers, receivers, and processes of implementing home-based problem behavior interventions for their children[11].

While handling children, apart from asking what behaviors are problematic, where, when, with whom, and how frequently they occur, more pertinent questions would be what happens after the behavior, or how they are handled? A study identified 55 types of consequences reported by parents as the aftermath of problem

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behaviors in a clinical sample of 25 children[12]. Another study reported how caregivers use nearly 75 forms of physical, psychological, and social coercion on children in their home, school, or neighborhood settings[13]. There are many standardized behavior assessment tools, both Indian and Western available for use. What is missing is an exclusive tool to measure management techniques used by caregivers to handle problem behaviors in their children.

Some available measures, listed separately[13], focus on felt or perceived coercion during participation in psychiatric treatment and prison populations. A few are related to coercive parenting of problem behaviors in children. A tool to measure parent handling techniques is Parent Behavior Inventory (PBI)[14]. This self-report or others' report observational rating scale, used on parents of preschool and young school-age children, covers two independent scales: supportive/engaged and hostile/coercive handling techniques. Coercive parenting is strongly associated with later development of conduct problems in children[15-16]. Poor parenting is the basis for problem behaviors in children[17]. Aggression develops in families when parents use coercion as a primary mode of controlling their children[18-19]. Thus, bad parenting is viewed as *criminogenic*, implying how ineffective handling could likely produce low self-control in their children[20].

Against this background, it was the general aim of this study to develop and validate a tool for screening, identification, or listing of reported management tactics reportedly used by caregivers to handle problem behaviors in their children with intellectual and developmental disabilities (CWIDD) to eventually serve as an aide in planning their remediation programs. The specific objectives of this study were:

1. To peruse the available individualized behavior assessment reports on problem behaviors in CWIDD in the investigating agency;
2. To prepare a comprehensive list of reported management techniques used by caregivers to handle problem behaviors in their CWIDD;
3. To codify, condense, and classify the reported management techniques into a meaningful taxonomy of categorical domains as used by caregivers to handle problem behaviors in their CWIDD;
4. To submit the collected data for the next layer of frequency, correlation and linear regression analysis;
5. To generate meaningful inductive categories and domains of problem behavior management techniques (PBMT) used on CWIDD;
6. To establish the reliability and validity indices of the developed tool;
7. To arrive at an objective-measurable problem behavior management index with empirical norms; and,
8. To profile the measured outcome scores against associated demographic variables like respondents, age, and gender of the caregivers.

II. MATERIAL AND METHODS

Study Period, Design & Location:

This cross sectional exploratory survey-cum-tool development and validation exercise was undertaken by using mixed methods of drawing from the available sample with the investigating agency covering a period between January 2018-December, 2019. The agency is a consulting and service hub for extending diagnosis, certification, and rehabilitation activities, including home-based, clinic-based, and special school-based therapies. Post graduate students and interns in speech-hearing and psychology are trained under supervision to extend part of these services.Each participant underwent individual assessment through case history and diagnostic assessment combing inputs from a muti-disciplinary team of rehabilitation professionals according to ICD-10 criteria[21].

Operational Definitions:

A **problem behavior** is defined as negative, dysfunctional, maladaptive, undesirable or unwanted actions which are age or situation inappropriate, interfering in the learning of new behaviors, harmful to self or others, occurring in a magnitude sufficient to cause stress on others[22]. A problem behavior is different from a full-fledged clinically diagnosable condition like conduct disorder, or opposition defiant disorder[23]. A developmental, socio-cultural perspective is important for identification of problem behaviors in children[24]. Bed-wetting or fear of strangers is age appropriate for a given developmental stage, but becomes problematic at a later age. More than being a passing age-related phenomenon, problem behaviors can persist for long duration if left unresolved early in life.

Problem behavior management refers to the individualized package of techniques used by caregivers of affected children for implementation in their settings. Although such formal, step-wise, tailor-made, coordinated, customized, one-to-one, continual, non-coercive, non-aversive programs are available for identification, recording, analysis, and change for targeted behaviors[22, 25], this study chose to inquire mainly answer to the question on what was done immediately following the occurrence of a problem behavior.

Correlation and Linear Regression Analysis (LRA), as used in this study, refers to the statistical procedures of quantifying the direction and strength of the relationship between two or more independent variables

(respondents, age, and gender of the caregivers) and the dependent or outcome variable (i.e., PBMT). Simple linear regression relates X to Y through an equation of the form Y=a+bX. The correlation squared (R^2) represents the proportion of variation in Y explained by X[26].

Subjects:

This study covered 320 respondents including fathers (N: 84), mothers (N: 102), teachers (N: 78), and therapists (N: 56) handling 172 CWIDD in the age range between birth and 12 years (Mean Age: 7.24; SD: 3.44). The teachers were handling such children in their regular or special school or during coaching through home visits. The therapists were post graduate students in psychology or speech language pathology who provided one-on-one therapy to the affected clinical sample of children. The father-mother respondents, although involved separately during data collection, included single or both parents of the child.

Tools:

Initial data units collected in this study were answers to open-ended non-directive evocative questions: (a) List the specific problem behaviors in the child; (b) How do you manage or handle the occurrence of the problem behavior? The 100-item PBSS[7-8] was used to tick the reported presence or absence of problem behaviors during the evocative questioning. More than listing the problem behavior, the focus was on the question (b). The inter-rater reliability coefficient for PBSS is reported as 0.91 (p: <0.001) and 3-week test-retest reliability is 0.89 (p: <0.001).

Procedure:

The broad steps used in the development and validation of the tool were in conformity with standard tool development practices[27],viz., A. Item Generation and Development; B. Construction of the Scale including pre-testing the items, sampling and survey administration, item reduction, and extraction of domains; C. Scale Evaluation including the number of domains tested, establishing their reliability-validity.

1. Data mining involved the perusal of available case reports with the investigating agencyon problem behaviors and their handing by caregivers in CWIDD. Their collection, compilation, sorting, classification, condensation, and coding into a meaningful taxonomy of appropriate, orderly, well-defined, discrete or relatively homogeneous categorical domains was undertaken. Some items were added based on review of related literature, by engaging with subject experts or by reflecting and drawing upon the investigators' training and experience.

2. The respondents were individually inquired on how their child was handled in school, home or therapy settingupon the occurrence of a problem behavior. No comments were passed whether their reported techniques were right or wrong. The collected data sets were verbatim phrases. Their domain wise classification and categorization was then carried out with consensual validation between two coders not below the rank of doctorate in psychology and having ten years experience. Data collection was initiated after securing informed consent from the participants as mandated by the ethical guidelines in the investigating agency[28].

3. The initial candidate list of descriptors on problem behavior handling techniques reportedly used by respondents were scrutinized for repetitions, verbose descriptions, and rewritten in observable-measurable terms. The draft tool was then distributed to subject experts to critically evaluate the structure and content or suggest item reduction in the instrument through consensual validation.

4. The next layer of final field testing on a larger sample of respondents was tried before attempting a statistical treatment using correlation and linear regression analysis. This resulted in generation of a meaningful inductive hypothesis. Scoring used 5-point Likert scale as "never-seldom-sometimes-often-always" format. Later, the reliability-validity indices of the tool, an objective-measurable problem behavior management index and empirical norms were derived. A profile of the measured outcome scores against associated variables like nature of respondents, child-age, and gender was prepared.

5. Responses to the eventual 100-item PBMC were subjected to rank ordering, inter-coder reliability checks, an inter-correlation and linear regression analysis for overall sample, between-domain scores, and in relation to associated respondent variables. All data entry, consolidation, mining and analysis were carried out on IBM SPSS Statistics, 16.0[29].

6. The weighting of ranks is undertaken either in ascending or descending order. In ascending order, the most important criteria is given rank 1, the second criterion rank 2 and so on. Weighted ranks are simple to compute and have asymptotic chi-square distributions. The weights obtained can be further processed to derive correlation coefficients[30].

III. RESULTS

This section is arranged in the following distinct but inter-related sub-headings: (a) Overall; (b) Domain-wise Scores; (c) Relationship with Respondent Variables; (d) Item Analysis; (e) Norms; and (f) Reliability & Validity.

(a)   Overall:
The overall sample (N: 310) of CWIDD included 174 boys (56.13%) and 136 (43.87%) girls, or those falling in the age range of <=4 years (N: 89; 28.71%), 5-8 years (N: 108; 34.84%), and 9-12 years (N: 113; 36.45%). Information was collected from either father (N: 84; 28.71%), mother (N: 127; 40.97%), teacher (N: 45; 14.52%), or therapist (N: 56; 18.07%). The distribution of mean frequencies and variation across domains for the overall sample (Table 1) emerged as the use of two major strategies for managing problem behaviors: (i) **'child directed'** and (ii) **'self-directed.'**The 'child-directed'strategies covered the use of verbal (such as, advising, lecturing, or explain), physical (such as, spanking, or handcuffing), yielding (such as, giving edibles carrying, or consoling), denial (such as, postponing, ignoring or refusing), and excess (such as, forcing or giving imposition) tactics. Examples of self-directed techniques are abstaining from food, harming or punishing themselves). Results   show that the use of child-directed yielding (Mean: 141.69; SD: 49.82) are most frequently used followed by the use of child-directed verbal (Mean: 75.38; SD: 54.63), and child-directed denial (Mean: 141.69; SD: 49.82) strategies, although these trends are not statistically significant (Table 1; p: >.05).

Table no1: Distribution of Mean Frequencies and
Variation across Different Domains (N: 310)

Domains	Key	Number of Items	Frequency Count	Mean	SD
Child-Directed Verbal	CD-V	29	2186	75.38	54.63
Child-Directed Physical	CD-P	23	1110	48.26	38.02
Child-Directed Yielding	CD-Y	16	2267	141.69	49.82
Child-Directed Denial	CD-D	9	481	53.44	28.63
Child-Directed Excess	CD-E	13	454	34.92	28.32
Self-Directed	SD	10	428	42.80	15.94
Overall		100	6926	69.26	54.20

($F_{(5, 94)}$ =13.159, p >.05)

(b)   Domain-wise Scores:
The number of items generated across different domains is unequal. Apparently, there are more child-directed verbal items (N: 29) and least number of child-directed denial items (N: 9). Therefore, an inferential statistic measure in terms of inter-correlations and regression equations was calculated to establish relationships between observed data and the predicted variable of PBMT used (Table 2). Results show a "very strong direct relationship" for child-directed denial items (R^2: 0.84), "strong direct relationship" for child-directed verbal items (R^2: 0.83), and "moderate direct relationship" for child-directed physical items (R^2: 0.36). The other domains do not emerge as predictor variable in this study.

Table no 2: Inferential statistics for domain-wise analysis for overall sample

Domain	Regression Equations	Inter Correlation Matrix			R^2	Coefficient of multiple correlation	Relationship Between predicted & observed data
Child Directed: Verbal	$F_{(1,27)}$ =128.33, p <. .001)	1.00			.83	.91	Strong Direct Relationship
		.83	1.00				
		.91	.91	1.00			
Child Directed: Physical	$F_{(1,21)}$ =11.56, p <. .002)	1.00			.36	.60	Moderate Direct Relationship
		.38	1.00				
		.60	.86	1.00			
Child	$F_{(1,13)}$ =33.43,	1.00					Very Strong

Directed: Denial	p <. .001)	.31	1.00			.84	.92	Direct Relationship
		.50	.81	1.00				
Child Directed: Yielding	$F_{(1,7)}$ =2.30, p <. .17; NS)	1.00				.25	.50	Not a Predictor
		-.04	1.00					
		.76	.52	1.00				
Child Directed: Excess	$F_{(1,8)}$ =4.15, p <. .07; NS)	1.00				.34	.59	Not a predictor
		-.34	1.00					
		.70	-.08	1.00				
Self Directed	$F_{(1,11)}$ =10.53, p < .007; NS)	1.00				.49	.70	Not a predictor
		.19	1.00					
		.59	.41	1.00				

(c)   Relationship with Respondent Variables:

A simple linear regression was calculated to predict (PBMT, the dependent variable) based on: (i) type of respondents (father, mother, teachers or therapists); (ii) child age groups; and (iii) gender of child (Table 3). Results show significant regression equation [$F(2, 97)$ =160.42, p <.001], with R^2 of 0.77 for type of respondents' as equal to -3.126 + 0.050 (fathers), +0.0949 (mothers), +0.0949 (teachers), and 0.3125 (therapists) respectively. With regard to child three age groups, a significant regression equation was found [$F(2, 97)$ =115.33, p <.001], with R^2 of .70 for the participants' predicted PBMT being equal to 4.05-0.38 (5 to 8 years), +1.29 (9-12 years) respectively. In relation to the gender of child also, significant regression equation was found [$F(1, 98)$=475.78, p <.05), with R^2 of .83 to predict PBMT as equal to 2.07+0.81 between boys and girls.

Table no 3: Inferential statistics for overall sample and against the studied variables

Variable/s	Regression Equations	Inter Correlation Matrix				F-Values	R^2	Coefficient of multiple correlation
Overall	Y is: $\hat{y}$ = -0.38355X_1 + 1.28581X_2 + 4.05438							
Respondents	Y = -2.781091 + 0.112671 X_2 + 0.327564 X_3	1.00				$F_{(2, 97)}$ =160.42, p <. 0.001)	0.77	0.88
		0.73	1.00					
		0.82	0.80	1.00				
		0.84	0.71	0.79	1.00			
Age Groups	Y = 4.054383 - 0.383549 X_1 + 1.285812 X_2	1.00				$F_{(2, 97)}$ =115.34, p <. 0.001)	0.70	0.84
		0.55	1.00					
		0.83	0.77	1.00				
Gender	Y = 2.067727 + 0.811367 X_1					$F_{(1, 98)}$ =475.78, p <. 0.001)	0.83	0.91

(d)   Item Analysis

Although there are 100 items in the final count of the PBMC (Table 4), results for the overall sample show that respondents are mostly "yielding to demands of their children" (Rank 1; N: 210 out of 310; 67.74%), "give edibles" (Rank 2; N: 207 out of 310; 66.77%), "put on TV, songs, rhymes, or favourite music" (Rank 3; N: 199 out of 310; 64.19%), "give an activity' (Rank 4; N: 197 out of 310; 63.55%), "demand apology or insist on saying sorry: (Rank 5; N: 196 out of 310; 63.22%), and so on.

The analysis of contents by **gender** for boys in this sample were found to be pacified after a problem behavior by "yielding to their demands" or "giving edibles, water or candy," followed by use of tactics like "putting on television, songs, rhymes, or favourite music" and "advice, talking to them or telling them don't do," "explaining, lectures, sermons or talks," "scolding or verbal abuse" and "demanding an apology or insisting on saying sorry." Contrast this with girls being handled by giving an activity, pencils to scribble, cycling or crayons to colour." In relation to **age**, the adopted PBMTs are found to be different for the younger than older children. For example, children <=4 years are reportedly handled by use of techniques like "hugging, seating them on lap, rubbing their back, soothing, supporting, or kissing" and "diverting attention.", "giving edibles, water or candy," or "putting on television, songs, rhymes, or favourite music." Older children are advised, talked to, explained, lectured, sent to play outside, or demanded an apology. In relation to **informant variable,** teachers and therapists typically report the use of PBMTs like giving an activity.

Table no 4: A rank-cum-frequency distribution of
reported problem behavior management techniques

Item	Domain	Item	N	Rank	WR
		N→	**310**		
53	CD-Y	Yield to demands	210	1	67.7
54	CD-Y	Give edibles/water/candy	207	2	66.7
55	CD-Y	Put on TV, songs, rhymes, favourite music, pictures on laptop or movies	199	3	64.2
56	CD-Y	Give activity, pencils to scribble, cycling, or crayons to colour	197	4	63.6
1	CD-V	Demand apology or insist on saying sorry	196	5	63.2
57	CD-Y	Hug , seat on lap, rub their back, soothe, support, or kiss	184	6	59.4
2	CD-V	Advice, talk to him or tell don't do	184	6	59.4
30	CD-P	Divert or distract attention	169	8	54.5
3	CD-V	Scold or verbally abuse	167	9	53.9
4	CD-V	Demand explanation, reason, or ask why	165	10	53.2
5	CD-V	Explain, lecture, sermon, or talk to him or demo a good, options or alternative	156	11	50.3
58	CD-Y	Send to play, parks, tickle, or play with him	155	12	50.0
59	CD-Y	Give material inducements like money, i-pad, phone, or mobile	148	13	47.7
60	CD-Y	Allow child to play outside	148	13	47.7
61	CD-Y	Pacify	148	13	47.7
62	CD-Y	Buy things for child	129	16	41.6
6	CD-V	Stare in anger or show angry face	127	17	41.0
78	CD-E	Hit, spank, beat, slap, pinch, or snap with rubber band or tell sib to hit	124	18	40.0
7	CD-V	Nag persistently or tell repeatedly	123	19	39.7
69	CD-D	Postpone, procrastinate or make child wait excessively	120	20	38.7
8	CD-V	Shout back or raise their voice	118	21	38.1
63	CD-Y	Console	118	21	38.1
9	CD-V	Plead, bargain, compromise, strike a deal, beg, coax or request to behave well	108	23	34.8
31	CD-P	Show a stick, scale, candle, incense stick, or fire	104	24	33.6
64	CD-Y	Put the child to sleep	104	24	33.6
32	CD-P	Restrain physically, tie, pin down, or hold hand tightly	99	26	31.9
65	CD-Y	Give rewards for good behavior or non-occurrence of problem behaviors	99	26	31.9
66	CD-Y	Carry child outside, lift or take them out, go out	93	28	30.0
67	CD-Y	Leave the child alone to his/her way	91	29	29.4
33	CD-P	Deny/deprive food, dinner, water, or other essentials	82	30	26.5
10	CD-V	Dictate term, say a firm No, Stop, or Shut Up!	81	31	26.1
34	CD-P	Keep things away	72	32	23.2
91	SD	Shout at spouse or scold parents or siblings	69	33	22.2
35	CD-P	Seclude, send out, or seat separately	65	34	20.9
70	CD-D	Promise new dress or things to give later or postpone gratification	64	35	20.6
71	CD-D	Deny chocolates, games, or favourites	63	36	20.3
11	CD-V	Praise, say I love you, you are good child, pet or show love and affection	62	37	20.0
36	CD-P	Run behind or after the child	58	38	18.7
72	CD-D	Disallow participation in social events, outings, picnic, or extra-curricular events	58	38	18.7
95	SD	Harm or punish themselves	58	38	18.7
13	CD-V	Compare with peers who behave well or perform better	57	41	18.4
37	CD-P	Seat inside drum, in a height, or lock in room, bathroom, dark	56	42	18.1

		place, or garage			
14	CD-V	Avoid him or refuse to talk to child	55	43	17.7
38	CD-P	Drive out of house or say get out of class	55	43	17.7
39	CD-P	Push child away	55	43	17.7
92	SD	Threaten to leave home	55	43	17.7
15	CD-V	Tell a story with morals in it	54	47	17.4
16	CD-V	Joke, wit, humour, laugh or smile at the child's antics	53	48	17.1
17	CD-V	Demand apology, pledge, or oath in front of gods	53	48	17.1
93	SD	Plead helplessness, don't know, sob or cry themselves (emotionally blackmail)	52	50	16.8
18	CD-V	Threaten to put in hostel or residential school	47	51	15.2
73	CD-D	Refuse to yield to demands	47	51	15.2
99	SD	Remain silent, ignore or look away	45	53	14.5
79	CD-E	Force child to do sit ups to specific count	44	54	14.2
80	CD-E	Intimidate by showing flame, insects, pour hot oil, water, wax or spin the child	44	54	14.2
19	CD-V	Insist on seeking permission	42	56	13.6
40	CD-P	Make them undo the mistake	39	57	12.6
96	SD	Do exactly the same as the child	39	57	12.6
100	SD	Do nothing/dot know what to do	39	57	12.6
74	CD-D	Place unachievable conditions for yielding	38	60	12.3
12	CD-V	Say or do opposite of what is to be done	37	61	11.9
20	CD-V	Limit topics of discussion	37	61	11.9
68	CD-Y	Bring child back home	37	61	11.9
21	CD-V	Tell child to cry more	35	64	11.3
22	CD-V	Call names, humiliate, ridicule, degrade, or demean	34	65	10.9
75	CD-D	Boycott, isolate or segregate	34	65	10.9
81	CD-E	Humiliate by make them beg in public, graze cattle or perform menial work	33	67	10.7
82	CD-E	Apply chilli powder, neem, bitter paste or spray vinegar into mouth	31	68	10.0
23	CD-V	Make false accusations, scapegoat or blame child for all incidents or problems	31	68	10.0
41	CD-P	Discontinue pocket money or maintenance allowance	31	68	10.0
42	CD-P	Wrap in blanket, tie with belt, handcuff, chain, or ropes to restrict movement	29	71	9.4
24	CD-V	Show other kids at play	29	71	9.4
25	CD-V	Play mind games or set them to fail	29	71	9.4
26	CD-V	Threaten branding, injection, not to send, inform authority figures	29	71	9.4
76	CD-D	Withhold affection or disown as ones child	29	71	9.4
83	CD-E	Write an imposition to specific count	29	71	9.4
77	CD-D	Stop school. tuitions or coaching	28	77	9.0
43	CD-P	Hand over to others	28	77	9.0
27	CD-V	Put to shame or embarrass	27	79	8.7
28	CD-V	Superficial charming or indulge in sweet talk	27	79	8.7
84	CD-E	Walk or run in field for specified duration	27	79	8.7
85	CD-E	Stand in hot sun	27	79	8.7
44	CD-P	Destroy child's cherished personal belongings or possessions	25	83	8.1
97	SD	Deny/deprive food or dinner for themselves	25	83	8.1
86	CD-E	Compel, overdo or flooding like force feed	24	85	7.7
87	CD-E	Squirt lemon in eyes	23	86	7.4
29	CD-V	Make shrewd compromise or negotiations	23	86	7.4
47	CD-P	Give drug, sedate or straight jacket	23	86	7.4
48	CD-P	Burn camphor in their own palm as appeasement to gods	23	86	7.4
94	SD	Say that they will die if the child does not mend his/her ways	23	86	7.4
98	SD	Instruct child to hit back	23	86	7.4

45	CD-P	Monitor child's activities, set spies, put them on physical/virtual surveillance	21	92	6.8
46	CD-P	Physically shake up the child	21	92	6.8
49	CD-P	Poke, pinch, prick, or brand with incense sticks or acid	18	94	5.8
88	CD-E	Insist they carry heavy weights	18	94	5.8
89	CD-E	Hold ice in hand	15	96	4.8
90	CD-E	Insist on drinking urine or smelling excreta	15	96	4.8
50	CD-P	Disfigure, smear charcoal, apply soot on face, tonsure or tattoo on body	15	96	4.8
51	CD-P	Put on dunce cap	12	99	3.9
52	CD-P	Undress in public	8	100	2.6

[KEY: CD-V: Child Directed-Verbal; CD-P: Child Directed-Physical; CD-Y: Child Directed-Yielding; CD-D: Child Directed-Denial; CD-E: Child Directed-Excess; SD: Self Directed]

(e)   Norms:

As mentioned, the scoring on the PBMT is carried out on a 5-point Likert scale using the "never-seldom-sometimes-often-always" format which equates numerically as "zero-one-two-three-four-five." The minimum score on the tool is zero when no problem behaviors are reported. The maximum theoretically possible score is 500 when all handling tactics are used. The raw scores derived in this study were normalized using weighted ranks and averages. This is done by assigning numerical weighting score based on the frequency of their choices or relative importance for a given item in the studied sample. For example, the item #53; yield to demands; N: 210 out of 310; Rank #1; WR: 67.7; appears to be doubly more important or frequently reported by caregivers than for the item #66; carry child outside, lift or take them out, go out; N: 93 out of 310; Rank #28; WR: 30.0. it is important to acknowledge that different respondents (fathers, mothers, teachers, and therapists) rate the same item differently. On the whole, for a given instance, the scale is to be administered, the weighted rank scores are to be totaled for all the items, and checked against the norms given under table 5.

Table no 5: Interpretative norms for PBMT

Sl. No.	Description	WR Range	Rank Range
1	Never	39-68	1-20
2	Seldom	19-38	21-40
3	Sometimes	12-18	41-60
4	Occasionally	9-12	61-80
5	Always	3-8	81-100

[KEY: WR: Weighted Rank]

(f)   Reliability & Validity:

The intra-observer 2-week test-retest reliability for PBMT estimated by using Pearson's Correlation on a randomly chosen sub sample of 48 cases across respondents, age and gender showed a correlation coefficient of .93 (p: <0.001). The face validity of the tool as confirmed by exerts was rated as high. Cronbach's alpha correlation coefficients of reliability between domains varied between .50 and .91. Kuder Richardson 20 (KR-20) estimates as internal consistency coefficient of 0.86 confirmed the homogeneity of item pool included in this checklist. This implies that the domains are independent of one another.

IV. DISCUSSION

Many theories explain the origin, development, maintenance and psychopathology of problem behaviors in children. The *expectancy value theory* explains how children behave based on the outcomes they expect and the value they ascribe to those expected or anticipated. Across the board, expectations of greater rewards relate to more of the target behavior. The *social learning theory* views problem behaviors as learned by modelling or observation and reinforced over time. The *family systems theory* views problem behaviors as not so much due to individual intra-psychic factors as by their place in a system, such as, their family, school or community. *Problem behavior theory*, used to explain adolescent than childhood behaviors, suggests that there are both internal and external factors covering three systems: the perceived-environment system, the personality system, and the behavior system responsible for encouraging or protecting the child to maintain the symptoms. In the perceived environment system, there are peers, parents, or others who support or do not disapprove their problem behaviors. In the personality system, there are temperamental traits like low self-esteem, low academic achievements, or low moral development.

Caregivers may be paying attention to bad behavior, having no rules or plan for disciplining them. Other common mistakes in handling problem behaviors of children are, not communicating expectations clearly,

being inconsistent in handing, waiting too long to intervene assuming that time and patience will resolve the problems on their own, expecting solutions in a jiffy, asking "why" they did like that, continuing to use the same techniques repeatedly even when their use did not work earlier[31]. Sometimes, the parenting practices are erroneous. They may be using techniques like scolding in public, giving vague instructions, nagging, bribing, shaming, or bargaining with the child to behave well, expecting too quick results, over-pampering or over protection, not giving time, placing no trust on them, withholding affection, being a poor example themselves, or it may be only all advice and no encouragement.There is a growing argument that parenting practices, such as hyper parenting[32-33], uninvolved parenting[34], or coercive parenting[13, 35] are often the unreported cause of problem behaviors in their children[12]. There are grounds to believe that the child's problem behavior is possibly an outcome or indication of a deeper malaise in parents and their families. Why must the child be always made the end-receiver of diagnosis and treatment? It could be that the child's so-called "bad" behavior is only a reflection of "bad" parenting.

As shown in this study, problem behavior management techniques used by caregivers vary for the same child. Mothers of three-year old reported as less likely to use positive and pre-emptive strategies but used more of reactive strategies after the occurrence of the problem behaviors which on follow-up continued even up to age five in their children[34]. Inter parental agreement on child behavior problems was consistently low for their 3-13 year old children with mothers reporting more than fathers[37]. Some parents take the whole action of raising children so personally that they are likely to interpret the problem behaviors as a sign of one's own incompetence or failure. There is a tendency for few of them to over-react. They may declare: "Mom is not going to talk to you hereafter!" or "No more TV for a month!" Of course, none of these diktats will be followed even for a moment. Many parents are likely to have faulty assumptions of disciplining. It could be that they have no faith in their children to learn and grow or their thinking that children must "pay" for their mistakes than "learn" from their mistakes[38].

The use of punishment strategies, more than rewards, can cause resentment, hostility, self-centred behavior, encourage dishonesty, and prevent children from developing their inner moral compass. A critical question that emerges from the foregoing is whether it is all abut the problem behavior of the child or their ineffective handling by the parent? It is easy and customary to take the problem child to a specialist and get them diagnosed as "disorder of conduct and emotion," "attention deficit disorder," or even "autism spectrum disorder". However, has there ever been what could be possibly even called "parenting skills disorder?"[39]. It may not always be parents, since teachers have also been implicated for faulty handling of problem behaviors in children[40].

V. CONCLUSION
In sum, the validation of 100-item PBMT in this study is expected to be a useful instrument to strengthen, plan, formulate, implement and evaluate problem behavior intervention practices in home and school settings.

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