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Cultivating Positive Teacher-student Relationships: Effects of Tailored Positive Behavior Support Interventions on Classroom Discipline

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This research study examined the effect of positive behavioral interventions and supports (PBIS) on the nature of student-teacher relationships, emphasizing classroom behavior dynamics. The study evaluated the connections between students in grades preK-12 and their teachers in a southeastern state in the USA, focusing on the implementation of positive behavior support strategies. The research utilized a methodology involving pre- and post-surveys along with a two-week application of chosen positive behavior interventions, particularly targeting students with prior discipline referrals. The central research question investigated the influence of a short-term positive behavioral support intervention on student-teacher relationships, specifically among students with a history of discipline referrals.

Keywords: school discipline, teacher-student relationships, students' behavior, PBIS, teacher preparation.

Introduction

In recent years, fostering positive student-teacher relationships in a K-12 environment has become increasingly recognized as a crucial element in creating a supportive and conducive learning environment. Positive Behavioral Interventions and Supports (PBIS) have emerged as a promising framework to enhance these relationships by providing strategies to address behavioral challenges and promote positive interactions. This research paper examines the effectiveness of PBIS in improving student-teacher relationships through quantitative analyses on closeness and conflict and explores the impact of different PBIS methods. By investigating the outcomes of PBIS interventions, this study aims to provide insights for educators and school leaders to optimize behavior support strategies and to cultivate harmonious student-teacher relationships in classroom settings. The study builds on a line of research by the authors (Martinez, R. and Wighting, M.J. 2022, 2021), and its focus is on students who have received referrals for discipline infractions.

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Review of the Literature

Teacher-Student Relationships

Existing research underscores the crucial role of positive teacher-student relationships in academic achievement and student well-being. Studies have highlighted increased student engagement, motivation, and self-esteem as outcomes of supportive relationships with teachers. Notably, the quality of these relationships is linked to positive behavior and a conducive learning environment (Roorda et al., 2011; Hamre & Pianta, 2001). Students' interactions and subsequent relationships with teachers are paramount for their emotional regulation, attention, problem solving, and subsequently their academic achievement (Pianta, 2006). A study conducted in the two different curriculum areas of math and physical education (Jowett et al., 2023) found that teacher-student relationships have a strong impact on academic engagement and progress and that students whose relationships with their teachers are of high quality are more likely to experience positive affect, enjoyment, and intrinsic motivation, as well as higher levels of physical self-concept and perceived competence. Conversely, a study conducted on the effects of the Covid-19 pandemic on teacher-student relationships (Farris et al., 2023), reported that the rapid change from in-person to remote learning led to turbulence and turmoil in relationships leading to a negative effect on the promotion of academic goals. In a synthesis of the relevant literature, Dai (2024) concluded that a positive teacher-student relationship can not only improve students' classroom participation and act as an intermediary to regulate students' emotions, but also cultivate students' learning skills and help students to achieve their learning goals and achievements.

Impact of PBIS on Student Behavior

Several research studies have reported on the impact of PBIS on student behavior. A study by Wienen et al. (2019) was conducted to determine how teachers perceive the impact of PBIS on student behavior and concluded that teachers found PBIS to be more effective in managing girls' behavior than behavior by boys. It also found that PBIS had greater impact in general educational settings compared to classrooms with special needs children. Lawrence et al. (2022) conducted a study to obtain perspectives from teachers who had implemented PBIS. The teachers reported that PBIS had a positive impact on student behavior, and reported also that PBIS helped them to use more effective classroom management strategies. Noltemeyer et al. (2019) investigated the impact PBIS had on student achievement and behavior in classroom settings in elementary and middle schools. The purpose of the study was to determine if the implementation of PBIS had a positive impact on the way students behave in class as well as the academic performance of students. The researchers concluded that there was a positive connection between the implementation of PBIS and student behavior, revealing a significant decline in student misbehavior, office referrals, and school suspensions. Pas et al. (2019) also conducted a study to investigate the impact that PBIS had on student behavior and academic performance. The participants in this study were students from elementary, middle, and high

school. The study's results indicated that PBIS positively impacted student behavior as evidenced by decreased office referrals and suspensions. Additionally, the research revealed that PBIS had a positive impact on student achievement. Elrod et al. (2020) conducted a mixed methods research study to investigate the impact that PBIS had on school climate and student discipline. To gather qualitative data, the 24 researchers interviewed over 2,000 middle and high school students. The researchers reviewed quantitative data from office referrals compared to data collected before PBIS was implemented and collected qualitative data by interviewing students. The results of this study indicate that PBIS positively impacted both the school climate and the rate of student misbehavior.

The studies reviewed above examined the effects of PBIS on behavior exhibited by a broad spectrum of students. Fortune-Williams (2023) studied the effects of PBIS on students who were already identified as having behavior issues and had been placed on a Behavior Intervention Plan by their school. The results of this study were that most of the teachers interviewed felt that PBIS is effective for children with behavior issues because the intervention acts as a motivational tool, gives students something to work towards, decreases negative behaviors, and increases positive behaviors. Additionally, the study indicates that teachers believe PBIS effectively reduces behavior infractions in the classroom.

This current research also investigates the impact of PBIS on teacher-student relations by studying children who have been identified as having behavior challenges as evidenced by office referrals.

Research Question

How does the implementation of a positive behavioral support intervention for two weeks affect student-teacher relationships, particularly with students who have had discipline referrals?

Method

The study employed a quantitative approach involving 44 classroom teachers to evaluate the impact of positive behavioral interventions and supports (PBIS) on student-teacher relationships, focusing on 195 students in grades preK-12. Utilizing the Student-Teacher Relationship Scale (Pianta, 2001), participants in the study were tasked with selecting a suitable PBIS strategy from an array of options - individual conversations, written feedback, verbal praise, immediate rewards, or granting material privileges for a two-week intervention.

Participants

All participating teachers are employed teaching children in grades preK-12. The largest percentage of teachers teach in middle school, 63% (grades 6-8); 21% of the teachers teach pre-K through grade 2; 11% of the teachers teach in grades 3-5; and 6% of the teachers teach in high school (grades 9-12). When teachers

completed the survey, they purposefully selected three to five students in their class to take part in the study. The students chosen are students with behavioral concerns; whether they had a written office referral or if the teacher had to address a concern beyond gentle reminders in class. Data were collected on a total of 195 students. After implementing a two-week positive behavioral support intervention, teachers completed a post-survey with the same students. All participants were teaching in the same state within the USA.

Instrument

The teachers' perceptions of the quality of their relationships with the students they teach were assessed using the short form of the Student-Teacher Relationship Scale (STRS), developed by Pianta in 2001. This 15-question survey is a reliable and valid teacher-reported standardized instrument designed to measure the quality of relationships between teachers and students. An example of this instrument can be found in Appendix A of the study.

During the survey, teachers were asked to respond to all items using a 5-point Likert-type scale, where 1 indicated "definitely does not apply" and 5 indicated "definitely applies." Following the completion of the initial survey, teachers selected a positive behavior support intervention to implement for a two-week period. At the end of that period, teachers filled out a post-survey using the same instrument to evaluate any changes in their perceptions of the quality of relationships with their students after implementing the PBIS.

Upon selection, the participants implemented their chosen PBIS strategies over a two-week period. The choices made available to the teachers were:

1. Daily 2-Minute Conversations: Teachers conversed with students for 2 minutes each day.
2. Written Feedback: Teachers provided written feedback in individual student daily journals.
3. Verbal Praise: Teachers offered verbal praise for good behavior.
4. Immediate Rewards: Teachers provided immediate rewards (e.g., food, candy).

To measure the changes in the relationships between students and teachers, pre- and post-intervention surveys were administered using the STRS and focusing specifically on the Closeness and Conflict subscales of the STRS which are listed in Appendix A.

Results

Analysis 1: Closeness versus Conflict (from the STRS)

This analysis examined how a two-week positive behavior intervention strategy impacted student-teacher relationships, especially for students with a history of discipline referrals. A paired samples t-test was used to compare scores from before

and after the intervention on the Closeness and Conflict subscales of the STRS. Key Findings are shown in Figure 1 below.

Figure 1. *Boxplots Depicting Pre- and Post-test Results for Closeness and Conflict Items*

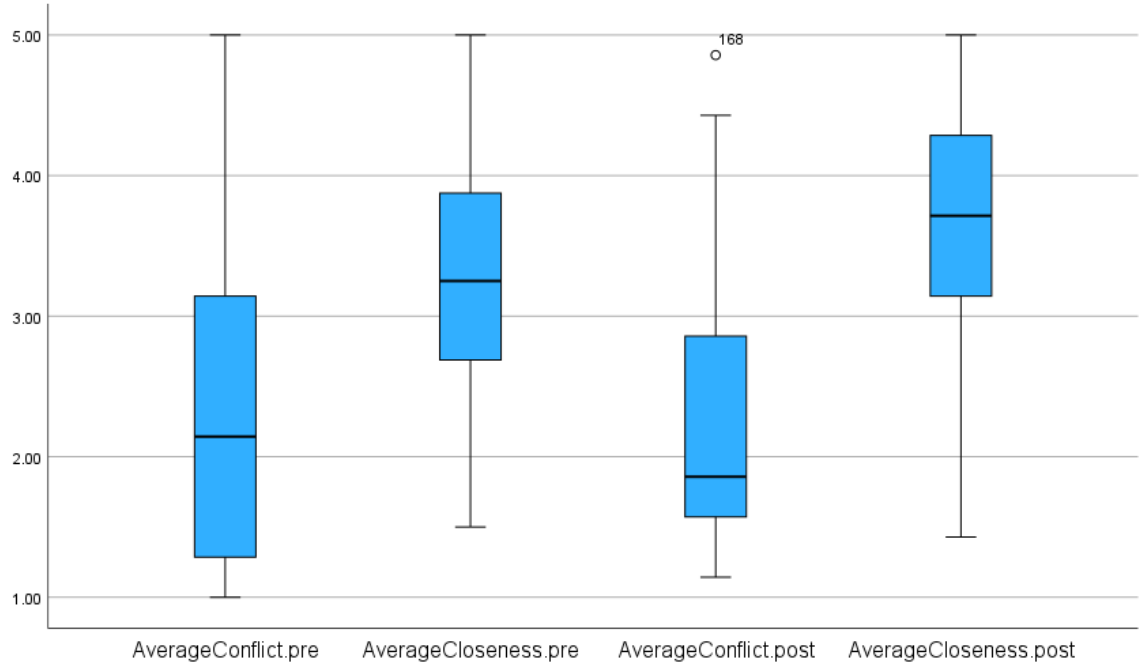

Figure 1 shows the three key aspects of student-teacher relationships following an intervention. Firstly, there was significant improvement in closeness between students and teachers. Before the intervention, the average pre-test closeness score was 3.24, which increased to 3.59 in the post-test. This increase in closeness was statistically significant ($p < .001$) with an effect size of 0.50, suggesting a meaningful enhancement in students' perceived closeness to their teacher's post-intervention. Secondly, it shows a reduction in conflict. Initially, the average pre-test conflict score was 2.37, which decreased to 2.20 in the post-test. This reduction in conflict was statistically significant, with an effect size of 0.23, indicating a noticeable decrease in conflicts between students and teachers following the intervention. Lastly, the study found consistency in the distribution of 5-point Likert ratings for both closeness and conflict before and after the intervention. This overlap in ratings suggests that students provided similar assessments of closeness and conflict levels, indicating stability in their perceptions throughout the study. This consistency implies that the changes observed were due to the intervention.

Overall, these results indicate that the PBIS intervention significantly improved student-teacher relationships by increasing closeness and reducing conflict. This was particularly beneficial for students with a history of discipline referrals.

Analysis 2: Results by PBIS Method

In this analysis, a one-way between-subjects multivariate analysis of variance (MANOVA) was used to study the impact of different PBIS methods on student-teacher relationships with students having a history of discipline issues. The four PBIS methods available to participants were examined. A fifth method, granting material privileges (e.g., cell phone use), was considered but was excluded from the analysis due to extreme outliers and a small sample size. Table 1 presents the means and standard deviations of the dependent variables for the four PBIS groups.

Table 1. Descriptive Statistics with the Means and Standard Deviations on the Dependent Variables for the Four PBIS Method Groups

Student-Teacher Relationships	PBIS Method	Mean	Std. Deviation	*N*
Closeness	Converse with Student Daily	3.7233	.66824	79
	Written Feedback in Daily Journals	3.0000	.76931	9
	Verbal Praise for Good Behavior	3.5044	.79384	49
	Provide Immediate Reward	3.5758	.73755	33
	Total	3.5954	.72472	170
Conflict	Converse with Student Daily	2.1917	.86242	79
	Written Feedback in Daily Journals	1.9683	.86242	9
	Verbal Praise for Good Behavior	2.1983	.94303	49
	Provide Immediate Reward	2.2381	.94130	33
	Total	2.2027	.88890	170

The descriptive statistics, as presented in Table 1, show the means and standard deviations for, and conflict ratings between, students and teachers across each PBIS method group.

Subsequently, the results of the MANOVA revealed no statistically significant effect of the PBIS methods on student-teacher relationships; specifically, the Pillai's trace value at 0.07, $F(6, 332) = 1.89$, $p = .08$, with a partial eta squared (η_p^2) value of .03. This indicates a small effect size suggesting minimal impact across the four intervention groups. These results are further summarized in Table 2.

Table 2. Multivariate Tests[a] for PBIS Method

Effect	Test	Value	*F*	Hypothesis *df*	Error *df*	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.953	1669.760[b]	2.000	165.000	<.001	.953
	Wilks' Lambda	.047	1669.760[b]	2.000	165.000	<.001	.953
	Hotelling's Trace	20.240	1669.760[b]	2.000	165.000	<.001	.953
	Roy's Largest Root	20.240	1669.760[b]	2.000	165.000	<.001	.953
PBIS Method	Pillai's Trace	.066	1.881	6.000	332.000	.083	.033
	Wilks' Lambda	.934	1.899[b]	6.000	330.000	.080	.033
	Hotelling's Trace	.070	1.917	6.000	328.000	.077	.034
	Roy's Largest Root	.068	3.789[c]	3.000	166.000	.012	.064

a. Design: Intercept + PBIS Method
b. Exact statistic
c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Despite the nonsignificant overall MANOVA, further post hoc univariate ANOVAs indicated that differences in student-teacher relationships by PBIS Method were statistically significant for Closeness. Specifically, there was a significant effect for Closeness, $F(3, 166) = 3.11$, $\eta_p^2 = .05$, $p = .03$, indicating a small effect size. In contrast, differences concerning conflict ratings were not statistically significant, $F(3, 166) = .21$, $\eta_p^2 = .004$, $p = .89$. Details regarding these findings are presented in Table 3.

Table 3. Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	*df*	Mean Square	*F*	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[c]
Corrected Model	Closeness	4.901[a]	3	1.634	3.109	.028	.053	9.328	.717
	Conflict	.522[b]	3	.174	.214	.887	.004	.642	.090
Intercept	Closeness	1092.016	1	1092.016	2078.323	<.001	.926	2078.323	1.000
	Conflict	423.522	1	423.522	520.356	<.001	.758	520.356	1.000
PBIS Method	Closeness	4.901	3	1.634	3.109	.028	.053	9.328	.717
	Conflict	.522	3	.174	.214	.887	.004	.642	.090
Error	Closeness	87.222	166	.525					
	Conflict	135.109	166	.814					
Total	Closeness	2287.102	170						
	Conflict	951.538	170						
Corrected Total	Closeness	92.123	169						
	Conflict	135.631	169						

a. R Squared = .053 (Adjusted R Squared = .036)
b. R Squared = .004 (Adjusted R Squared = -.014)
c. Computed using alpha = .05

The analysis of the follow-up ANOVAs revealed significant differences among the PBIS methods. Notably, Method 2 (written feedback) was associated with significantly lower scores on Closeness compared to other groups. Conversely, Method 1 (daily conversations) showed a statistically significant improvement in student-teacher relationships compared to Method 2, with a mean difference of 0.72, p = .03.

In conclusion, this analysis underscores the significance of selecting appropriate PBIS strategies to enhance student-teacher relationships. Among the methods examined, daily conversations (Method 1) emerged as the most effective approach, highlighting the necessity for educators to adopt tailored approaches to foster positive student-teacher interactions.

Discussion

Despite the expectation that different PBIS methods would yield significant effects on student-teacher relationships, the overall MANOVA results indicated nonsignificant findings. However, it is important to recognize that follow-up ANOVAs revealed significant differences in the context of Closeness, specifically highlighting that Method 1 (daily conversations) was statistically significantly more effective than Method 2 (written feedback), with a mean difference of 0.72, p = .03. This distinction underscores the importance of exploring factors that may have

influenced the overall nonsignificant findings while acknowledging the significant effects present in specific contexts.

One potential reason for the nonsignificant results in the broader analysis could be the variability in implementation fidelity among the different PBIS methods. If teachers applied the methods with differing levels of consistency and adherence, this inconsistency could dilute the observable effects of the interventions across the entire sample. For instance, some teachers may have effectively engaged in daily conversations (Method 1) to build relationships consistently, while others utilizing written feedback (Method 2) may have done so sporadically or with less enthusiasm. This variability in application can lead to an overall nonsignificant result despite the identified effectiveness of Method 1 for enhancing Closeness.

Additionally, inherent student characteristics may have contributed to the nonsignificant findings in the overall analysis. Students with a history of discipline issues exhibit a wide range of personal characteristics, such as varying levels of motivation, resilience, and existing relationships with teachers. These individual differences can obscure the effects of PBIS methods when considered collectively. For example, a student who consistently struggles with academic and behavioral issues might respond differently to verbal praise (Method 3) compared to a student with a more stable academic history. This variance in response could lead to overall insignificant results, despite the notable effectiveness of daily conversations (Method 1) in fostering stronger student-teacher relationships.

Furthermore, the sample size and distribution among the different PBIS methods also play a crucial role in interpreting the nonsignificant findings. With a limited representation and an unequal number of participants across the methods (as shown in Table 1), the statistical analysis's power may have been reduced. This limitation implies that while Method 1 yielded significant results in enhancing Closeness, the overall effects across all methods might not have been adequately captured due to insufficient sample size and variance in the application of the PBIS strategies.

In summary, while the absence of significant overall findings may suggest that PBIS methods, in general, do not affect student-teacher relationships, it is essential to consider factors such as implementation fidelity, student characteristics, and sample size limitations. Importantly, Method 1's significant effectiveness in enhancing Closeness indicates that under specific conditions, certain PBIS strategies can indeed improve student-teacher relationships. Understanding these dynamics can inform future research and practice in educational settings and guide educators in selecting and implementing the most effective PBIS strategies tailored to their specific contexts.

Implications

The findings of this research have significant implications for educational practices and future studies regarding Positive Behavioral Interventions and Supports (PBIS), particularly concerning student-teacher relationships. The notable effectiveness of daily conversations (Method 1) in enhancing Closeness underscores the importance of prioritizing and implementing strategies that foster direct, personal interactions with students. This insight reinforces the value of building strong relationships

through consistent communication and encourages educators to employ practices that facilitate meaningful engagement.

Furthermore, the variability observed in the application of different PBIS methods highlights the critical need for professional development programs focused on implementation fidelity. Educators must be equipped with the necessary skills and knowledge to apply these interventions consistently to achieve desired outcomes. Schools should also develop structured guidelines and provide ongoing support to ensure all staff members can effectively implement PBIS strategies. For school administrators, the findings offer several key implications. Principals can leverage this study's results to support and encourage the implementation of PBIS within their schools, particularly emphasizing the need to tailor strategies for diverse student populations. Additionally, they should facilitate professional development opportunities for teachers to enhance their understanding and practice of effective PBIS methods, ultimately empowering them to advocate for resources and support systems that foster positive student-teacher relationships and address behavioral challenges effectively.

Teachers, as well, should take note of critical points highlighted by this study. The effectiveness of the two-week positive behavior intervention strategy in improving student-teacher relationships—especially for students with past discipline issues—demonstrates that short-term, targeted interventions can lead to meaningful, positive changes. Among the PBIS methods analyzed, daily conversations emerged as the most effective strategy for enhancing these relationships, confirming that consistent personal interaction is vital for building strong connections with students. Additionally, collaboration with colleagues to share best practices and insights can further enrich the implementation of PBIS methods that enhance student behavior and engagement.

The findings also suggest a need for further research to explore how various student characteristics, such as motivation, resilience, and prior academic performance, impact responses to PBIS methods. Gaining insights into these relationships can inform more responsive interventions that cater to individual student needs, ultimately leading to more effective approaches for enhancing student-teacher relationships.

These findings can also inform district and school-level policies by emphasizing the need for strategies that promote positive student-teacher interactions. Policymakers should consider the outcomes associated with effective PBIS methods when designing frameworks to support educators and address the diverse needs of students. Finally, given the importance of Method 1 in improving Closeness, schools should consider initiatives that promote relational strategies. Integrating activities, workshops, or programs that encourage meaningful student-teacher interactions into the school curriculum can help create an environment that prioritizes strong relationships.

In conclusion, this research provides valuable insights into the impact of various PBIS methods on student-teacher relationships, indicating that specific approaches can yield significant benefits. By focusing on tailored practices, enhancing implementation fidelity, and understanding student diversity, educators and researchers can enhance the effectiveness of PBIS interventions, ultimately leading to improved outcomes in student behavior and academic achievement.

Recommendations

Administrators are encouraged to support and implement PBIS strategies, provide professional development for teachers, and to advocate for necessary resources. It is recommended that administrators encourage their staff to employ PBIS methods that involve personal interaction, such as daily conversations, to foster closeness and reduce conflict with students.

Teachers are recommended to utilize short-term, targeted PBIS interventions with daily conversations to foster strong student-teacher relationships, and to collaborate with colleagues on best practices for implementing PBIS. Improved teacher-student relationships may be particularly beneficial for students who have received discipline referrals. Teachers should evaluate and subsequently adapt PBIS strategies so that they are tailored for their classrooms.

Students will benefit from improved relationships that may result from PBIS, and it is recommended they be encouraged to participate actively in behavior support and the development of self-regulation skills.

Conclusion

This research underscores the significant impact of Positive Behavioral Interventions and Supports (PBIS) on student-teacher relationships. The analysis demonstrated a notable improvement in relationships following the intervention, particularly in terms of increased closeness and reduced conflict, validating the effectiveness of PBIS in fostering positive interactions. The evaluation of various PBIS methods revealed diverse impacts, highlighting the necessity for tailored strategies to meet the unique needs of different student populations.

The study highlights the importance of personalized PBIS strategies in enhancing student-teacher relationships and stresses the need for ongoing refinement of these methods. By implementing these findings, educators can create more positive classroom environments that support student success and well-being.

Recommendations for Future Research

- Create a longitudinal study to track the sustained effects of PBIS on student-teacher relationships over an extended period, assessing long-term outcomes and effectiveness.
- Compare the effectiveness of PBIS methods across different school settings or educational levels to identify the most impactful strategies for enhancing student-teacher relationships.
- Conduct mixed-method research incorporating qualitative sections, e.g. interviews or focus groups, to gain a deeper understanding of the experiences and perceptions of teachers, students, and parents regarding PBIS strategies and their impact on relationships.

- Initiate a study to investigate tailoring PBIS interventions to individual student needs and characteristics to determine the most effective and personalized approaches for behavior support.
- Examine the influence of specific teacher preparation programs related to PBIS on the implementation of behavior support strategies and their impact on student-teacher relationships.
- Explore additional behavioral outcomes beyond closeness and conflict in student-teacher relationships, such as academic performance, attendance, and overall well-being, to provide a comprehensive assessment of PBIS effectiveness.

By exploring these avenues of research, educators and administrators may better understand and optimize PBIS strategies to foster stronger, more supportive student-teacher relationships, ultimately enhancing the educational experience and outcomes for students.

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Appendix A. Student-Teacher Relationship Scale (STRS)

Subscale (Conflict or Closeness)	**Question**
closeness	1. I share an affectionate, warm relationship with this child.
conflict	2. This child and I always seem to be struggling with each other.
closeness	3. If upset, this child will seek comfort from me.
closeness	4. This child is uncomfortable with physical affection or touch from me.
closeness	5. This child values his/her relationship with me.
closeness	6. When I praise this child, he/she beams with pride.
closeness	7. This child spontaneously shares information about himself/ herself.
conflict	8. This child easily becomes angry with me.
closeness	9. It is easy to be in tune with what this child is feeling.
conflict	10. This child remains angry or is resistant after being disciplined.
conflict	11. Dealing with this child drains my energy.
conflict	12. When this child is in a bad mood, I know we're in for a long and difficult day.
conflict	13. This child's feelings toward me can be unpredictable or can change suddenly.
conflict	14. This child is sneaky or manipulative with me.
closeness	15. This child openly shares his/her feelings and experiences with me.