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Assessing Specific Discipline Techniques: A Mixed-Methods Approach

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Abstract This study explored, in a community sample of mothers of toddlers, parenting beliefs and values, to gain insight into the parent–child relationship. Acceptance of specific discipline techniques (DTs), and their actual use in daily life were examined. A mixed-methods approach comprising three different methods was used: (1) parenting beliefs and values were explored with Q-methodology; (2) acceptance of the DTs was assessed with the questionnaire Dimensions of Discipline Inventory; and (3) actual use of those DTs in daily-life incidents of discipline was documented using ecological momentary assessment for ten consecutive days. The results showed the mothers' parenting beliefs and values reflected a warm parent–child relationship. The mothers rated explaining rules, timeout, removal of privileges, and social reinforcement as moderately to highly acceptable. However, planned ignoring received a low acceptance rating. Mothers' high acceptability ratings of the DTs contrasted with moderate use when they were faced with their misbehaving child, with the exception of explaining rules, which was always manifested. Yelling and spanking received the lowest acceptance ratings. Nonetheless, in daily life, yelling was employed as often as timeout. These findings suggest the need for more attention to be paid to both acceptance and daily use of specific DTs in order to highlight DTs which parents may have difficulty implementing.

Introduction

Parental discipline techniques have long been of interest to mental health professionals. Key reasons for this are discipline encounters present children with an important learning context of how to control themselves and others (Pettit and Bates 1989), and compelling evidence has demonstrated the crucial role of effective discipline techniques in promoting optimal child development (Kendziora and O'Leary 1993). Consequently, a major aim of many parenting interventions for preventing and treating children's behavior problems is to promote or teach skillful discipline behavior (for a review, see Woolfenden et al. 2001). This usually consists of disseminating information about evidence-based discipline techniques or training parents to use them (e.g., McMahon and Forehand 2003). In this paper, discipline techniques (DTs) refer to methods used to promote prosocial behavior or discourage misbehavior in the context of a discipline encounter.

Discipline effectiveness has generally been defined in two different ways in the literature. Researchers with the cognitive approach consider effective DTs as those which promote internalization—the voluntary adoption of moral values, attitudes, and/or requests of the discipline agent (e.g., Grusec and Goodnow 1994; Hoffman 1983; Kochanska 1995), while researchers with a behavior-modification perspective consider DTs which increase immediate compliance and/or

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decrease noncompliance as being effective (e.g., Apsche and Axelrod 1983; McMahon and Forehand 2003). Consequently, these two approaches favor different DTs. The cognitive-oriented perspective discourages using DTs based on the use of power by the adult, but emphasizes the need to provide a child with rationale for desired behavior and for ceasing to misbehave. Whereas, the behavior-modification viewpoint highlights the use of techniques such as positive reinforcement, (e.g., praise, reward), following desired behavior, and negative sanctions (e.g., timeout, privilege removal, and planned ignoring), which are often power-based, following misbehavior (e.g., Forgatch and Patterson 2010; McMahon and Forehand 2003).

There is supporting evidence from both research traditions of the effectiveness of their respective favored DTs in promoting the relevant child outcome. Data on the effectiveness of using reasoning in promoting internalization in children has mostly come from the developmental literature. For instance, in a middle-class sample, Hoffman and Saltzstein (1967) found the children of mothers who reported, retrospectively, using induction (i.e., reasoning with a child regarding the consequences of his or her misbehaviors for his or her peers or parents) when their child was aged 5, were more likely to be adolescents with increased internalization of moral norms, as reported by multiple sources (adolescent, teacher, and mother). Similarly, in both well and mentally-ill populations, Kochanska (1991, 1995) found maternal use of gentle discipline, defined as DTs which deemphasize a parent's power (e.g., reasoning, suggestions, polite requests), was associated with increased voluntary adoption of maternal request by young children with fearful temperament. The effectiveness of behavior-modification-favored techniques has been demonstrated in several ways. One is the success in reducing young children's noncompliant and oppositional behavior of parent behavioral training programs which teach those techniques as core skills (e.g., McMahon and Forehand 2003; Webster-Stratton 1998). There is also supporting empirical data showing praise (e.g., Kotler and McMahon 2004), timeout (e.g., Scarboro and Forehand 1975), privilege removal (e.g., Little and Kelley 1989), and planned ignoring (e.g., Davies et al. 1984) are effective when used skillfully in diverse populations of young children, including anxious-withdrawn, conduct-disordered and community children.

The parenting styles described by Baumrind (1971) reveal parents who are more successful in raising socially competent and adjusted children jointly use DTs favored by either theoretical approach. Baumrind's parenting styles are mainly based on two dimensions. One is responsiveness, which refers to being emotionally supportive of the child, expressing warmth, and responding favorably to the child's needs and demands. This in turn creates an emotional climate which promotes positive parent–child relationships. The second is demandingness, which describes parents' intentional promotion of their own codes of behavior, their readiness to confront a misbehaving child and their refusal to back down on their demands as a result of their child's coercive acts. Notably, Baumrind's conceptualization of parenting situates discipline within a framework which incorporates the parent–child relationship quality. The three main styles proposed by Baumrind are authoritarian, authoritative, and permissive. Both authoritarian (high demandingness and low responsiveness) and permissive (high responsiveness and low demandingness) parenting styles are associated with more adverse child outcomes. Whereas the authoritative parenting style (high responsiveness and demandingness) is associated with more optimal child outcomes. In their discipline efforts, authoritative parents use DTs favored by either theoretical approach. They use positive reinforcement techniques (e.g., praise, rewards) to promote desired behavior, they use negative sanctions (e.g., privilege removal, timeout), which are not overly punitive, to enforce their rules and discourage child misbehavior, and they use reasoning to legitimize their directives (Baumrind 1971; Baumrind et al. 2010). Authoritarian parents tend to rely overly on negative sanctions (including intensely punitive ones) which are often applied coercively (e.g., with yelling; Baumrind et al. 2010), without using reasoning to legitimize their requests or commands. Permissive parents avoid using negative sanctions and mostly use reasoning to deal with their children's misbehavior. One DT, spanking, which is a subset of physical punishment, has been the subject of much controversy (e.g., Baumrind et al. 2002; Gershoff 2002; Larzelere et al. 1997). While it is considered as ineffective in the cognitive-developmental approach (e.g., Gershoff 2002), researchers with the behavior-modification approach believe it is not more effective than less punitive negative sanctions, but that it has the potential to disrupt the parent–child relationship (e.g., McMahon and Forehand 2003; Roberts and Powers 1990). Authoritative parents have been reported to use normative spanking, which is mild and non-injurious, to correct their child's misbehavior (Baumrind et al. 2010).

Much research has focused on how parents differ on Baumrind's parenting styles (e.g., Coplan et al. 2002). Such research, however, only provides global information in that it assesses parent's general orientation across different interactions, including care-providing, support-providing, and discipline. Darling and Steinberg (1993) argue parents' parenting style determines the general emotional tone of the parent–child relationships, but does not tell us much about what parents do in specific domains (e.g., discipline). So to understand better parents' discipline behavior, one needs to examine their discipline practices.

Assessing Parents' Use of Specific DTs in the Toddler Years

Examining DTs of parents of toddlers is essential. Parents' interactions with young children often involve discipline situations (e.g., Patterson 1980) where limits need to be set and sometimes enforced. This makes discipline one of the major aspects of interactions between parents and their young children. Indeed, primary-care health professionals, such as pediatricians, are recommended to counsel parents on child rearing and discipline during routine health visits (e.g., Schuster et al. 2000). To this effect, a conceptual framework (Stein and Perrin 1998) has been proposed that considers effective discipline as a system which includes three vital elements: (1) supportive positive parent–child relationship that promotes learning; (2) proactive DTs for fostering desired child behaviors (e.g., positive reinforcement techniques: praise, rewards); (3) specific DTs for decreasing or eliminating undesired child behaviors (e.g., timeout, removal of privileges) when undesired behavior is manifested. Consistent with the spirit of Baumrind's conceptualization of parenting, this 3-part conceptual system highlights positive parent–child relationships as a necessary condition for promoting children's prosocial behavior by increasing children's self-worth, their sense of security and their willingness to cooperate with their parents. Indeed, much evidence indicates children are more cooperative, even in discipline issues, with adults with whom they have a positive relationship (e.g., Kuczynski and Hildebrandt 1997; Maccoby and Martin 1983). In contrast to Baumrind's demandingness dimension which is defined by firm control, a more general construct which does not always explicitly specify whether DTs are used to prevent or to correct child misbehaviors, Stein and Perrin (1998) provide a rationale for simultaneously examining specific DTs used by parents to either prevent or correct their children's misbehaviors. They argue positive parent–child relationships are unlikely to suffice to prevent or induce children to unlearn undesired behavior. To achieve such aims, these authors advocate a need to rely on preventive DTs (e.g., positive reinforcement strategies), to identify and strengthen specific behaviors which parents value and which are incompatible with undesired behaviors and to rely on specific evidence-based negative sanctions (e.g., timeout) for inducing children to unlearn undesired behaviors and teaching children that engagement in undesired behavior is associated with consequences. This 3-part conceptual model has the merit of drawing attention to the importance of examining preventive DTs alongside negative sanctions for misbehavior. More use of corrective than preventive DTs may be associated with increased behavior problems in children. Such discipline pattern has been found in mothers whose children present with behavior problems (e.g., Gardner et al. 1999). Stein and

Perrin (1998) also assert that more punitive sanctions, such as spanking are, at best, effective only when used infrequently. Put together, within this framework, a comprehensive understanding of parental discipline implies knowledge of the quality of the parent–child relationship and specific DTs used before (i.e., to promote desired behavior) and after (i.e., to decrease/eliminate undesired behavior) the occurrence of misbehaviors.

Parents' beliefs and values are believed to drive their parenting style (which impacts the parent–child relationships by the emotional climate created; Darling and Steinberg 1993) and their acceptance of specific discipline techniques (Forehand and Kotchick 1996). In fact, acceptance of DTs are likely to be influenced by what parents consider important and are committed to follow. So, an essential complement to this comprehensive approach includes shedding light on: (1) the parenting beliefs and values which influence the parent–child relationship quality, (2) the general acceptance of commonly recommended or discouraged DTs, and (3) their actual use in daily life. In the section that follows we discuss the potential usefulness of such additional information.

Parenting Beliefs and Values

For any description of socialization to be complete, it needs to include an examination of parents' beliefs about what they and their children are doing (Goodnow 1988). The beliefs parents hold may determine how invested they are in achieving positive parent–child relationships. Parents with more child-centered goals (e.g., desiring to satisfy the emotional needs of the child) have been reported to actively avoid creating a negative atmosphere which could hurt the parent–child relationship (Hastings and Grusec 1998). Also, what parents think their parenting role entails, their thoughts about how a child should act, and how to best bring up their child have been shown to impact their discipline behavior. For instance, Luster et al. (1989) found mothers of infants (9–23 months) who valued conformity more than self-direction favored more restrictive child behavior control strategies. Other studies, however, suggest that beliefs and values are unlikely to be linked with parents' actual behavior (e.g., Thompson and Pearce 2001). Mental states underlying behavior, it is argued, are often not tapped by the assessment of beliefs for the following reasons: (1) people tend to respond in a socially desirable way, and (2) beliefs are not readily accessible (for detailed discussion, see Goodnow 1988). Nonetheless, the interest of studying parenting beliefs and values is not limited to the possible connection between parenting beliefs and their actions: It would also reveal the intuitive psychology of the group being studied, which may provide insight into their acceptance and willingness to use specific DTs when included in a prevention or treatment package.

Acceptance of DTs

Acceptance of specific DTs could be defined as judgments by lay-persons, in this case mothers, of the appropriateness of those DTs for a particular age group. This is an extension of the "acceptability of treatment" construct commonly found in the behavior-modification literature (e.g., Blampied and Kahan 1992; Singh and Katz 1985). Admittedly, acceptance is likely to be influenced by parenting beliefs and values. However, the latter goes beyond the former and provides information on the perception of what is conventionally expected (see Singh and Katz 1985). Acceptance of specific DTs has been much studied in the context of parent behavioral trainings. Such research indicates a variation in acceptance of specific DTs across different countries (e.g., Njardvik and Kelley 2008), and demographic factors, such as ethnic groups (e.g., Borrego et al. 2007) and socioeconomic status (e.g., Heffer and Kelley 1987). Acceptance of DTs included in the intervention packages of parent behavioral trainings is believed to impact the outcome of such programs (e.g., Kazdin 2000). Parents having low acceptance of a DT are less likely to use it to manage their child's behavior (e.g., Njardvik and Kelley 2008). Many of the existing parenting programs have been developed in few countries, such as the USA (e.g., McMahon and Forehand 2003). Implementation of those programs in other populations requires examining their acceptance in general, and, specifically, the acceptance of the core DTs they teach in order to make modifications where necessary (Forehand and Kotchick 1996). Information about the acceptance of DTs is also relevant to preventive parenting interventions. It may help in making messages clearer and more culturally sensitive. Acceptance rates may help identify DTs that need to be elaborated upon to clarify any commonly held misconceptions and increase commitment to use the recommended DTs.

A Mixed-Methods Approach to the Study of Parental DTs

The use of a mixed-methods approach for exploring parental DTs is very promising. There is increasing consensus that mixed-methods research provides more complete and reliable information about a phenomenon (see Tashakkori and Teddlie 1998). This is because different data-collection methods have specific advantages and limitations as to their use.

Q-Methodology

Q-methodology is an approach for the study of individuals' viewpoints. It involves providing participants with the opportunity to draw a synthetic picture of themselves (Brown 1980) by ranking a selected number of important statements on the subject of interest, in this case, parenting beliefs, values and practices. This is followed by post-sorting interviews where participants are asked to provide the reasoning behind their perspective, thus offering rich information for the understanding of the latter. Indeed, this methodology is particularly suited to exploring parenting beliefs and values as it uncovers what is important, with respect to the statements presented, to parents from their own perspective, in contrast to positioning them on dimensions inspired by researchers' theoretical orientations (e.g., high or low on parental nurturance). The Q-sort technique has been reported to reduce the tendency of participants responding in a socially desirable way (Locke and Prinz 2002). The Child Rearing Practices Report (CRPR) is a 91-item self-descriptive Q-sort used with parents of children from pre-school age to adolescence. Much evidence indicates that descriptions of child rearing using the CRPR correspond to observed parenting behavior, and that the items adequately describe theoretical-rooted parenting styles (i.e., Authoritarian and Authoritative; e.g., Kochanska et al. 1989). The CRPR has been widely employed to examine different aspects of child rearing. These include continuity and change in parents' child rearing (e.g., Roberts et al. 1984), variations between functional and dysfunctional families (e.g., Trickett and Susman 1988), and child rearing differences of families living in different geographical locations (e.g., Lai et al. 2000). However, to our knowledge, no study so far has used the CRPR to examine parenting beliefs and values within the Q-methodology framework. Although the authors who developed this instrument employed the Q-methodology favored data analytical strategy (i.e., inverted factor analysis) to identify clusters of mothers with similar parenting beliefs and values, there was no mention of having conducted post-sorting interviews (Block 1965). Inasmuch as DTs are part of a constellation of behaviors guided by parenting beliefs and values, exploration of those beliefs and values, using the CRPR within a Q-methodology framework, has the potential to foster the understanding of parents' acceptance and actual behavior with respect to specific DTs.

Questionnaires

Survey, using questionnaires, is the most widely used method for the description of parental attitudes towards an issue (Holden and Edwards 1989). The use of self-report questionnaires is efficient in terms of time and effort, although there are some concerns: individuals are unlikely to recall their experiences accurately when required to give a response that averages the latter over a relatively long lapse of time (Trull and Ebner-Priemer 2009). Nonetheless, assessing parental acceptance of specific DTs, with the aid of a questionnaire, could be informative with respect to knowing parents' perception of those DTs.

Ecological Momentary Assessment (EMA)

EMA is within a framework which involves the collection of data on behavioral, psychological or physiological phenomena while individuals go about their daily lives (Trull and Ebner-Priemer 2009). It could be applied using paper diary (Nicholl 2010), handheld computerized devices (Ebner-Priemer and Trull 2009) or mobile phones (Courvoisier et al. 2010). Parental DTs are especially good EMA targets. The high frequency of discipline encounters in childhood reduces the likelihood of accurately remembering behavior manifested in different discipline situations. Thus, whereas DTs questionnaires that are administered once are likely to measure parents' global perception of DTs, EMA tracks their actual use in the course of testing.

Aims of the Study

To date, no study has examined, within a mixed-methods framework, parenting beliefs and values, parental acceptance of DTs, and their actual use in daily life. This study was designed to fill this gap by focusing on DTs either recommended by cognitive or behavior-modification approach (explaining rules, timeout, removal of privileges-take away toy/other privilege because of misbehavior, social reinforcement-praising child for ceasing to misbehave/good behavior, planned ignoring-deliberately not giving attention to misbehavior), or not generally recommended by either approach (yelling and spanking). The following questions were asked regarding our sample of community mothers: (1) Do their parenting beliefs and values reflect an overall positive parent–child relationship? (2) Do these mothers find the favored DTs by either cognitive or behavior-modification approach highly acceptable and reject yelling and spanking, irrespective of demographic factors such as child's age, sex, presence of siblings and mother's work status? (3) Do mothers frequently use the favored DTs and avoid yelling and spanking when faced with their child's misbehavior in their daily lives? (4) Is there a connection among mothers' beliefs and values, acceptance of specific DTs, and actual use of the latter in daily life discipline encounters?

Method

Sample

Recruitment of participants took place from January to December 2011 by an announcement describing the study's aims, inclusion and exclusion criteria, placed at Lausanne University Hospital, pediatrician practices and day-care centers. To participate, individuals were required to be mothers of toddlers aged 18–36 months and fluent French speakers. Exclusion criteria included any of the following conditions that increase risk for dysfunctional parenting: issues with the child protection agency; moderate to severe depression or being in treatment for depression; target child was born premature or had any identified developmental disorder.

Thirty-five mothers responded to the announcement. A short interview was used to screen for inclusion and exclusion criteria. Once eligibility was ascertained, all 35 mothers provided written consent. However, data for this paper are mainly from 32 mothers who participated in the EMA study. Mothers who participated were between the ages of 23 and 48 years ($M = 37$, $SD = 5.51$), were mainly Swiss (23 mothers, 72 %), with only a few Europeans (9 mothers, 22 %) and South Americans (2 mothers, 6 %). Mothers were married except for 1 single and 2 divorced mothers. About 80 % reported having a university degree, 81 % worked at least 3 days a week outside the home. Their toddlers' ages ranged between 18 and 35 months ($M = 27, SD = 6.24$), 41 % were males and 61 % were the only child. The three mothers who declined participation gave hectic home schedules as the reason for refusing the EMA part of the study.

Procedure

The local ethics committee approved the study protocol. Participants were asked to sort, at home, statements selected from the CRPR Q-sort and complete a back-translated version of the Dimensions of Discipline Inventory (DDI; Straus and Fauchier 2007) which served as the questionnaire measure. A week later, we invited participants to our lab to be interviewed about their ranking of the Q-sort statements. During this visit participants were also introduced to the general procedure of the EMA part of the study and they completed a training session on handling the EMA device: a HP iPAQ personal digital assistant. Questions were answered on the device using a stylus on a touch screen. Overall, the device administered 18 reports, starting on a Friday and spanning a period of 10 days. So, the reporting period included two weekends (3 daily reports: 11:30; 15:30; 19:30) and 6 week-days (1 daily report: 19:30). Until reporting was completed, acoustic reminders prompted participants. After completing the study, participants received feedback on the proportion of their use of each DT in daily life.

Measures

Assessing Parenting Beliefs and Values Using Q-Methodology

Forty-nine items, with regard to parenting beliefs and values, were selected from the 91-item CRPR. It is noteworthy that, despite the name of the CRPR, it mainly

assesses parenting beliefs and values (see Holden and Edwards 1989), so the current work has used this instrument for this purpose. The selection of those items was guided by the work of Deković et al. (1991) and Kochanska et al. (1989) (See Tables, 1, 2 and 3 for the items selected). Participants were given the French translation of the following written instruction: "In trying to gain more understanding of young children, we would like to know what is important to you as a parent and what kind of methods you use in raising your young child (target child). You are asked to indicate your opinions by sorting through a special set of 49 cards containing statements about bringing up children". The mothers were then required to sort the cards into five piles: 2 = "totally agree", 1 = "agree a little", 0 = "irrelevant/ambivalent", −1 = "disagree a little", −2 = "totally disagree". The number of required cards in each pile was 7, 10, 15, 10, 7 respectively.

Assessing Acceptance of Specific DTs Using the DDI Questionnaire

For the purposes of this paper, only seven items of the DDI were utilized. It should be noted that in the instruction of the DDI adapted for this study, it was mentioned that the questions concerned children between the ages of 18 and 36 months. The DDI items selected included one DT favored by the cognitive approach: (1) explaining rules to child to prevent a repeat of misbehavior; four DTs favored by the behavior-modification approach: (2) timeout; (3) take away toy/other privilege because of misbehavior; (4) praising

child for ceasing to misbehave or for good behavior (henceforth called social reinforcement); (5) planned ignoring; and two other DTs not generally recommended by either approach: (6) yelling and (7) spanking (using the open hand to hit the buttocks or extremities). All DTs items were examined on a 4-point scale (1 = "never acceptable", 2 = "rarely acceptable", 3 = "usually acceptable", 4 = "always acceptable").

Assessing Use of Specific DTs Using EMA

In daily life, mothers' reported their degree of use of the specific DTs (described above) in response to their toddler's misbehavior in the past 4 h. Examples of the EMA items are: "when my child misbehaved, I explained what the rules are to try to prevent the child repeating misbehavior", "when my child misbehaved, I took away his/her toys or other privileges because of the misbehavior", "when my child misbehaved I shouted or yelled at my child." The original DDI Likert-scale was adapted for the EMA reports. Responses were provided on the EMA-adapted rating scale (a visual analog scale) by means of a slider, which could be moved from the middle towards either labeled end: "not at all"—"totally". For each report, the device stored a value between 1 (not at all) and 100 (totally). This value described the degree of use of each DT. Owing to the data being negatively skewed, we converted the continuous scale to a binary scale, with values from 1 to 9 coded as "no use"; and from 10 to 100 coded as "use".

Table 1 Statements of the CRPR that were frequently prioritized by mothers of toddlers ($N = 32$)

No.[a]	Statements[b]	Ranking
Child-rearing beliefs and values with which I totally agree		
1	I respect my child's opinions and encourage him/her to express them	2
11	I feel a child should be given comfort and understanding when s/he is scared or upset	2
18	I express affection by hugging, kissing, and holding my child	2
40	I joke and play with my child	2
45	I encourage my child to be curious, to explore and question things	2
52	I make sure my child knows that I appreciate what s/he tries to accomplish	2
87	I believe it's very important for a child to play and get plenty of fresh air	2
Child-rearing beliefs and values with which I totally disagree		
5	I often feel angry with my child	−2
14	I believe physical punishment to be the best way of disciplining	−2
15	I believe that a child should be seen and not heard	−2
32	I feel my child is a bit of a disappointment to me	−2
55	I teach my child to keep control of his/her feelings at all times	−2
63	I believe that too much affection and tenderness can harm or weaken a child	−2
69	There is a good deal of conflict between my child and me	−2

[a] The original item number of the CRPR. [b] The statements were selected from the CRPR (Block 1965). Mothers placed these statements on either 2 or −2 values of the scale: 2 = "totally agree", 1 = "agree a little", 0 = "irrelevant/ambivalent", −1 = "disagree a little", −2 = "totally disagree"

Table 2 Statements of the CRPR that were frequently classified as irrelevant or ambivalent (sometimes important and sometimes not; $N = 32$)

No.[a]	Statements[b]	Ranking
7	I punish my child by putting him/her off somewhere by himself/herself for a while	0
8	I watch closely what my child eats and when s/he eats	0
17	I think it is good practice for a child to perform in front of others	0
26	I let my child make many decisions for him/herself	0
27	I will not allow my child to say bad things about his/her teachers	0
28	I worry about the bad and sad things that can happen to a child as s/he grows up	0
29	I teach my child that in one way or another punishment will find him/her when s/he is bad	0
35	I give up some of my own interests because of my child	0
36	I tend to spoil my child	0
56	I try to keep my child from fighting	0
62	I enjoy having the house full of children	0
73	I let my child know how ashamed and disappointed I am when s/he misbehaves	0
77	I find it interesting and educational to be with my child for long periods	0
83	I control my child by warning him/her about the bad things that can happen to him/her	0
91	I believe it is unwise to let children play a lot by themselves without supervision from grown-ups	0

[a] The original item number of the CRPR. [b] The statements were selected from the CRPR (Block, 1965). Mothers placed these statements in the middle point of the scale: 2 = "totally agree", 1 = "agree a little", 0 = "irrelevant/ambivalent", −1 = "disagree a little", −2 = "totally disagree"

Table 3 Statements of the CRPR with which mothers of toddlers ($N = 32$) agreed or disagreed a little

No.[a]	Statements[b]	Ranking
Child-rearing beliefs and values with which I agree a little		
2	I encourage my child always to do his/her best	1
19	I find some of my greatest satisfactions in my child	1
22	I usually take into account my child's preferences in making plans for the family	1
34	I am easy going and relaxed with my child	1
39	I trust my child to behave as s/he should, even when I am not with him/her	1
44	I think one has to let a child take many chances as s/he grows up and tries new things	1
58	When I am angry with my child, I let him/her know it	1
72	I like to have some time for myself, away from my child	1
75	I encourage my child to be independent of me	1
76	I make sure I know where my child is and what s/he is doing	1
Child-rearing beliefs and values with which I disagree a little		
6	If my child gets into trouble, I expect him/her to handle the problem mostly by himself/herself	−1
20	I prefer that my child not try things if there is a chance s/he will fail	−1
33	I expect a great deal of my child	−1
48	I sometimes feel that I am too involved with my child	−1
50	I threaten punishment more often than I actually give it	−1
59	I think a child should be encouraged to do things better than others	−1
60	I punish my child by taking away a privilege s/he otherwise would have had	−1
61	I give my child extra privileges when s/he behaves well	−1
70	I do not allow my child to question my decisions	−1
79	I instruct my child not to get dirty while s/he is playing	−1

[a] The original item number of the CRPR. [b] The statements were selected from the CRPR (Block 1965). Mothers placed these statements on either 1 or −1 values of the scale: 2 = "totally agree", 1 = "agree a little", 0 = "irrelevant/ambivalent", −1 = "disagree a little", −2 = "totally disagree"
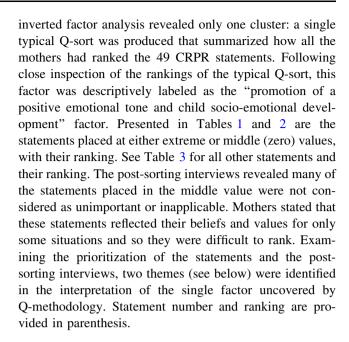
Overview of Analyses

The participants' Q-sorts of statements on parenting beliefs and values were analyzed using the PQ method 2.11 package (Schmolck and Atkinson 2002). This statistical application uses an inverted Principal Component Analysis followed by rotation (varimax or judgmental). This uncommon usage of factor analysis is employed in the Q-methodology framework for grouping similar Q-sorts (the rankings across all the statements) and providing typical "sorts" called "factors" (for detailed description of this method, see Brown 1980). In other words, this kind of analysis enables the identification of "types" or "clusters" of participants based on their rankings of all the given statements. In addition, a presentation of the typical ranking of each statement within a cluster is also produced by the analytical procedure. An interpretation of the results is obtained by inspecting the overall configuration of the statements, with special attention paid to those statements placed at the extremes (most agree and most disagree) and the middle values. Statements placed at the extremes reveal areas of high priority while those in the middle indicate areas that are either of little importance or whose priority are highly dependent on specific situations making it hard to rank them. Descriptive statistics were then computed for mothers' acceptance of each DT and its use in daily life. In addition, variation as a function of demographic factors was examined. Finally, due to non-normal distributions, non-parametric Spearman correlation coefficient was used to examine, for each DT, the association between acceptance and actual use in daily life. Specifically, Q-methodology was used to examine, by *inverted* factor analysis, the typical parenting beliefs and values that impact the parent–child relationship in this sample. Secondly, we computed the mean of mothers' acceptance of specific DTs as examined by the questionnaire. *t* Test and ANOVA analyses were used to examine the variation of the average acceptance of those DTs as a function of demographic variables. Thirdly, we computed the mean of proportion (frequency/number of discipline incidents reported) of each DT used by mothers over the period of EMA. Fourthly and lastly, Spearman's correlation coefficient was computed to estimate the association between acceptance of each DT (described above) and its proportion of use in daily life (described above).

Results

Q-Methodology

A one-factor solution fit the data best, thus making it unnecessary to rotate factors to clearly demarcate clusters. This means the Q-sorts of all the mothers who participated in this study loaded on a single factor. In other words, the inverted factor analysis revealed only one cluster: a single typical Q-sort was produced that summarized how all the mothers had ranked the 49 CRPR statements. Following close inspection of the rankings of the typical Q-sort, this factor was descriptively labeled as the "promotion of a positive emotional tone and child socio-emotional development" factor. Presented in Tables 1 and 2 are the statements placed at either extreme or middle (zero) values, with their ranking. See Table 3 for all other statements and their ranking. The post-sorting interviews revealed many of the statements placed in the middle value were not considered as unimportant or inapplicable. Mothers stated that these statements reflected their beliefs and values for only some situations and so they were difficult to rank. Examining the prioritization of the statements and the post-sorting interviews, two themes (see below) were identified in the interpretation of the single factor uncovered by Q-methodology. Statement number and ranking are provided in parenthesis.

Responsiveness

Mothers in this study valued providing 'comfort and understanding to a child who is scared or upset' (statement no. 11/+2), as emotionally supporting a distressed child would enhance their developing sense of security. They also considered it important to demonstrate their feelings, as reflected in their maximizing positive emotion expression such as 'hugging, kissing and holding… child' (statement 18/+2), but they occasionally avoid the communication of negative emotions toward child, such as 'shaming [child] when s/he misbehaves' (statement 73/0). Mothers were also aware of their children's social needs in terms of the 'importance for a child to play…' (statement 87/+2). Overall, these statements suggest that mothers in our sample valued promoting their children's socio-emotional wellbeing. These mothers also strongly believed in fostering young children's independence as reflected in their prioritizing '…child to be curious, to explore, and to question things' (statement 45/+2), and they were of the opinion that *sometimes* providing a child with opportunities to '…make…decisions for him/herself' (statement 26/0) was important.

Open Communication

Mothers of toddlers in this study valued open communication. They '…respect [their] child's opinions and encourage him/her to express them' (statement 1/+2), even when it is contrary to their views; and they also believed that not '…allow[ing]…child to say bad things about/his her teachers' (statement 27/0) *sometimes*—in situations where s/he has good reasons to do so—would be arbitrary

and disrespectful to child. Perhaps due in part to frequent verbal exchanges between mothers and their children, these mothers *sometimes* 'find it interesting and educational to be with…child for long periods' (statement 77/0).

Acceptance of DTs and Their Actual Use in Daily Life

We assessed compliance with the EMA procedure by computing the number of completed sessions out of the 18 planned sessions. Though only few mothers (28 %) completed all scheduled sessions (i.e., 100 % compliance), the overall compliance rate was high, with 83 % ($SD = 16$) of completed reports on average. There were no missing data within completed EMA sessions. All 32 mothers also provided acceptance ratings and performed the Q-sort. Table 4 shows mothers' average acceptance of each DT and the mean proportion of their use of the DT in daily life. Looking at the DTs favored by either cognitive or behavior-modification approach, it is notable that: (1) explaining rules received the highest acceptance rating—it also had the smallest standard deviations, with its actual use in daily life being maximal; (2) social reinforcement received the second-highest acceptance rate and was highly used in daily life; (3) timeout acceptance rate was high, but it had the largest standard deviation, meaning there was high variation across the mothers; use in daily life was rather low; (4) removal of privileges received fairly high acceptance rating and was moderately used in daily life; (5) planned ignoring was the least accepted, and its use in daily life was moderate. With respect to the other DTs examined, it is noteworthy that the acceptance rate for spanking was, on average, higher than for yelling. However, the latter DT was used more often than the former in daily life.

Demographic Factors

A series of *t* test (for 2-level factors) and ANOVA (for 3-level factors) analyses showed that there were no significant differences in acceptance ratings of the seven DTs as a function of a mother's age (aged 34 ≤vs≥ 35), work-time status (2.5 ≤vs≥ 3 days), and presence of siblings. Additionally, the analyses indicated that mothers' acceptance ratings of all but one of the target DTs did not vary with toddler's age (18–24 months; 25–29 months; 29–36 months) or sex. However, there was a tendency for mothers to find the use of planned ignoring procedure more acceptable for girls than boys ($t = 2.96$, $df = 33$, $p < .08$), and university-educated mothers were significantly more likely to reject spanking than those without a university degree ($t = 1.81$, $df = 33$, $p < .01$).

Table 4 Acceptance rating's mean and standard deviation (*SD*; in parenthesis) for each discipline technique (DT) and mean proportion of the DT use over the course of ecological momentary assessment (*N* = 32)

DT	Mean (*SD*)	Mean (*SD*) proportion[a] of DT use
Favored DT		
Explaining rules	3.88 (0.34)	0.94 (0.09)
Social reinforcement	3.84 (0.37)	0.77 (0.22)
Timeout	3.06 (0.80)	0.25 (0.22)
Removal of privileges	2.91 (0.69)	0.30 (0.24)
Planned ignoring	1.62 (0.69)	0.29 (0.25)
Other DT		
Spanking	1.87 (0.66)	0.11 (0.18)
Yelling	1.63 (0.49)	0.30 (0.27)

Acceptance scale: 1 = "never acceptable", 2 = "rarely acceptable", 3 = "usually acceptable", 4 = "always acceptable"

[a] For each mother, proportion of DT use = number of discipline incidents where this DT was used/total number of discipline incidents reported

Association Between Acceptance of DTs and Behavior in Daily Life

The nonparametric correlation between acceptance and daily use of each DT is shown in Table 5. A significant correlation between acceptance of DT and its use in daily life was observed only for timeout and spanking; whereas this association was moderate for the former, it was strong for the latter.

Discussion

To date, this is the first study in a community sample of mothers of toddlers which jointly used Q-methodology, questionnaire, and EMA to examine parental discipline. Specifically, this study examined parenting beliefs and values, acceptance of seven specific DTs, including those favored by either cognitive or behavior-modification theoretical approach, and their actual use in daily-life discipline incidents.

Parenting Beliefs and Values

The picture of responsiveness revealed by these mothers Q-sorts is consistent with the authoritative parenting style in terms of responsiveness to child's needs and promotion of autonomous self-will (Baumrind 1971). Mothers' 'typical' way of sorting the statements suggests listening to their children, being responsive to the latter's socio-emotional

Table 5 Nonparametric correlation (Spearman's ρ) between acceptance of specific discipline technique (DT) and its proportion of use in daily life ($N = 32$)
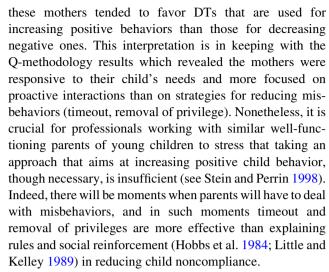
DTs	p
Explaining rule	−.20
Timeout	.36*
Removal of privileges	.09
Social reinforcement	−.09
Planned ignoring	.10
Yelling	.27
Spanking	.72**

For each mother, proportion of use = number of discipline incidents where this DT was used/total number of discipline incidents reported

* $p < .05$; ** $p < .01$

needs, and promoting their sense of autonomy is important to these mothers. These are some of the main features of authoritative child rearing (Baumrind 1971). Interestingly, unlike authoritative mothers of preschoolers described by Baumrind et al. (2010), the responsive mothers in our sample did not embrace some positive-reinforcement and mild punishment-based strategies: providing child with extra privileges when s/he behaves well (see Table 3, statement 61/−1) and '…taking away a privilege…' (see Table 3, statement 60/−1) as a consequence of child misbehavior, respectively. Although our mothers objected to the view that 'physical punishment… [is] the best way of disciplining' (statement 14/−2), during the interviews many mothers in our sample disclosed not being totally against spanking a child and doing so occasionally. This indicates they were not strictly against confronting a misbehaving child as is characteristic of the permissive configuration. Overall, these findings indicate that the parent–child context is loving and secure, a necessary condition for discipline effectiveness.

Acceptability of Specific DTs

Explaining rules, social reinforcement, timeout, and removal of privileges received high acceptance ratings. The high acceptance of these DTs favored by either cognitive or behavior-modification approach is a positive message for prevention and parenting interventions aiming to promote or teach the skillful use of those DTs in the Swiss-French population. In accordance with prior studies in other populations (e.g., Jones et al. 1998), social reinforcement received one of the higher ratings. That explaining rules to the child was, on average, rated highest, indicates these well-functioning mothers most preferred to handle their child's misbehavior by discussing with the child. This aligns with the Q-methodology findings showing these mothers valued verbal exchange. Put together, these findings also suggest

these mothers tended to favor DTs that are used for increasing positive behaviors than those for decreasing negative ones. This interpretation is in keeping with the Q-methodology results which revealed the mothers were responsive to their child's needs and more focused on proactive interactions than on strategies for reducing misbehaviors (timeout, removal of privilege). Nonetheless, it is crucial for professionals working with similar well-functioning parents of young children to stress that taking an approach that aims at increasing positive child behavior, though necessary, is insufficient (see Stein and Perrin 1998). Indeed, there will be moments when parents will have to deal with misbehaviors, and in such moments timeout and removal of privileges are more effective than explaining rules and social reinforcement (Hobbs et al. 1984; Little and Kelley 1989) in reducing child noncompliance.

Contrary to the high acceptance of the other DTs favored by the behavior-modification approach, planned ignoring was considered "rarely acceptable", especially by mothers of male toddlers who are known to manifest more challenging behavior (e.g., Baillargeon et al. 2007). This is surprising because there is empirical evidence of its effectiveness in reducing misbehavior when successfully implemented (e.g., Hester et al. 2009). It is possible that the unfavorable rating reflects inadequate knowledge of this technique in the Swiss-French population. Consequently, when this technique is a component of parenting advice or program in any population, and in this population in particular, it would be valuable to provide ample information on the necessary conditions for its effectiveness, such as identifying the reinforcing behavior, contingency, immediacy and consistency (Hester et al. 2009). This is especially relevant for professionals, such as pediatricians, who habitually include discipline advice in their provision of anticipatory guidance to families, and perceive planned ignoring as an acceptable behavior management technique for dealing with child challenging behavior (Arndorfer et al. 1999; Stein and Perrin 1998).

Yelling and spanking were considered "rarely acceptable", with the larger standard deviations of the latter indicating a wide variation of this perception among the mothers. In contrast, the Q-methodology data revealed a consensus of strong opposition to the consideration of physical punishment as the best method for obtaining child compliance. It is possible that some mothers viewed spanking as sometimes necessary for getting their child's attention. Alternatively, these mothers' perception might reflect a consideration of spanking as recourse for parents when they are out of other child management strategies.

The Actual Use of Specific DTs in Daily Life

Explaining the rules, a DT favored by the cognitive approach, was the specific DT most utilized (manifested in

all reported discipline incidents) by the mothers when faced with their toddlers' misbehavior in daily life. In contrast, there was a relatively low use of DTs favored by the behavior-modification approach, excepting social reinforcement. This might be because the misdeeds were mainly minor daily challenges and explaining what was expected of the toddlers sufficed most times. However, there is evidence that explaining the rules is not always effective when used with young children (e.g., Blum et al. 1995). In fact, it has been reported to induce internalization of parents' demands only when charged with maternal affection and moralization: which often occurs when child causes distress to others (Zahn-Waxler et al. 1979). Besides, our empirical data show that, in response to child misbehavior, these mothers yelled as often as they used some of the favored behavior-modification DTs, suggesting there is room for increasing the use of the latter.

Correspondence Between Parenting Beliefs, Acceptance and Use

Timeout was less used in daily-life discipline incidents compared to removal of privileges, whereas the acceptability ratings showed the opposite pattern. This finding suggests there might be some practical concerns in implementing timeout. Indeed, the post Q-sort interviews revealed many mothers have experienced difficulties implementing this DT in the past. To illustrate, one mother stated that: "I am not so sure timeout is an effective strategy although I use it because I have not found something better. My youngest child (20 months) takes it as a joke… she leaves the corner where she is placed with a smile… I have to force her to stay there and she does not appreciate this… I do not like to do this… I get the impression that she does not understand…".

Regarding explaining rules and social reinforcement (praise), the high frequency of use in daily life is consistent with the high acceptance ratings they received. Although half of the sample spanked their child at least once in the course of the 10 days of EMA, spanking was rare compared to the other DTs investigated. It should be noted that the acceptance rate for spanking was rather low ("rarely acceptable"), suggesting that, although the mothers did not view physical punishment as the best way to gain child compliance (see Q-methodology result), they did not totally reject it either. Two points underscored by these results are the importance of: (1) understanding why warm mothers who mostly disapprove of spanking a child, sometimes do so; and (2) putting the use of spanking in perspective by simultaneously considering parents' use of other DTs. Hence, to the extent a parent combines different DTs, singly considering the impact of spanking (or any other DT) on child outcome may provide an incomplete

picture: for instance, co-occurring DTs (e.g., yelling) may be responsible for effects attributed to an individual DT.

Lastly, the examination of the association between acceptance, for each DT, and its actual use in daily-life discipline incidents revealed only two significant relations: for spanking and timeout. The strong positive correlation between acceptance of spanking and its actual use in daily life (which also means that the less it is accepted, the less it is used), highlights the importance of anti-spanking campaigns aimed at changing attitudes and suggests that they might be effective. The moderate association between timeout acceptance and its daily use, as well as the mostly non-significant associations between the acceptance of the other DTs favored by the behavior-modification approach and their use, suggest efforts to influence acceptance of those DTs should involve considerations of implementation conditions in order to foster use once acceptance has been achieved.
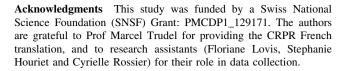
Limitations

This study had several limitations. The convenience sampling procedure employed probably led to a self-selection of participants, with a likely overrepresentation of mothers interested in and aware of child-development issues. Also, the high education level and small size of the sample make it necessary to exercise caution in generalizing these findings. In particular, the effect of demographic factors and the correlations between acceptance and daily use of DTs might have been underrated due to our study's limited power. In fact only large effects or correlations could be detected at the significance threshold of $p < .05$. A replication in a larger sample would thus be desirable. Nevertheless, this exploratory study allowed the identification of a number of large size effects with practical implications. Equally important, the EMA rating scale used in this study was not optimal. It did not explicitly distinguish between frequency and intensity of use of a DT. Future studies using rating scales which make this distinction, and have intervals with concrete behavioral anchors would improve our understanding about how acceptance of DTs is related to their use in daily life. Also, our participants were all mothers and their parenting beliefs, acceptance of DTs and daily use of these may not reflect those of fathers. Additionally, contrary to the common practice in Q-methodology studies, our sample was homogenous and the child-rearing statements were not derived from the population from which this sample was drawn. The CRPR items were developed over forty years ago and many of the statements (e.g., physical punishment as [not] the best way of disciplining a child; I express affection by hugging, kissing, and holding my child) that were at that time divisive have become the mainstream, at least in a well-functioning and

highly educated sample. Thus, the single dominant viewpoint held by mothers in our study probably reflects the fact that there were few conflict-provoking statements. However, this study's use of the CRPR was dictated by the goal to provide first information on the application within the Q-methodology framework of this widely employed child rearing instrument. Future research following the Q-methodology approach using the CRPR in a heterogeneous sample or by generating child-rearing statements in the sample being studied would shed light on variations in parenting viewpoints across different parent-related characteristics.

Furthermore, the target DTs' acceptability and daily use were measured with single items. Though this method is not standard in the study of parenting, some studies have used it to examine parents' discipline responses in certain conditions (when the focus is on specific discipline techniques; e.g., Regalado et al. 2004). Moreover, the use of single-item measures is common and has been demonstrated to be valid in a number of other research fields such as quality of life (e.g., Zimmerman et al. 2006), self-esteem (e.g., Robins et al. 2001), or readiness to change (e.g., Cook and Perri 2004). Advantages of using single-item questions include brevity, high cost-effectiveness and reduced participant burden. Because our study aimed to use identical items to assess acceptance and daily use (which implied repeated measurements), efficiency was a major concern. Besides, excepting spanking, the interpretation by each mother of the single-item questions was most likely identical for attention was paid to use clear, simple, and concrete language to describe the target DTs. Nonetheless, when possible, it may be more useful for similar future studies to use a brief standardized scale (e.g., the Treatment Evaluation Inventory; Kelley et al. 1989). This would provide information which is comparable with past acceptability research.

To summarized, this study was conducted in a community sample of mothers of toddlers, using a mixed-methods approach. The findings showed these mothers espoused a warm parenting view with less focus on DTs for managing child misbehavior. They perceived all but one (planned ignoring) of DTs favored by the behavior-modification approach as being usually to always acceptable. However, a look at these mothers behavior in daily-life discipline incidents showed those DTs were moderately used. The DT favored by the cognitive approach (explaining rules) was always manifested. Although two DTs (yelling and spanking) not generally recommended by either theoretical approach received low acceptance ratings, yelling was more commonly employed. In fact, it was utilized as often as timeout. These findings suggest more awareness needs to be raised in communities about DTs favored by the behavior-modification approach and their implementation conditions in order to promote their use.

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