verbal persuasion and resilience of parenting self-efficacy: preliminary findings of an experimental approach

Julie F. H. Cassé
Mirjam Oosterman
Carlo Schuengel

ABSTRACT

Verbal persuasion may be the least preferable way to enhance parenting self-efficacy as it may undermine resilience against failures inevitable in parenting. To test this, 55 parents participated in two tasks. First, a cry interpretation task led a random half of the participants to believe they mastered this skill and would do well on the subsequent task, while the other half was told their skill was low. In the second task parents chose appropriate responses to stop infant crying which exposed them to randomly assigned success rates (20%, 40%, 50%, or 80%). Parenting self-efficacy was rated before and after the second task. Results showed that positive persuasion led to higher parenting self-efficacy than negative persuasion. Crucially, parents who received positive persuasion were vulnerable to decreases in self-efficacy due to failure. These findings are a preliminary suggestion that verbal persuasion may heighten parenting self-efficacy in the short-term, but undermine its long-term resilience.
Persuading parents that they may be more competent and effective than they think, may be an attractive strategy in interventions and programs to stimulate parents to develop and exercise their skills. The use of verbal techniques in interventions makes sense given their easy implementation and positive effects in a wide range of domains (Luzzo & Taylor, 1994; Porte, Xeroulis, Reznick, & Dubrowski, 2007; Siegle & McCoach, 2007; Vallerand, 1983). Whether parents whose parenting self-efficacy is enhanced by verbal persuasion are better equipped to successfully negotiate the challenges of parenting remains to be seen, however. Several studies indicate that enhanced self-efficacy beliefs might not hold up against subsequent negative experiences (Donovan, Leavitt, & Taylor, 2005; Donovan, Leavitt, & Walsh, 1990; Eastwood, Jalaludin, Kemp, Phung, & Barnett, 2012; Harwood, McLean, & Durkin, 2007). This study tested whether verbally enhanced parenting self-efficacy beliefs actually decreases parents' resilience against subsequent failures in parenting tasks.

The Influence of Verbal Persuasion on Parenting Self-Efficacy

Parenting self-efficacy can be considered as the conviction that one is able to parent successfully (Jones & Prinz, 2005). Repeated perceived success regarding a task strengthens self-efficacy, whereas repeated failure weakens it (Donovan & Leavitt, 1989). Self-efficacy may be derived from multiple sources, including performance feedback, vicarious experiences, affective responses, and verbal persuasion (Bandura, 1977). Although Bandura (1977) has described performance feedback as the main source of feedback, verbal persuasion is considered an important influence on self-efficacy as well. Bandura (1982) hypothesized that the opinion of others about a person’s ability may be a source of information that this person uses to build his or her expectation regarding success or failure on tasks. Empirical studies found that verbal persuasion was effective in boosting self-efficacy beliefs in a variety of domains (e.g., Luzzo & Taylor, 1994; Wise & Trunnell, 2001). In the domain of parenting, tests of the specific effects of verbal persuasion on parenting self-efficacy are lacking, however. Moreover, a meta-analysis on interventions aimed to improve physical activity self-efficacy has found a negative effect of persuasion (Ashford, Edmunds & French, 2010). The authors argued that persuasion is not powerful enough to create long-lasting changes in self-efficacy, relative to other techniques such as performance feedback (Ashford et al., 2010; Siegle & McCoach, 2007), making self-efficacy more unstable. Persuasion may even create unrealistically inflated self-efficacy beliefs that go beyond people’s actual competence. Several studies suggest that these inflated beliefs increase the impact of disconfirming experiences on self-efficacy (Donovan et al., 2005, 1990; Eastwood et al., 2012; Harwood et al., 2007). More insight into the buffering or decreasing effect of positive verbal persuasion on parenting self-efficacy in the face of failure is essential for determining whether verbal persuasion is useful for parenting
interventions or that in interventions for parents verbal persuasion should be eschewed and rather different techniques of enhancing parenting self-efficacy should be employed (i.e., stimulating parental self-evaluation regarding skills related to parenting behavior; Sanders, 2008; Sanders & Woolley, 2005).

**Resilience of Parenting Self-Efficacy**

Self-efficacy beliefs are assumed to vary in strength, meaning that strong self-efficacy causes people to assess failure as surmountable and inconsequential for their assessment of their competence (Bandura, 1993), while weak self-efficacy beliefs increase the negative impact of failure (Bandura, 1977). In most empirical studies strength and weakness appear to be equivalent to high or low self-efficacy, respectively. However, it may be important to distinguish amount and strength of self-efficacy as different concepts. Strength and weakness could also be interpreted as indicators of, respectively, resilience and fragility of self-efficacy. Experimental research (Donovan et al., 2005, 1990) has shown that high parenting self-efficacy is not always associated with more positive outcomes. Women with high illusory control (i.e., parenting self-efficacy that was higher than the self-efficacy of women with similar levels of actual competence) were more susceptible to learned helplessness when experiencing an inability to stop infant cries on an audio tape. Compared to average or low illusory control, women with high illusory control were in fact less resilient against failure. The authors offered the explanation that learned helplessness can be the result of a mismatch between high expectations of control and having no actual control over stopping the crying. Thus, high parenting self-efficacy beliefs in fact had detrimental consequences when confronted with failure. Also, studies have found that when first-time mothers’ prenatal expectations were not met in the postpartum period, women had more depressive symptoms and more interpersonal problems (Eastwood et al., 2012; Harwood et al., 2007). Harwood and her colleagues concluded that optimistic expectations might be detrimental when actual experiences are relatively negative. As the mismatch of successive experiences could also have an intensifying instead of buffering effect, one might question whether enhanced parenting self-efficacy beliefs based on verbal persuasion will remain strong, or in other words are resilient, against subsequent negative performance feedback.

**This Study**

The effects of verbal persuasion on resilience of parenting self-efficacy were tested by exposing parents to verbal persuasion and subsequent performance feedback using a cry response task. Parents first participated in a test regarding a specific and relevant caregiving skill (interpreting baby cries) after which they received either a positive or negative statement that they mastered a
skill that was important for being successful on the subsequent parenting task. The combination of having participated in a test, receiving a valid assessment of skill based on this test, and the suggestion that linked this skill to a subsequent task was made to maximize persuasiveness of the verbal message. The first question was whether this manipulation impacted parenting self-efficacy. Crucially, the second question addressed whether verbal persuasion would mitigate or amplify the effects of subsequent success or failure in caregiving responses to baby cries. If our results are in line with the idea that level and strength or resilience derive from similar sources, positive verbal persuasion would buffer against the impact of negative experiences, resulting in relatively robust self-efficacy (hypothesis 1). However, positive verbal persuasion may also engender an illusion of control, hence positive verbal persuasion could amplify the negative impact of failure experiences (hypothesis 2). To address the possibility that response to failure after verbal persuasion could be alternatively explained by regression to the mean or fluctuation over time, level of failure was varied so that the association between verbal persuasion and level of failure was tested.

**METHOD**

**Participants**
Parents were recruited via day care centers and elementary schools in the Netherlands and included 55 parents (80% mothers) with at least one child between 0 and 6 years old. The parents were predominantly Dutch (N = 53), one was Australian and one German. The mean age of the parents was 38.53 (SD = 6.19).

**Procedure**
After having received a previously mailed consent form, parents were contacted and an assessment was scheduled in a private room at a local elementary school. After the instructions, participants first completed the questionnaire Parenting Sense of Competence Scale (PSOC; Johnston & Mash, 1989) and thereafter participated in an experimentally manipulated computerized cry interpretation assignment and caregiving task. Afterwards parents were handed a debriefing letter explaining the manipulation of the experiment. Participation took in total approximately 45 min and no incentive was given.

**Measures and Experimental Manipulations**
The cry response task consisted of two parts, the cry interpretation test and the caregiving task, from which different measures were derived.
Verbal persuasion of parenting self-efficacy. To persuade parents to have more positive or negative beliefs about their parenting abilities, they were exposed to a cry interpretation test. Parents listened to four baby cries and were asked to attribute these cries to the correct cause (hunger, tiredness, discomfort, or cramps), providing the suggestion that interpreting cries is a skill that parents either have or do not have. The program assigned 50% of participants at random to a negative or positive verbal persuasion condition. For participants in the negative persuasion condition, the message was: “Unfortunately, your responses to the crying sounds were not correct. You are not capable enough of recognizing and distinguishing baby cries. That is unfortunate considering that the next task will draw on this important skill for parents”.

For participants in the positive persuasion condition, the message was: “Congratulations! Your responses to the crying sounds were very good. You are well capable of recognizing and distinguishing baby cries. This is an important skill for parents, and will be useful in the next task”. After receiving the verbal persuasion, participants completed a Visual Analogue Scale (VAS; Wewers & Lowe, 2007, for a review of validity) ranging from zero to 100 (actual range was invisible to parent) assessing parenting self-efficacy in response to the question: “In daily situations, how well do you think you would be able to respond to infant cries?”.

Performance feedback on parenting self-efficacy. After the cry interpretation assignment parents participated in the caregiving task receiving feedback on their performance. Participants were exposed to 20 x 15-to 30-sec trials of baby cries and asked to choose between three responses that might terminate the cry: (a) leave the child alone, (b) console the child, and (c) nurse the child. Responses on the 20 trials were followed by cry termination (success) or continuation (failure) with probabilities that were based on the four conditions to which the participants were assigned: 20%, 40%, 50%, or 80% cry termination (success). After the task, participants again completed the VAS to assess parenting self-efficacy. The task was based on earlier studies involving baby cries (e.g., Donovan et al., 2005; Milner, Halsey, & Fultz, 1995) as well as studies in which self-efficacy was successfully manipulated in a mental arithmetic (Gerin, Litt, Deich, & Pickering, 1995) and videogame task (Gerin, Litt, Deich, & Pickering, 1996). The audio recording consisted of cries from one full-term, healthy 3-month-old baby, recorded prior to normal feeding time and after a bath. The cries were recorded with a hand recorder and multiplied to simulate longer periods of crying.

Parenting self-efficacy. Changes in parenting self-efficacy, related to the manipulated ratio of success and failure during the caregiving task, were composed by subtracting participants’ VAS scores after the caregiving task (VAS2) from their VAS score after the verbal persuasion
(VAS1). In addition, the PSOC (Johnston & Mash, 1989) was used to measure baseline levels of parenting self-efficacy and to control for pre-existing differences. The PSOC has 17 items that are answered on a 6-point scale (1 = strongly agree, 6 = strongly disagree) with a minimum of 17 and a maximum of 102. An example item is: “I honestly believe I have all the skills necessary to be a good parent to my child”. Cronbach’s alpha of the PSOC was acceptable ($\alpha = .62$).

**Data Analytic Strategy**

The effect of verbal persuasion on parenting self-efficacy was tested with an independent samples t-test on the average VAS score after the cry interpretation assignment for the positive and negative verbal persuasion groups. A t-test on the PSOC scores was conducted to check for pre-existing differences.

A two-way ANOVA ($2 \times 4$) was conducted to test the effect of performance feedback (20%, 40%, 50%, or 80% success experiences) on the change score in parenting self-efficacy from the first to the second VAS, taking verbal persuasion into account. For ease of interpretation, VAS change scores were analyzed. Repeated measures ANOVA on the absolute scores showed the same effects and are not reported here. In order to test the moderating effect of verbal persuasion on the effect of performance feedback on parenting self-efficacy, the interaction effect between verbal persuasion condition and feedback condition on the change scores was tested as well. To further probe the interaction effect, a one-way ANOVA was conducted with the combination of verbal persuasion and feedback conditions (eight groups) as the factor. Moderation was tested using planned contrasts in the following way. Positive verbal persuasion and 20% success weighted one and negative verbal persuasion and 20% success weighted minus one. This contrast was chosen because failure experiences were predominant and similar in ratio in both conditions, whereas the type of verbal persuasion, negative or positive, differed. Thus, this contrast examined the effect of positive verbal persuasion on negative experiences. Finally, to further examine the effects of positive verbal persuasion across different ratios of success and failure experiences on parenting self-efficacy, planned contrasts compared 20% to 40% success, 40% to 50% success, and 50% to 80% success. Also within the negative verbal persuasion condition, planned contrasts tested effects across different ratios of success and failure experiences on parenting self-efficacy.
RESULTS

Result of Randomization

Figure 1 describes the flow of the participating parents through the experiment as a result of the two randomizations.

Table 1 describes the background differences between the different groups. Background variables (parental gender, parental age, number of children, and educational level) did not differ among groups, confirming a successful randomization of the participants. Importantly, the PSOC scores in the positive and negative verbal persuasion condition were not significantly different before the manipulation.

![Flowchart of participant flow](chart.png)

Figure 1. Flow of participants in verbal persuasion and performance feedback (% of success) conditions.
Table 1. Descriptive Statistics Among Groups

<table>
<thead>
<tr>
<th>Statistics</th>
<th>Positive Verbal Persuasion</th>
<th>Negative Verbal Persuasion</th>
<th>χ²(1, N = 55) = 0.18, p = .9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender parent</td>
<td>Gender parent</td>
<td>Gender parent</td>
<td>Gender parent</td>
</tr>
<tr>
<td>Man</td>
<td>6</td>
<td>5</td>
<td>0.18, p = .9</td>
</tr>
<tr>
<td>Woman</td>
<td>23</td>
<td>21</td>
<td>0.18, p = .9</td>
</tr>
<tr>
<td>Number of children</td>
<td>1.9 (0.9)</td>
<td>2.1 (0.9)</td>
<td>0.18, p = .9</td>
</tr>
<tr>
<td>Parental age</td>
<td>37.9 (5.8)</td>
<td>39.3 (6.6)</td>
<td>0.18, p = .9</td>
</tr>
<tr>
<td>Education</td>
<td>4.9 (1.5)</td>
<td>5.1 (1.7)</td>
<td>0.18, p = .9</td>
</tr>
<tr>
<td>PSOC</td>
<td>62.1 (7)</td>
<td>63.7 (6.4)</td>
<td>0.18, p = .9</td>
</tr>
</tbody>
</table>

Note: *Number of man/women in groups; †missing education n = 5; ‡PSOC = Parenting Sense of Competence Scale.

The Influence of Verbal Persuasion on Parenting Self-Efficacy

Parenting self-efficacy on the VAS1 was significantly lower in the negative (M = 58.2, SD = 21.9) verbal persuasion condition compared to the positive (M = 70.5, SD = 17.8) verbal persuasion condition (t(53) = 2.3, p = .03), indicating that verbal persuasion affected parenting self-efficacy.

Verbal Persuasion as a Moderator of Failure or Success Effects

A two-way ANOVA (2 × 4) showed a main effect for the positive and negative verbal persuasion conditions (F(1,54) = 5.14, p < .05) for the difference between VAS1 (M = 64.7, SD = 20.6) and VAS2 (M = 55.5, SD = 20.4). Positive verbal persuasion resulted in a larger decline in parenting self-efficacy (M = -13.66, SD = 2.82) than negative verbal persuasion (M = -4.44, SD = 2.94). In addition, a main effect was found for the ratio of success and failure during the parenting task (F(3,54) = 4.72, p < .01). Changes in parenting self-efficacy were highest for parents subjected to 20% success (M = -18.60, SD = 4.15), followed by 50% success (M = -13.62, SD = 4.15) and 40% success (M = -5.53, SD = 3.93) and parenting self-efficacy changes were lowest (and positive) for 80% success (M = 1.54, SD = 4.03). Performance feedback conditions, respectively, resulted in lesser negative change and the 80% success condition in a small positive change in parenting self-efficacy. This indicates that parenting self-efficacy was affected more by predominant failure than by predominant success, meaning that negative experiences had a greater impact on self-efficacy than positive experiences. Crucially, the interaction effect (see Figure 2) between verbal persuasion conditions and...
performance feedback conditions was also significant ($F(3,54) = 3.66, p = .02$), indicating that decreases in parenting self-efficacy were highest for participants experiencing more failure after having received positive verbal persuasion, and decreases were lowest for participants experiencing predominant success after having received negative verbal persuasion.

A larger mean decrease ($M = -30.33, SD = 13.89$) in parenting self-efficacy was found for parents who received positive verbal persuasion and predominant failure (hypothesis 2), compared to parents who received negative verbal persuasion and predominant failure (hypothesis 1; $M = -6.86, SD = 10.07$). The error bars in Figure 2 represent standard deviations as estimates of variability around the mean. Although this indicates variability within the condition of positive verbal persuasion/predominant failure, remarkably, all participants’ parenting self-efficacy decreased. This demonstrates that, to some extent, all parents decreased in parenting self-efficacy in the face of failure after having received positive verbal persuasion.

Planned contrasts were significant ($t(8.9) = -3.44, p = .007$), showing that positive verbal persuasion in combination with 20% success, compared to negative verbal persuasion and
20% success, resulted in a larger decrease in parenting self-efficacy (hypothesis 2), not a smaller decrease as predicted by hypothesis 1. Further, planned contrasts were used to examine the effect of positive verbal persuasion in combination with the various ratios of success/failure experiences on parenting self-efficacy. There was a significant difference between 20% and 40% success \((t(10) = -2.83, p = .018)\) and between 50% and 80% success \((t(8.37) = -2.36, p = .04)\), but not between 40% and 50% success \((t(12.13) = 0.92, p = .38)\). These results indicated that exposure to positive verbal persuasion increased the effects of the 20% success, 40%/50% success and 80% success conditions on parenting self-efficacy, except for exposure to 40% compared to 50% success. Planned contrasts were also used to examine the effect of various ratios of success/failure experiences on parenting self-efficacy in the negative verbal persuasion condition. None of these planned contrasts were significant, apart from one marginally significant difference \((t(10.84) = -2.14, p = .056)\) comparing 20% and 80% success. This indicates that specific amounts of failure in combination with negative verbal persuasion had little influence on the change in parenting self-efficacy. Thus, planned contrasts indicated that negative verbal persuasion in combination with failure did not affect parenting self-efficacy to the same extent as positive verbal persuasion in combination with failure.

DISCUSSION

This study tested the interaction between two sources of parenting self-efficacy within an experimental design. As expected on the basis of Bandura’s model of self-efficacy (1982), a verbal persuasive message regarding a specific caregiving skill (cry interpretation) influenced parenting self-efficacy. Also in line with Bandura’s model, more experiences of failure during a simulated caregiving task led to decreases in parenting self-efficacy. Although the findings are still preliminary, a novel finding from the cry response task was that positive verbal persuasion increased the impact of subsequent caregiving failures, supporting earlier findings on the effects of a mismatch between successive experiences (Donovan et al., 2005; 1990; Eastwood et al., 2012; Harwood et al., 2007), and contradicting the idea that strength or resilience and level of self-efficacy derive from the same sources.

The findings open up new questions regarding not only the level of parenting self-efficacy beliefs, but also the resilience of these beliefs against the inevitable ups and downs in parenting. It has been assumed that self-efficacy beliefs can vary in strength (i.e., resilience) and that it is possible to enhance this strength (Asscher, Hermanns, & Deković, 2008; Gross, Fogg, &
Verbal persuasion regarding specific skills that might underlie parenting self-efficacy does not appear to act as a buffer. The drop in parenting self-efficacy resulting from failure after positive persuasion could not have been a result of self-efficacy beliefs that were already weak because randomization would have made the groups comparable in this regard. The results also showed that within the positive verbal persuasion condition the specific ratio of success/failure (predominant or average) impacted parenting self-efficacy while within the negative verbal persuasion condition this impact was not found, showing that in addition to the main effect of verbal persuasion on the change in self-efficacy, verbal persuasion also moderated the effect of failure, making it unlikely that mere regression to the mean or variance over time could explain the effects. Consistent with the second hypothesis, positive verbal persuasion created a larger mismatch of expectations and experiences than negative verbal persuasion, again linking to the findings of Donovan and her colleagues that overestimated self-perceptions were actually vulnerable to failure (Donovan et al., 1990; Harwood et al., 2007; Rothbaum, Weisz, & Snyder, 1982). Nevertheless, there may be an alternative explanation, because by telling participants they either were or were not capable of distinguishing baby cries (i.e., interpretation task), a mindset or framework may be induced in the parents, in which their expectation about their performance in the caregiving task was more based on a fixed and unchangeable ability. After several researchers (Bandura & Dweck, 1988; Dweck & Elliot, 1983; Nicholls, 1984) found that people either have the idea that their ability is fixed (entity framework) or that their ability is malleable (incremental framework), Wood and Bandura (1989) found that the induction of a fixed-ability conception decreased self-efficacy. Parents who were told they were capable of distinguishing baby cries and would do well on the caregiving task may have interpreted this failure in light of their ability rather than their effort, resulting in helpless responses, negative affect (Blackwell, Trzesniewski, Dweck, 2007), and lower parenting self-efficacy. Both explanations (i.e., the mismatch-hypothesis and praise for ability) for the decrease in parenting self-efficacy would have different practical implications. In line with the mismatch-hypothesis, after having received positive verbal persuasion the amount of failure may cause the parent to feel proportionally less efficacious, while negative verbal persuasion might actually be a preparation for whatever amount of failure that is to come. This does not mean that negative verbal persuasion would be an appropriate inoculation for stressed parents against failures that are bound to occur. Rather, this finding indicates that verbal comments might need to be concordant with parents’ actual performance and abilities to scaffold parents while they re-examine their abilities and beliefs about themselves (Rothbaum et al., 1982). Parents verbally supported with a realistic notion concerning their abilities as a parent might have a higher chance of internalizing positive feedback and experiencing failure as a challenge.
instead of insurmountable. Research on the effects of praise suggests that parents should be praised for the efforts they put into parenting, and not their abilities, as this will make parents exert more effort and see mistakes as challenges to overcome. Bandura (1977) suggests that exerting more effort and seeing obstacles as surmountable can increase the chance of being successful in difficult parenting situations which in turn increases parenting self-efficacy, a mechanism that has also been proven in educational contexts by the work of Dweck and colleagues (Yeager & Dweck, 2012).

**Implications for Future Research**

This study is limited in four ways. First, enhancement of self-efficacy as a result of positive verbal persuasion and/or reduction of self-efficacy as a result of negative verbal persuasion could not be examined because no task baseline measurement of parenting self-efficacy was taken. Nevertheless, the fact that verbal persuasion, asserted through a computer program, led to significant differences between the two groups of parents on parenting self-efficacy beliefs, supported the influence of verbal persuasion on parenting self-efficacy and demonstrated the effect of verbal persuasion on parents. Future studies examining the influence of verbal persuasion should include baseline measurements of parenting self-efficacy to more precisely measure enhancement or reduction of self-efficacy due to verbal persuasion. Second, the sample of 55 was spread over 8 conditions, limiting statistical power and increasing the opportunity for single outliers to influence the results. Larger sample size would be necessary to bolster the conclusions, even though the effects generally followed a consistent pattern. Third, the current study did not distinguish the mechanisms through which verbal persuasion undermined the strength of parenting self-efficacy. Further research would be necessary to investigate the effect of a mismatch between experiences versus low fixed-ability and whether verbal persuasion after the interpretation task, verbal expectations regarding the subsequent task or a combination of both lowered parenting self-efficacy. Fourth, the hypotheses were tested using an analog experimental design, leaving questions open regarding the external validity of the manipulations and the observed responses. It would be interesting and valuable to monitor parenting self-efficacy of parents in interventions subjected to real-life difficulty and failure concerning their child, comparing the effects of administering accurate substantiated verbal persuasion to more vacuous verbal persuasion. Then, it might be possible to study the effects of accurate verbal persuasion measured against their actual performance and abilities as a parent. As parenting self-efficacy is a mediator for parenting behavior (Teti, O'Connell, & Reiner, 1996) and important for stressed parents (Asscher, Dékovic, Prinzie, & Hermanns, 2010), further research should examine a broader range of verbal coaching and feedback styles for bolstering parenting self-efficacy in at-risk parents. Overall, our results provide sufficient
grounds for considering verbal persuasion in combination with performance feedback as important factors impacting parenting self-efficacy. Therefore, verbal persuasion requires future research in both natural and experimental settings using distinct ratios of success and failure. Furthermore, the findings may also spur examination of factors impacting the robustness rather than the level of self-efficacy in parenting and other domains (e.g., Verhage, Oosterman, & Schuengel, 2013).

**Conclusion**

The current study shows the importance of the impact of verbal persuasion and the resilience of self-efficacy, using a cry response task. Positive verbal persuasion increased the *level* of parenting self-efficacy, but decreased the *resilience* of parenting self-efficacy in the face of failure. These findings provide preliminary evidence that increasing parenting self-efficacy through verbal persuasion may not always be the best goal for parenting support. More research is needed to understand the interplay of verbal persuasion and performance feedback and the effect on parenting self-efficacy. Understanding this interplay is important for developing intervention programs supporting stressed parents that aim to strengthen parenting self-efficacy.