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## What good is labeling what's good? A field experimental investigation of parental labeled praise and child compliance



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### ABSTRACT

There is a need to identify the “effective ingredients” of evidence-based behavior therapies. We tested the effects of one of the most common ingredients in parenting interventions for preventing disruptive child behavior, referred to as labeled praise (e.g., “well done picking up your toys”), which is typically recommended in preference to unlabeled praise (e.g., “well done”). We compared the effects of labeled praise, unlabeled praise, and no praise on child compliance in two experiments. Experiment 1 included 161 4 to 8 year-old community sample children and tested immediate effects of praise. Experiment 2 included 132 3 to 9 year-old children with varying levels of disruptive behavior and tested immediate and two-week effects of praise. In Experiment 1, teaching parents to use labeled praise did not increase immediate child compliance, whereas teaching them to use unlabeled praise did. In Experiment 2, teaching parents to use labeled praise for two weeks reduced disruptive child behavior, but this effect was of a similar magnitude to that for unlabeled praise. Parents preferred the use of unlabeled over labeled praise. These findings suggest that parental praise promotes child compliance, but the addition of labeling the specific positive behavior may not be of incremental value.

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Parenting interventions are the key strategy for the prevention and early treatment of disruptive child behavior (Weisz & Kazdin, 2010). Research on the effectiveness of parenting interventions has shown consistent and small to medium effects on reduced disruptive child behavior, and relies mainly on the study of comprehensive program packages. It has been assumed that the common components of these program packages are the active ingredients that cause the desired change in children's behavior (e.g., Kaminski, Valle, Filene, & Boyle, 2008). However, there is a dearth of knowledge about the specific components that are essential and actually lead to changes in child behavior, from those that are shared across programs, but do not lead to changes in child behavior (Chorpita & Daleiden, 2009; Leijten et al., 2015; Piquero, Farrington, Welsh, Tremblay, & Jennings, 2009).

There are three reasons why research on effective components of evidence based parenting interventions is needed. First, the effectiveness of parenting interventions will likely be optimized if effective components are used exclusively. Second, dissemination of parenting interventions will likely be optimized if interventions can be reduced to a parsimonious set of core healthy parenting practices. Complex evidence-based interventions sometimes fail to replicate their effectiveness outside the context they were developed in (e.g., Eisner, Nagin, Ribeaud, & Malti, 2012; McConnell, Breitzkreuz, & Savage, 2012). Third, teaching unnecessary parenting skills may inadvertently suggest parenting deficits, which can undermine parental motivation to change and therefore diminish intervention outcomes (Miller & Rollnick, 2002).

This study examined the empirical merit of one of the most common ingredients in evidence-based parenting interventions for the prevention and early treatment of disruptive child behavior: teaching parents to use labeled praise, rather than unlabeled praise, to increase child compliance. Specifically, we compare the effects of

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teaching parents to use labeled praise, unlabeled praise, or no praise, on child compliance in a community sample and in an at risk sample, to inform intervention strategies to reduce disruptive child behavior.

## 1. Labeled and unlabeled praise

Positive reinforcement is a pervasive component of virtually all established parenting interventions (Weisz & Kazdin, 2010). Parenting interventions typically promote positive reinforcement by encouraging parents to provide their children with consistent praise (e.g., Dishion, Stormshak, & Kavanagh, 2011; Forgatch & Patterson, 2010; Sanders, 1999; Webster-Stratton & Reid, 2010; Zisser & Eyberg, 2010). In line with principles of operant learning theory (Skinner, 1950), it is assumed that when parents verbally approve their children's positive behavior, it will increase the likelihood that the children will show positive behavior again in the future. Most parenting interventions also provide recommendations for how parents should praise their children. These recommendations typically focus on both the expressiveness and the wording of praise. In terms of expressiveness, parents are advised to provide praise enthusiastically and to accompany praise with eye contact and gentle physical contact (e.g., Webster-Stratton & Reid, 2010; Zisser & Eyberg, 2010).

More important for the purposes of this study is the wording of praise. A key distinction is made between “labeled” and “unlabeled” praise (Hanf, 1970). Labeled praise (also known as descriptive praise or behavior-specific praise; Chalk & Bizo, 2004; Sanders, 1999) explicitly refers to the behavior for which the child receives praise by labeling the child's positive behavior (e.g., “well done picking up your toys”). Such explicit reference is absent in unlabeled praise (e.g., “well done”). The importance of this distinction is almost invariably emphasized in parenting interventions (e.g., Dishion et al., 2011; Webster-Stratton, 2006), and in all evidence-based parenting interventions that have been transported and rigorously evaluated overseas (Gardner, Montgomery, & Knerr, 2015). Parents are advised to use labeled rather than unlabeled praise to teach children new behavioral skills (e.g., potty training) and to promote compliant behavior. However, evidence appears to be lacking on whether teaching parents to use labeled praise is actually more effective for improving child compliance than teaching parents to use unlabeled praise. We investigated this question using two field experiments in which parents were taught to provide their children with labeled, unlabeled, or no praise, after which immediate and intermediate (i.e., two week) effects on child compliance and more general disruptive behavior were assessed.

There are theoretical reasons to assume that teaching parents to use labeled praise may be more effective than teaching them to use unlabeled praise to improve child compliance. In particular, when children are provided with explicit information about exactly what behavior they are praised for, they might more easily associate that behavior with approval, and more likely show that behavior again in the future (Brophy, 1983; Hanf, 1970). On the other hand, there are reasons to question the assumed superiority of teaching parents to use labeled praise over unlabeled praise. Most parents do not spontaneously use labeled praise (e.g., Bernhardt & Forehand, 1975; Raaijmakers, 2008). It may therefore feel unauthentic for them if they are instructed to do so. When praise is provided in a way that is not sincere or enthusiastic, its effectiveness tends to diminish (e.g., Henderlong & Lepper, 2002; Kanouse, Gumpert, & Canavan-Gumpert, 1981). Similarly, when children experience praise as unfamiliar or awkward, they are less likely to comply with parental directives (Henderlong & Lepper, 2002; Patterson, 1976). If labeled praise is experienced as dissonant or ineffective, parents may use

the strategy less, and miss opportunities for contingent positive reinforcement.

As of this writing, empirical research to test the superiority of teaching parents to use labeled over unlabeled praise to improve child compliance is lacking. The empirical evidence that is available pertains to the domains of child motivation, task performance, and the acquisition of new skills. For example, teachers' use of labeled praise was found to be more effective than unlabeled praise at improving children's on-task behavior (Chalk & Bizo, 2004), and parents' use of labeled praise was found to be more effective than unlabeled praise at influencing children's performance in the context of a marble-in-the-hole game (Bernhardt & Forehand, 1975; but see Bernhardt, Fredericks, & Forebach, 1978; for boundary conditions of this effect). However, none of these studies pertained to the behavioral outcomes that parenting interventions seek to influence, such as children's compliance with parental requests and, ultimately, their general disruptive behavior in daily parenting situations.

The present experiments were specifically designed to fill these knowledge gaps: We examined the extent to which promoting parents' use of labeled praise is superior to unlabeled praise at improving immediate child compliance in a daily parenting situation (Experiment 1), and at reducing disruptive child behavior when parents are encouraged to consistently praise their children over a two week period (Experiment 2).

We also tested two theoretically and practically relevant putative moderators. First, we tested whether the effects of teaching parents labeled praise (versus teaching unlabeled praise and no teaching of praise) were moderated by parents' habitual ways of phrasing praise (Experiment 1). We considered this important because most parents do not spontaneously use labeled praise (e.g., Bernhardt & Forehand, 1975). Second, we tested whether the effects of teaching parents labeled praise were stronger for children with higher baseline levels of disruptive behavior problems (Experiment 2), because most established parenting interventions that promote the use of labeled praise were originally designed for children with disruptive behavior problems. Additionally, we examined parents' feelings of satisfaction with using labeled or unlabeled praise. Because most parents do not spontaneously use labeled praise, we expected that parents would experience the advice to use labeled praise less positively than the advice to use unlabeled praise (Experiment 2).

## 2. Experiment 1

We examined the immediate effects of teaching parents to use labeled praise versus unlabeled praise on child compliance. In a between-subjects experimental design, community sample parents were randomly allocated to provide labeled praise, unlabeled praise, or no praise for child compliance with an initial parental request. Next, the effect of this manipulation on child compliance with a subsequent, more challenging parental request was measured (cf. Stifter, Spinrad, & Braungart-Rieker, 1999). We also tested whether the effects of teaching parents to use labeled praise (versus unlabeled praise or no praise) on child compliance depended on its fit with how parents tended to phrase their praise spontaneously in everyday parenting situations. To optimize ecological validity, we observed children's compliance in its natural context: at home, and in interaction with their parent. The age range of children in our sample was 4–8 years to maximize relevance to parenting intervention research—most established parenting interventions are designed for families with children in this age range (e.g., Webster-Stratton & Reid, 2010; Zisser & Eyberg, 2010).

## 2.1. Methods

### 2.1.1. Participants

Participants were 161 children aged 4–8 years ( $M = 5.67$ ,  $SD = 1.11$ ; 55% girls), and one of their parents (89% mothers). Most children were Caucasian (88%). There was substantial variance in parental educational level, ranging from primary education to university degree, but parents with higher educational levels were overrepresented with 40% of the parents having a higher secondary education or university degree. Participants were randomly assigned to the labeled praise, unlabeled praise, or no praise control conditions.

APA ethical guidelines were adhered to in the conduct of the present research. Parents signed informed consent prior to participation, parents and children were informed that they were free to quit participation in the experiment at any time, and were thoroughly debriefed and informed on the study purposes after the experiment.

### 2.1.2. Procedure

Parents were recruited via letters, distributed by elementary schools in the Netherlands, which invited them to participate in a research project on “the effects of praise.” The experiment was conducted in participating families’ homes, by research assistants (i.e., trained female undergraduate psychology students) who were blind to the hypotheses of the study. Children and parents first played a memory game for 5 min to get accustomed to interacting in the presence of the experimenter. The experiment then entailed two analogous compliance tasks: first a relatively easy task to ensure that the majority of children would comply and receive deserved praise, and then a more challenging task to ensure sufficient variability in compliance. For the first task, the experimenter placed a plastic box containing 20 slices of cucumber on the table, casually saying that she felt hungry. The experimenter offered one slice of cucumber to the child (to make sure all participants were familiar with the taste of cucumber), took one herself, and then left the open box on the table within reach of the child. Meanwhile, the parent was unobtrusively given a note that asked him or her to instruct the child “[Name child], I want you to leave the food in the box,” immediately after the experimenter would announce that she and the parent would leave the room for a moment. Cucumber was chosen because it is relatively neutral in taste to most children (Søndergaard & Edelenbos, 2007)—we thought it should be typically possible for children to comply with the parental request at this task and deservedly receive praise.

The child was left alone at the table for a period of 180 s, with the box of cucumbers remaining on the table. In another room, the parent was instructed to praise the child upon returning to the table by saying either (1) “well done, you left the food in the box” (i.e., labeled praise condition), (2) “well done” (i.e., unlabeled praise condition), or (3) to not say anything at all (i.e., control condition). To adhere as closely as possible to instruction techniques that are standard in parenting interventions, parents were instructed to provide praise with enthusiasm and to make eye contact with the child before providing praise. Moreover, as is typically done in parenting interventions, both video instruction (i.e., a video clip of a parent providing labeled or unlabeled praise), and modeling techniques (i.e., the trained experimenter showing the parent how to provide labeled or unlabeled praise), were used to teach parents how to provide praise. Then, the parent and experimenter returned to the table, where the parent provided the manipulated praise.

For the second task, the experimenter placed a similar box that contained 40 M&Ms on the table, casually saying that she actually felt more like eating chocolate than eating cucumber. M&Ms were chosen because virtually all children enjoy chocolate treats

(Standen-Holmes & Liem, 2013), and find it challenging to comply with a request to not partake if left alone with such treats. Individual differences in children’s ability to resist temptation in such situations are an indicator of compliance and self-control relevant to future development (Kochanska, Murray, Jacques, Koenig, & Vandegest, 1996; Mischel, Shoda, & Rodriguez, 1989). The experimenter offered the child one M&M and took one herself, and left the room again with the parent; allegedly because there was something she forgot to tell the parent. The parent, again, said to the child “[Name child], I want you to leave the food in the box,” and left. The child was left alone at the table, now with the temptation of an open box of M&Ms within reach. After 180 s, the research assistant and parent returned to the table, and the experiment was ended. Children received a small gift to thank them for their participation. Parents were informed about the goals of the study and the rationale for its procedural details.

### 2.1.3. Instruments

**2.1.3.1. Children’s compliance to a parental request.** Children’s compliance was assessed by the number of M&Ms they left in the box during the period of 180 s.

**2.1.3.2. Parents’ spontaneous everyday use of praise.** Parents’ spontaneous use of labeled and unlabeled praise in everyday parenting situations was measured with items created for the purposes of this study. Items are examples of labeled and unlabeled praise from the dyadic parent–child interaction coding system (Robinson & Eyberg, 1981). Parents read four prototypical forms of labeled praise (e.g., “Well done for ...” and “You did a great job of ...”) and four prototypical forms of unlabeled praise (e.g., “Well done” and “Super/wow/fantastic”). They reported how often they used each form of praise on a typical day spent with their child, using a 5-point scale ranging from 1 (*probably not at all*) to 5 (*probably more than 10 times*) ( $\alpha = 0.75$ ). To obtain an index of parents’ spontaneous use of unlabeled versus labeled praise, we regressed the frequency of unlabeled praise onto the frequency of labeled praise ( $r = 0.56$ ) and saved standardized residual values. Positive values reflect a relatively frequent use of unlabeled praise; negative values reflect a relatively frequent use of labeled praise.

**2.1.3.3. Eyberg child behavior inventory.** To assess children’s “trait” disruptive behavior, parents reported on children’s general levels of disruptive child behavior using the Intensity Scale of the Eyberg Child Behavior Inventory (Eyberg & Pincus, 1999). The ECBI is a 36-item parent-report scale to measure the frequency of children’s problem behavior along a 7-point scale ranging from 1 (*never*) to 7 (*always*). Sample items include “has temper tantrums” and “argues with parents about rules” ( $\alpha = 0.89$  in the current sample).

## 2.2. Results

### 2.2.1. Preliminary analyses

Participants were excluded from analysis if videotapes of the experimental session showed that parents did not offer the praise they were taught to ( $n = 10$ ), or otherwise did not follow instructions ( $n = 11$ ). Data were analyzed from the 140 families from whom we obtained valid data. Children and parents from excluded families did not differ from those of included families on any of the study variables ( $ps > 0.08$ ).

Table 1 presents the descriptive statistics for the study variables. ANOVAs indicated that random assignment to conditions was effective. Across conditions, families did not differ on children’s age, gender, parent gender, level of disruptive behavior, and parental spontaneous use of labeled and unlabeled praise ( $ps > 0.15$ ). ECBI scores were similar to those found in typically developing children

**Table 1**  
Means and standard deviations in the labeled praise, unlabeled praise, and no praise control conditions (Experiment 1).

	Range	Labeled praise ( <i>n</i> = 52)	Unlabeled praise ( <i>n</i> = 42)	No praise ( <i>n</i> = 46)
		<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Disruptive behavior	56–158	97.82 (19.59)	95.64 (20.28)	97.86 (21.88)
Positive parenting	18–30	24.37 (2.60)	23.97 (2.44)	24.03 (2.62)
Routine use of unlabeled praise	8–21	14.80 (2.76)	14.97 (3.35)	14.68 (2.78)
Routine use of labeled praise	6–22	14.13 (3.24)	15.02 (2.80)	14.67 (3.05)
Relative use of unlabeled versus labeled praise (residual score)	–2.61 to 2.52	0.09 (0.94)	–0.04 (1.16)	–0.08 (0.88)
Age (years)	4–8	5.63 (1.20)	5.71 (1.10)	5.68 (1.05)

this age ( $M = 98.89$ ;  $SD = 22.48$ ; Burns & Patterson, 2001). Children's compliance was assessed by the number of M&Ms they had left in the box after 180 s. This number was log transformed to correct for its non-normal distribution—most children ate no or few M&Ms, some children ate many M&Ms (nontransformed compliance:  $M = 38.81$ ,  $SD = 2.95$ , skewness =  $-3.65$ , kurtosis =  $15.11$ , range = 21 to 40; transformed compliance:  $M = 39.83$ ,  $SD = 0.31$ , skewness =  $-1.78$ , kurtosis =  $2.27$ ). No gender or age differences were found in the number of M&Ms children ate ( $ps > 0.70$ ). Twenty-four percent of the children were not fully compliant in the cucumber task. We therefore controlled for a possible moderation effect of children's level of compliance in the cucumber task in all analyses.

### 2.2.2. Primary analyses

To examine our main research question we used hierarchical multiple regression analysis. The dependent variable was children's compliance. In Step 1 of the analysis, dichotomous condition contrast variables and parents' relative spontaneous use of labeled versus unlabeled praise (centered; Aiken & West, 1991) were entered. In Step 2, the interactions between these variables were entered.

Teaching parents to use labeled praise was less effective than teaching them to use unlabeled praise for yielding child compliance ( $\beta = 0.21$ ,  $p < 0.05$ ). In fact, children in the labeled praise condition ate almost 3 times as many M&Ms than did children in the unlabeled praise condition:  $M = 1.29$  M&Ms versus  $M = 0.43$  M&Ms, respectively. Teaching parents to use labeled praise was not more effective at yielding child compliance than was teaching them to use no praise ( $\beta = 0.03$ ,  $p = 0.63$ ), and teaching parents to use unlabeled praise was more effective at yielding child compliance than was teaching them to use no praise ( $\beta = 0.27$ ,  $p < 0.05$ ). Children in the control condition ate an average of almost 2 M&Ms ( $M = 1.94$ ).

The predicted Condition  $\times$  Spontaneous Use of Labeled Praise interaction effect was also significant ( $\beta = 0.32$ ,  $p < 0.05$ ). Compared to teaching parents to use unlabeled praise, teaching them to use labeled praise was least effective for parents who were relatively unfamiliar with providing labeled praise (see Fig. 1).

Controlling for a possible moderation effect of children's level of compliance in the cucumber task did not affect the significance of any of the study findings. In a community sample of children, we found that teaching parents to use labeled praise is not superior to teaching them to use unlabeled praise for yielding child compliance. In fact, teaching parents to use labeled praise was *inferior* to teaching parents to use unlabeled praise in families who were relatively unfamiliar with labeled praise.

## 3. Experiment 2

Experiment 2 builds on and extends Experiment 1 in three important respects. First, we moved beyond the immediate effects of teaching parents to use praise, and examined two week effects of

teaching parents to use labeled praise on reducing disruptive child behavior. Second, to improve generalizability to the different families for whom parenting interventions are intended, we examined the effects of teaching parents to use labeled praise and unlabeled praise in children with varying levels of disruptive behavior problems. Third, because compliant behavior often involves children engaging in certain behaviors rather than to refraining from them, Experiment 2 used an active compliance task (“do task”; cleaning-up a game) rather than a passive compliance task (“don't task”; resisting the temptation of eating M&Ms). In addition, we tested whether teaching parents to use labeled praise is especially effective for children with higher levels of disruptive behavior problems, and explored whether parents prefer either the use of unlabeled or labeled praise in their daily parenting.

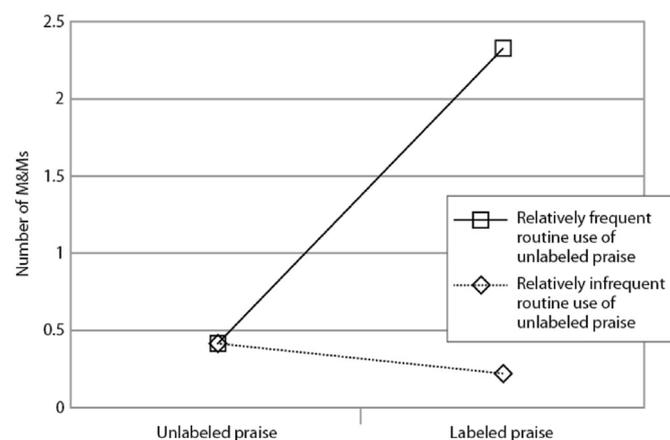
### 3.1. Methods

#### 3.1.1. Participants

Participants were 132 children aged 3–9 years ( $M = 6.39$ ,  $SD = 1.31$ ; 27% girls), and one of their parents (89% mothers). Most children were Caucasian (91%). There was substantial variance in parental educational level, ranging from primary education to university degree; only 25% of the parents had a higher secondary education or university degree. Children scored on average around the 75th percentile on the ECBI (Burns & Patterson, 2001), which indicates mild behavior problems, with a wide range of scores from 54 (1.5 SD below the population mean) to 235 (above the 98th percentile). As in Experiment 1, families were randomly assigned to the labeled praise, unlabeled praise, or no praise control condition.

#### 3.1.2. Procedure

Parents were recruited via letters, distributed by regular elementary schools and elementary schools specifically serving



**Fig. 1.** Children in the labeled praise condition in Experiment 1 ate more M&Ms (i.e., were less compliant) when their parents routinely used mainly unlabeled praise.

children with disruptive behavior disorders in the Netherlands, which invited them to participate in a research project on “the effectiveness of praise for children who tend to have difficulties complying with requests and obeying rules, or who get angry easily.” Much like parents typically voluntarily opt to seek parenting support for these behaviors, in Experiment 2, parents self-selected their participation based on this description. We did not exclude participants based on researcher-generated criteria other than autism related disorders. APA ethical guidelines were adhered to in the conduct of the present research, similar to Experiment 1.

**3.1.2.1. Day 1: home visit.** The home visit started with playing a memory game, followed by the identical procedure as in Experiment 1, although the slices of cucumber were replaced by slices of carrots for practical reasons (i.e., Experiment 2 took place during the *E. coli* outbreak in Western Europe which was, at the time, thought to be caused by contaminated cucumbers). After children had received condition specific praise for the Experiment 1 procedure requests, they were instructed by their parents to clean up the memory game they had played at the start of the experiment: “[Name child], I want you to clean up the memory game.” The time children needed to fully clean up the game was later recorded by the experimenter and used as a measure of immediate compliance.

**3.1.2.2. Days 2–14: praise practice period.** During the practice period, parents were encouraged to use condition-specific praise in their daily interactions with their child. As is typically done in parenting interventions, parents received a hand-out which provided condition-specific advice on how to praise children. The hand-out was hung in a prominent place (e.g., on the fridge) in the family home as a reminder. Regardless of condition, the handout advised parents to “Be attentive to good behavior: Be aware of your child’s good behavior and be attentive to this behavior.” In both praise conditions, this advice was then followed by instructions to praise positive child behavior: “Give praise enthusiastically: Effective praise is provided in energetic, involved, and sincere ways.” In the labeled praise condition this advice was then followed by the advice to “Give praise that refers to the desired behavior: Effective praise tells children which behavior they are being praised for.” In the praise conditions, the hand-out then provided examples of either unlabeled or labeled praise. Unlabeled praise examples included “well done,” “thank you,” “great,” and “fantastic.” Labeled praise examples included “you did [task/behavior] very well,” “I appreciate it that you [behavior],” and “you are a very good listener/helper/etc.”

In all three conditions, parents wrote down, on a daily basis, three examples of positive behavior that their child engaged in during the day. In the labeled and unlabeled praise conditions, parents also wrote down the exact words they had used to praise their child for this positive behavior. All parents received daily text messages and an unannounced phone call after one week to remind them of the study procedures.

**3.1.2.3. Day 14: measurement of disruptive child behavior.** Parents were visited after exactly two weeks of condition specific practice with praise to complete questionnaires regarding the disruptive behavior of their child over the past two weeks. Parents were then debriefed and all parents received more detailed advice on how to provide praise. Children received the memory game to thank them for their participation.

### 3.1.3. Instruments

**3.1.3.1. Children’s compliance to a parental request.** The time children needed to clean up the game completely was used as a

measure of immediate compliance to a parental request.

**3.1.3.2. ECBI.** Our first measure of disruptive child behavior was the Intensity Scale of the ECBI (Eyberg & Pincus, 1999), as used in Experiment 1 ( $\alpha = 0.92$  in the current sample). The ECBI was administered before and after the two-week the practice period.

**3.1.3.3. Child behavior checklist (CBCL)—aggression.** Our second measure of disruptive child behavior was the Aggression scale of the CBCL (Achenbach & Rescorla, 2000, 2001). The CBCL measure was administered before and after the two-week practice period. We used the 20-item preschool version for children aged 3 to 5, and the 18-item school-aged version for children aged 6 to 9. Sample items include “gets into many fights” and “defiant” ( $\alpha s = 0.86$ – $0.95$  in the current sample). Parents reported the extent to which the aggressive behavior described their child over the past two weeks along a scale ranging from 0 (*not true*) to 3 (*very true or often true*).

**3.1.3.4. Parental impressions of parenting advice.** We measured how favorable parental impressions were of the advice to give labeled or unlabeled praise using the following items: *this advice fits with my personal parenting style*, *I find this advice useful*, and *I find this advice feasible*. Items were measured on a scale ranging from 1 (*definitely no*) to 5 (*definitely yes*) and were summed into a composite score ( $\alpha = 0.89$ ). Parents in the control condition were not asked about their impressions, as they were not asked to practice with praise.

## 3.2. Results

### 3.2.1. Preliminary analyses

ANOVAs indicated that random assignment to conditions was effective. Across conditions, families did not differ on any of the demographics or baseline ECBI or CBCL scores ( $ps > 0.12$ ). Because older children cleaned up faster ( $r = -0.38$ ,  $p < 0.001$ ), children’s age was included as a covariate in all analyses with clean-up time as the dependent variable.

Parental daily reports were coded to quantify the extent to which they had used labeled and unlabeled praise during the two week practice period. Praise was coded as “labeled praise” if it included specific reference to the behavior the child was being praised for (e.g., “Fantastic, you ate all your veggies!”). A random selection of 25% of the diaries was double coded by two trained coders (postgraduate psychology students) with very high agreement (Cohen’s Kappa = 0.94). The manipulation check confirmed that parents in the labeled praise condition more frequently used labeled praise (43% of all reported praise) than families in the unlabeled praise condition (15% of all reported praise;  $\beta = 0.39$ ,  $p < 0.01$ ).

Twenty-four percent of the parents did not complete the Day 14 questionnaires. These parents and their children did not differ on any of the relevant variables (e.g., condition, level of disruptive behavior at baseline, demographics) from those who did send in the final questionnaires. Missing data were imputed using Multiple Imputation in SPSS version 20 (IBM Corp, 2011; Little & Rubin, 2002). We created 5 imputed datasets (cf. Kenward & Carpenter, 2007) and report the pooled statistics for all analyses. All analyses were checked for possible differences between imputed and incomplete data.

### 3.2.2. Immediate effects of labeled and unlabeled praise

ANCOVA revealed a main effect of condition on child compliance. Children in the labeled and unlabeled praise conditions cleaned up the memory game faster than did children in the control condition,  $F(130) = 4.05$ ,  $p < 0.05$ ,  $d = 0.54$ . No difference was found between the two praise conditions. Thus, in Experiment 2, which

included an active compliance task, teaching parents to use labeled praise and unlabeled praise was equally effective at yielding immediate child compliance.

### 3.2.3. Two week effects of labeled and unlabeled praise

As predicted, ANCOVA indicated that instructing parents to provide praise over a two week period reduced disruptive child behavior. Children in both praise conditions showed stronger reductions in disruptive behavior than children in the control condition, as indexed by disruptive behavior scores on both the ECBI and CBCL,  $F(131) = 4.44, p < 0.05, d = 0.52$ ; and  $F(131) = 7.63, p < 0.01, d = 0.68$ , respectively (Table 2). Again, teaching parents to use labeled praise and unlabeled praise was equally effective ( $ps > 0.18$ ).

Second, we found no support for the possibility that teaching parents to use labeled (versus unlabeled) praise might benefit children with higher initial levels of disruptive behavior in particular. The effects of teaching parents to provide labeled and unlabeled praise did not depend on children's baseline levels of disruptive child behavior, neither immediately, nor after the two-week practice period ( $ps > 0.54$ ).

Third, ANOVA indicated that parents perceived the advice to provide labeled praise, compared to unlabeled praise, less positively ( $F(131) = 5.28, p < 0.05, d = 0.54$ ). Although teaching parents to use labeled and unlabeled praise had a similar impact on child behavior, parents preferred using unlabeled over labeled praise.

Because children were not invariably compliant in the initial compliance tasks (resisting the challenge of eating the food), we controlled for a possible moderation effect of children's level of compliance in the initial tasks. We also conducted all primary analyses without controlling for a possible moderation effect of children's level of compliance in the initial tasks, which did not affect the significance of any of the study findings. In addition, all analyses were conducted using the complete data set including imputed missing data. A re-run of our analyses using the original, incomplete data yielded similar results. The Experiment 2 findings do not hinge on children's compliance in the initial tasks, nor on imputed data.

Different from Experiment 1, Experiment 2 did find that labeled praise increases child compliance and reduces disruptive behavior. However, across outcome measures, and independent of children's initial disruptive behavior, we found no evidence to support the view that teaching parents to use labeled praise is superior to unlabeled praise at influencing these outcomes. Importantly, parents perceived the advice to use labeled praise less favorably than the advice to provide unlabeled praise.

## 4. Discussion

Two field experiments tested the widespread but understudied belief that teaching parents to use labeled praise is more effective than teaching them to use unlabeled praise for increasing child compliance. We examined immediate (Experiment 1) and intermediate (two week; Experiment 2) effects, included community and at risk samples, passive and active compliance tasks, and tested

putative moderators that are theoretically and practically relevant, including parents' spontaneous use of praise and baseline severity of children's disruptive behavior.

Across experiments, we found no evidence that teaching parents to use labeled praise is superior to teaching them to use unlabeled praise. In Experiment 1, which examined immediate effects on a passive compliance task, labeled praise did not benefit child compliance whereas unlabeled praise did. In Experiment 2, which examined both immediate effects on an active compliance task and two week effects on parent reported disruptive behavior, labeled praise was effective, but not more effective than unlabeled praise.

Our findings build on existing knowledge that praise can be an effective means to influence compliant behavior in children. As such, our findings further corroborate parenting intervention practice to teach parents the use of praise to reinforce positive child behavior (Dishion et al., 2011; Sanders, 1999; Webster-Stratton & Reid, 2010; Zisser & Eyberg, 2010).

More novel, however, is that we found no evidence to support common practice to teach parents to use labeled rather than unlabeled praise. If anything, in terms of immediate and passive compliance, it was unlabeled praise that was more effective, especially when provided by parents who provide more unlabeled than labeled praise in their routine parenting. Moreover, parents perceived the advice to use labeled praise less favorably than the advice to provide unlabeled praise.

Why do the results of our study differ from studies on labeled praise for children's behavior in structured play situations (Bernhardt & Forehand, 1975), and on labeled praise for children's on task behavior in the classroom (Chalk & Bizo, 2004)? Our study is the first to implement the discrete parenting intervention component of teaching parents to use labeled praise into parents' daily lives. Praise tends to be perceived as positive, but also as controlling, because praise is provided contingently upon specific behavior only (Deci, Koestner, & Ryan, 1999). Under some circumstances, labeled praise might be perceived as less controlling than unlabeled praise, because labeled praise focuses on the child's behavior and therefore avoids evaluation of the child as a person (e.g., "good boy"). Under other circumstances, and perhaps in the context of our study, labeled praise might be perceived as more controlling, because the contingency of praise is made more salient by explicitly referring to the behavior the child is praised for. In addition, our findings in Experiment 1 suggest that labeled praise may be less effective in passive compliance situations in particular, because labeled praise in these cases might draw the child's attention to the behavior that is not allowed. Specifically, and in line with for example Relational Frame Theory (e.g., Hayes, 2004), reference to the forbidden food might have prompted children to think about the temptation to eat the food, which made it harder for them to resist eating the food.

Our results bring into question whether it is useful for parenting interventions for the prevention of disruptive child behavior to teach parents to label their praise in order to increase compliant and reduce disruptive child behavior. It would be premature, based on the evidence from our research alone, to suggest that intervention components that teach the use of labeled praise should be

**Table 2**

Two week effects of teaching parents labeled and unlabeled praise on disruptive and aggressive child behavior (Experiment 2).

	Labeled praise ( $n = 42$ )				Unlabeled praise ( $n = 47$ )				Control ( $n = 43$ )			
	Pre		Post		Pre		Post		Pre		Post	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
ECBI	125.67	23.37	117.00	24.91	118.34	29.56	108.28	23.06	112.50	28.87	116.63	29.21
CBCL—Aggression	14.46	6.11	12.40	5.73	11.54	6.16	7.15	5.01	10.76	6.61	10.94	6.52

removed from established parenting interventions. Yet our findings do call for a careful reconsideration of “when”, “for whom,” and “for what target behavior” the labeled praise component might be helpful. Also, our findings that labeled praise was less inferior to unlabeled praise for parents who had more experience using labeled praise at home (Experiment 1), and that labeled and unlabeled praise were equally effective when parents practiced with praise for two weeks (Experiment 2), suggest that previous learning experiences of parents and children with praise promote the effects of praise. For parenting interventions, this supports the notion to build on existing parenting behaviors, rather than to teach parents new behaviors.

One might perhaps believe that labeling praise will be especially important to use in ambiguous contexts, where it could be unclear to children for which behavior they receive praise. The behavioral tasks of leaving the food in the box (Experiment 1) and cleaning up the memory game (Experiment 2) were structured and relatively unambiguous, but this was not true for our measure of disruptive behavior during daily parenting situations at home (Experiment 2). Even on this measure, labeled praise was not superior to unlabeled praise.

One might also expect that labeling praise is especially important for children who show higher levels of disruptive behavior, perhaps because these children tend to be less sensitive to praise (Matthys, Vanderschuren, Schutter, & Lochman, 2012), and the more explicit nature of labeled praise may optimize its potency for these children. We found no evidence for that possibility, however, even when we sampled children with a relatively wide range of disruptive behavior problems. That said, only a small proportion of children in our combined sample met clinical levels of disruptive and aggressive behavior, which were too few children to analyze separately. Accordingly, the potential of this study to detect possible threshold effects, such as that labeled praise may be particularly effective among those individuals who meet clinical levels of disruptive behavior, is admittedly limited.

In Experiment 2, we examined the effects of labeled and unlabeled praise to reduce general disruptive behavior (e.g., tantrums, rule breaking behavior), rather than to reinforce the specific behavior that participants were praised for (passive or active compliance with a parental request). To measure general disruptive behavior, we used measures (i.e., the ECBI and the CBCL-aggression scale) that are typically used in parenting intervention evaluation studies. As such, our effect sizes are comparable to those of such intervention evaluation studies. Effect sizes of the two week practice period on the reduction of disruptive child behavior were moderate ( $d = 0.52$  and  $d = 0.68$ ), and similar to effect sizes typically found for comprehensive parenting interventions to reduce disruptive child behavior (e.g., see McCart, Priester, Davies, & Azen, 2006; Menting, Orobio de Castro, & Matthys, 2014; for reviews). This might seem surprising, given that Experiment 2 included only one training session (i.e., the home visit) and two weeks of practice, and focused narrowly on a single parenting technique (i.e., labeled or unlabeled praise). Yet, these findings are not unprecedented. Evidence is accumulating that “small” (i.e., brief and focused) interventions can sometimes have relatively powerful effects, especially when they are targeted at influencing a key psychological process known to impede children’s optimal adjustment (for a review, see Yeager & Walton, 2011). As a parenting strategy, praise is centrally involved in the “positive parenting process” (Wahler & Meginnis, 1997). It may well be that successful attempts to increase parental praise, however small, may be consequential in that they trigger a wider array of associated positive parenting processes (e.g., responsiveness, sensitive disciplining). Although we did not test this possibility in our experiments, this might explain why the effects of our brief praise manipulation were substantial.

Several limitations of our studies merit consideration. First, in Experiment 2, disruptive child behavior over the two week practice period was measured using parent-report only. Because parents were targeted in the intervention, it may well be that the two week effects of the praise intervention that we found may partially reflect parents’ changed perceptions of their children’s behavior, rather than objective changes in their children’s behavior. That said, we ensured that demand characteristics were similar in the three conditions. For example, parents in the no praise control condition also received hand-outs, and they also wrote about their child’s positive behavior on a day-to-day basis. Moreover, we also obtained behavioral, objective measures of compliance in Experiment 1 and Experiment 2, and the results on these measures corroborate the parent-reports in showing that teaching parents to use labeled praise is not superior to teaching them to use unlabeled praise.

Second, we pinpointed baseline disruptive behavior as a putative child moderator of the effects of praise. Of course, other potential moderators may be relevant as well. For example, children’s verbal intelligence might influence how they process subtle differences in praise (Matthys et al., 2012), and children’s temperamental differences might make some children more susceptible than others to the influence of praise (Belsky, Bakermans-Kranenburg, & van IJzendoorn, 2007). Future research is needed to more comprehensively measure child disruptive behavior in conjunction with other putative moderators, in order to more comprehensively test the possibility that certain families may benefit more from labeled praise than do others.

This research bridges basic research on the effects of discrete parenting behaviors on child behavior and applied research on the effects of comprehensive parenting interventions. It fits well with recent calls in the field to increase understanding of the effective ingredients of evidence-based parenting intervention packages (Leijten et al., 2015; Piquero et al., 2009). Our study informs behavioral research and therapy by underscoring the importance of including praise in prevention oriented parenting interventions, but casts doubt on the emphasis placed in most interventions to teach parents the use of labeled over unlabeled praise.

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