A Close Teacher Makes a Better Student: The Impact of Teacher-Student Relationship on Adolescents’ Academic Motivation

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Abstract

High quality teacher-student relationships increase engagement and academic performance and decrease drop-out (Finn & Rock, 1997). There has been relatively little research on this topic in adolescence. The present study examines adolescents’ perception of their relationship with teachers and how this relationship affects their intrinsic academic motivation as a potential mediator between connectedness and academic performance. Forty-two high school students enrolled in a writing course completed the Inventory of Teacher-Student Relationship, Child and Adolescent Social Support Scale, and Student Perceptions of Control Questionnaire. Student interest in the course topic predicted quality of the relationship with teacher. Overall, students who reported a higher quality relationship with their teacher also perceived themselves to be in greater control and to put forth more effort than students reporting a relatively lower quality relationship. Two relationship dimensions – high trust and low alienation – appeared to account for these findings.
A Close Teacher Makes a Better Student: The Impact of Teacher-Student Relationship on Adolescents’ Academic Motivation

This study addresses the importance of school connectedness to academic outcome variables. Past work has shown that the establishment of trust and communication between teachers and their students facilitates academic performance. The teacher-student relationship not only enhances a student’s academic performance, but also plays an integral role in the student’s emotional and behavioral well-being and the effect can be long lasting (Murray, Wass, Murray 2008; Murray & Zvoch, 2011). Having a close relationship with a teacher enhances a student’s motivation to succeed academically; it also enhances the engagement within the classroom. Establishing a teacher-student relationship also gives the student trust in coming to the teacher if a academic problem arises, increasing the success rate within the class (Murray & Zvoch, 2011). It is also important to take note that as a students’ relationship with a teacher forms positive outcomes, it enables a student to gain clearer insight into their own perception of control (Murray & Zvoch, 2011).

First reviewed in this paper are teacher and student characteristics that impact their relationship with one another. An empirical component explores academic motivation as a mediator between teacher-student relationship and academic performance. That is, a close relationship is to be a source of motivation for students to succeed.

**Connectedness to the Teacher**

**Teacher characteristics that foster connectedness.** A strong relationship between a teacher and student is characterized by a high level of trust and communication and is important in a
student’s academic achievement (Malecki & Demaray, 2002). The high level of trust and communication in a teacher-student relationship, gives students the confidence to confide with problems not only in academics but also daily troubles as well. The students are comfortable with the teacher and will also engage within the class. The student feels connected to the teacher, less isolated and more likely to put forth effort. With this increase of engagement in the classroom, a positive correlation to academic success increases as well.

In addition to trust and communication, student ratings of closeness to teacher are related to the amount of teaching experience and teachers’ self-efficacy (Brekelmans, Wubbels, & Tartwijk, 2005). Teachers beginning their career see themselves as having less of an influence in their own behaviors than those teachers who are more experienced (Brekelmans, Wubbels, & Tartwijk, 2005). Similarly students’ perceptions of teacher influence increased with each successive year (Brekelmans, Wubbels, & Tartwijk, 2005). Within teachers’ first ten years of their career, those who are more structured and task-oriented are perceived as being more authoritative and directive profiles increased. The experience gained by the teachers in those first ten years of their teaching career gained insight in the changes of conducting a classroom effectively and other changes regarding the improvement in their career development. These changes help with the improvement of their professional development that meets their specific needs. That is, the more a teacher matures within his or her career, the more acknowledgements by the teachers’ there are towards their influence on their students (Brekelmans, Wubbels, & Tartwijk, 2005). Throughout the years, teachers gain a leadership role of maintaining order and providing structure within the classroom. They become more confident in their professional development, leading students to perceive the relationship as certain and supportive (Brekelmans, Wubbels, & Tartwijk, 2005).
There has been much literature displaying the associations of student success and the classroom environment. Students’ gain knowledge through participating and engaging in the classroom, and the teacher support and academic guidance enhances children’s achievement (O’Connor & McCartney, 2007). The perception of teachers caring and a greater acceptance from peers contributes to students’ enjoyment of their classes and is reflected in their school work (O’Connor & McCartney, 2007). The support from teachers is a predictor of interest in class and school, and engagement in the classroom. These are the students who are academically proficient. Malecki and Demaray (2002) discuss the view of support is the teacher giving the student the sense he or she is there for the student if a problem arises. The teacher giving emotional support for example; trust, love, and empathy, along with the emotional support, the teacher gives information support of advice provided on a certain topic.

**Student characteristics that foster connectedness.** Student characteristics include their early and existing relationship with parents. For example, declines in parent-child relationship quality across adolescence are a predictive of declines in emotional well-being and increased association with deviant peers (Dishion, Nelson, & Bullock, 2004). Supportive relationships between parent and child have shown a link with positive emotional, behavioral, and academic adjustment over time (Furstenberg, Cook, Eccles, Elder, & Sameroff, 1999). The quality of parent-child attachment is a good predictor of adjustment in forming a positive relationship with teachers that is related to achievement. Thus, students are more likely to become more engaged within the classroom and have better school performance (Zimmer-Gembeck, Chipuer, Hanisch, Creed, & McGregor, 2006). This engagement is a mediator that connects school connection and academic achievement (Osterman, 2000).
A child’s temperament is one of the key contributors to successfully forming a connection with teachers. Students who have more control of their emotions and behaviors are more engaged in classrooms, form strong teacher-student relationships, and show a greater academic achievement (Osterman, 2000). Similarly with children who have little control over their emotions and behaviors are more likely to develop deviant behaviors, be isolated from peers, and are more likely to drop-out of school. These students are more likely to develop poor teacher-student relationships, become absent from school, and have low participation in the classroom (Osterman, 2000).

**Characteristics of the school that foster connectedness.** The school environment also plays a key role in the students’ interactions and connections with teachers and peers. When there is community within the school, a feeling of belonging is experienced and students feel worthy of respect (Osterman, 2000). The feeling worthy of respect is, “an important factor in understanding human behavior and performance” (Osterman, 2000, p. 325). Schools have created this community by creating school activities for such as after school clubs. These types of programs enhance the sense of belongingness, increasing the student’s confidence and feeling of support (Osterman, 2000). As a result, students who participate are more likely to be interested in enjoy school which is reflected through their commitment and higher expectations of academic success (Osterman, 2000). Along with feeling a sense of belongingness within the school community, participation within school activities brings identification for the student (Osterman, 2000). On the other hand, students who feel rejected and isolated are more likely to turn away from engagement within the school community, are more likely to display delinquent behavior, and are at a higher risk of dropping out of school (Osterman, 2000).

**Impact of Connectedness on Academic Success**
Increased engagement. There are many factors that can contribute to a child’s academic achievement; however, it is essential for students to have a positive connectedness with their teacher. The higher of quality of this relationship seems to promote students’ achievement (O’Connor, & McCartney, 2007). Achievement seems to occur when a student takes the initiative in the classroom to become engaged within the class. This could be simply by accomplishing the basic requirements of arriving to school on time, completing homework assignments, to responding to directions asked by the teacher, initiating questions themselves, and participating in school activities. Meeting these engagements have shown to have significant academic benefits (Finn, & Rock, 1997). Engagement occurs within the classroom because the child feels supported, encouraged, and confident to participate. In this type of environment students feel more organized and capable to control their behavior and to interact with students. This ultimately results in academic engagement (Maldonado-Carreno, & Votruba-Drzal, 2011).

Emotional control and behavioral regulation. The students who have greater teacher-student relationships display better emotional and behavioral engagement in school. These students are more engaged within the classroom, and reported feeling teachers cared and supported them, thus this results with students feeling more positively not only in school but also within themselves (Zimmer-Gembeck, Chipuer, Hanisch, Creed, & McGregor, 2006). Students who are feeling more positive and support from teachers experience less anxiety within the classroom and enjoy themselves more. Loneliness and isolation occur in students who do not feel a strong relationship with their teachers is loneliness and isolation (Zimmer-Gembeck, Chipuer, Hanisch, Creed, & McGregor, 2006). These students become less involved in school and are most likely to present delinquent behavior, for example, leaving school early (Zimmer-Gembeck,
Chipuer, Hanisch, Creed, & McGregor, 2006). As a result, these students decrease in academic performance.

**Self efficacy and internal locus of control.** Students who have experienced a warm and supportive teacher are more likely to develop a high sense of control (Skinner, Zimmer-Gembeck, & Connell, 1998). This seems to also reflect more engagement in the classroom that ends in higher academic performance. These students are more likely to choose difficult tasks; they put forth effort, and take more initiative. These children are also more able to stay focus on the task at hand that improves attention. A student’s perception of his or her own control is reflected through his or her grades which come with his or her progress through the school system (Skinner, Zimmer-Gembeck, & Connell, 1998). There are sex differences in locus of control between males and females in academic performance. Dweck reports these differences in academic mastery orientations in males and females. Males tend to focus on their ability and skill as an entity that one either possesses or does not and females focus more on the effort in academic performance.

There are sex differences in academic mastery orientation that stem, in part, from teachers’ interaction with students. For example Dweck (1999) reports that boys are sometimes encouraged to work harder when they struggle whereas girls are encouraged to try something else more suited to their talents. As a result, boys might focus more on effort while girls might focus on their ability and skill as an entity either do or do not possess. A close connection to teacher may lead boys to work harder, whereas a close connection to teacher may lead girls to display the talents they possess. This depends, of course, on what kind of mastery orientation a teacher promotes.

**Goals of the Current Study**
The primary goal of this study is to investigate how the teacher-student relationship impacts academic motivation. This is an important topic to study because a child’s schooling is an intricate part of his or her life. Teacher-student relationships enhance a student’s success, communication skills, a sense of belonging, and confidence to succeed. Using adolescents as the focus of the study is important because there is little relatively little research on teacher-student connectedness. The research that does exist explores direct links between connectedness and academic performance. The current study, however, explores the impact of the teacher-student relationship on academic motivation, which may in turn impact performance. The predictions for this study are the teacher-student relationship influences a student’s intrinsic academic motivation to want to be successful in school. Also, the student perceives relationship with teacher to be an important factor in their education. There will be sex differences between boys and girls on their perceptions of control. This impact of the teacher-student relationship on motivation may be different for boys and girls given differences in their mastery orientation. The current study was conducted in the context of a high school English course. This is an area in which girls tend to believe they either do or do not possess talent, while boys believe good work stems from effort (Dweck, 1999).

**Method**

**Participants**

Twenty-one male and twenty-four female high school students participated. Due to failure to complete all parts of the survey three female students had to be excluded from the analyses. Within the study there were 27 Caucasian, 6 African American, 2 Asian American, 2 Hispanic American, and 5 Multi-racial students. Students were recruited from an advanced placement Junior English class (n=16), and two different college prep Junior English classes.
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(n=26). The classes were taught by three different Caucasian teachers—a female late in her teaching career, a male early in his career, and a female early in her career, respectively.

Materials and Procedure

After obtaining consent from the school (including the principal and the teachers’) and from parents, the students were invited to participate in the study. Students completed three scales (see below and appendix) in counterbalanced order during their regularly scheduled class. The first two scales addressed adolescents’ perceptions of their relationship with teachers. The third scale measured various facets of adolescents’ academic motivation.

1. **Child and Adolescent Social Support Scale (CASSS)** (teacher, classmates, and school sub-section) (Malecki, Kilpatrick, & Demaray, 2004). The CASSS is a 40 item multidimensional scale that measures perceived social support. For the purpose of this study the parents’ portion of the scale was not used. Students responded to questions such as, “My teacher(s) takes time to help me learn to do something well,” rating each item on frequency and importance.

2. **Inventory of Teacher-Student Relationships (ITSR)** (Murray & Zvoch). This scale measures the teacher-student relationship from the student’s report. It assesses students’ cognitive representations of felt security or alienation in relationships (Murray & Zvoch, 2011). There are three latent factors within the scale; communication, trust, and alienation. A sample question a student would rate on a 4-point Likert scale is “I am able to get my teacher to like me.” The students rate the items from almost never to almost always.

3. **Student Perceptions of Control Questionnaire (SPCQ)** (Wellborn, James, & Skinner, 1989). This scale assesses children’s beliefs about strategies for success or failure in
school and their capacities to enact those strategies. The control beliefs subscale that looks into the students’ expectations to the extent that they can produce success or failure in school.

**Results**

Student perceptions of their relationship with teacher were measured using two different instruments—the CASSS and the ITSR. Descriptive statistics for each scale are first reported, in addition to correlations between them. The second set of analyses tests the prediction that the teacher-student relationship predicts academic motivation as measured by the SPCQ.

**Student Perception of the Teacher-Student Relationship**

The CASSS measures students’ perception of how important they believe relationships with teacher, classmates, and the school to be, as well as their estimate of how often they experience the various characteristics (e.g., “My classmates nicely tell me when I make a mistake”). Ratings of importance were made on a 4-point Likert scale while ratings of experience were made on a 6-point Likert scale. Figures 1 and 2 show the average ratings for boys and girls for importance and experience, respectively.

![Figure 1. Average rating of importance.](image-url)
Girls gave higher ratings than boys of the importance of relationships with classmates and the school, $F(1,40)= 4.39$ and $4.41$, respectively, $p’s < 0.05$. Boys and girls did not differ with respect to ratings about teacher. Boys tended to rate teachers as most important and school as least important, but girls rated these groups equally in importance. With respect to how frequently students experience various characteristics of teacher, classmate, and school behavior, boys and girls had similar perceptions, except with respect to classmates. Girls reported experiencing various relationship behaviors with classmates more often than did boys, $F(1,40) = 4.43$, $p < 0.05$.

The ITSR measures three specific dimensions of the teacher-student relationship (communication, trust, and alienation) using a 4-point Likert scale. Figure 3 shows the average ratings by boys and girls on these dimensions.
Boys and girls did not differ with respect to the level of communication, felt trust, and alienation they experience, but both boys and girls report higher levels of trust with teacher, $F(2,80) = 37.82, p < 0.001$.

Prior to completing the surveys, students were asked to rate their interest in the English course they were taking. Several significant correlations between interest and teacher relationship were found, as were significant relations between interest and dimensions of motivation. As a result, all analyses between teacher-student relationship and academic motivation were conducting while controlling for variance due to student interest in the topic.

The relationship between the CASSS and ITSR is they both measure the relationship with teacher. Table 1 demonstrates how there is significant positive correlations with teacher (importance) and communication and also teacher (often) and communication. This not only displays that the students hold communication to be an important factor in a teacher-student relationship, but also students believe communication is occurring with the teachers frequently as well. Teacher (often) and trust hold a positive significance for students’, however; students do
not seem to hold trust as significantly important. As expected, there was a negative significant correlation between teacher (often) and alienation. This is an indication that students feel teachers are supporting them and frequently paying attention to them in the classroom.

Table 1. *Relationship between CASSS and ITSR*

<table>
<thead>
<tr>
<th>CASS Dimension</th>
<th>ITSR Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Communication</td>
</tr>
<tr>
<td>Teacher (importance)</td>
<td>0.32&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Teacher (often)</td>
<td>0.61&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup> *p < .05  
<sup>b</sup> *p < .01

**The relationship Between Teacher-student Connection and Academic Motivation**

Table 2 displays the findings that CASSS for boys predicts perception of control plays an intricate role in their academic performance. Effort, attribution, and luck of strategies also hold importance for boys in the school setting. For boys the importance is held on the strategy taken to succeed academically, rather than their capacity. However, for girls there are no relations.

Table 2. *Partial correlation between SPCQ and CASSS*

<table>
<thead>
<tr>
<th>SPCQ Dimensions</th>
<th>CASSS Teacher(Often)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
</tr>
<tr>
<td>Control</td>
<td>0.561&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Strategy</td>
<td>0.501&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Effort</td>
<td>-0.433&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Attribute</td>
<td>-0.152</td>
</tr>
<tr>
<td>Others</td>
<td>-0.389</td>
</tr>
<tr>
<td>Luck</td>
<td>-0.359</td>
</tr>
<tr>
<td>Unknown</td>
<td>0.179</td>
</tr>
<tr>
<td>Capacity</td>
<td>0.222</td>
</tr>
<tr>
<td>Other</td>
<td>0.371</td>
</tr>
</tbody>
</table>
For boys, the ITSR-trust predicts strategy effort and attribution. It is predicted that boys rely more on their strategies of effort and their attributions internally that brings their success in the classroom. The ITSR-alienation predicts in boys the control and capacity-others that is negatively correlated together as expected. Boys do not rely on others on the capability to succeed or fail academically. Boys focus inward on their academic performance over external factors. Girls differ, they the ITSR-communication and alienation have positive correlation to strategy luck. They focus on luck to be the contributor to their success rather than strategy effort.

Table 3. Partial correlation between the ITSR and SPCQ controlling for student interest

<table>
<thead>
<tr>
<th>SPCQ Dimensions</th>
<th>ITSR Dimensions</th>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Communication</td>
<td>Trust</td>
<td>Alienation</td>
</tr>
<tr>
<td>Control</td>
<td>.18</td>
<td>-.34</td>
<td>.23</td>
</tr>
<tr>
<td>Strategy Effort</td>
<td>.22</td>
<td>.13</td>
<td>.44&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Strategy Attribute</td>
<td>-.35</td>
<td>-.08</td>
<td>-.50&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Strategy Others</td>
<td>-.25</td>
<td>-.11</td>
<td>-.03</td>
</tr>
<tr>
<td>Strategy Luck</td>
<td>-.16</td>
<td>.21</td>
<td>-.12</td>
</tr>
<tr>
<td>Strategy Unknown</td>
<td>.01</td>
<td>.20</td>
<td>-.14</td>
</tr>
<tr>
<td>Capacity Effort</td>
<td>-.04</td>
<td>.19</td>
<td>.06</td>
</tr>
<tr>
<td>Capacity Attribute</td>
<td>-.15</td>
<td>-.31</td>
<td>.00</td>
</tr>
<tr>
<td>Capacity Other</td>
<td>.20</td>
<td>.07</td>
<td>.27</td>
</tr>
<tr>
<td>Capacity Luck</td>
<td>-.13</td>
<td>-.14</td>
<td>.00</td>
</tr>
</tbody>
</table>

<sup>a</sup> p < .05  
<sup>b</sup> p < .01  

To illustrate the potential effect of the teacher-student relationship on motivation, students were placed into two groups using a median split on the CASSS teacher experience score. Next, student perceptions of control, strategy motivation, and capacity as measured by the SPCQ were analyzed as a function of this relationship-quality score. Three separate 2 x 2 (sex x relationship quality) ANOVAs were run on each of the SPCQ measures.
This graph displays significant results within the relationship quality with both boys and girls impacts control. $F(1,37) = 6.06, p < .05$.

![Figure 4. Control](image)

There are also significant results in the relationship quality and strategy effort. $F(1,37) = 4.29, p < .05$ (see Figure 5). Again, the boys and girls who were closer to teacher gave more effort in their academic strategies for success.

![Figure 5. Strategy Effort](image)
There are no significant results between relationship quality and capacity effort (see Figure 6). This finding suggests that the quality of the relationship does not matter to what the students think of the capacity of effort that can be put forth in the classroom.

![Figure 6. Capacity Effort.](image)

**Discussion**

The purpose of this study was to explore motivation as a potential mediator between the teacher-student relationship and academic performance. This is an important factor to study because of the importance teacher-student relationships hold within the education setting. This needs to be especially further explored among the population of adolescents because of little research done on the age range. With the study of teacher-student relationships it can decrease at risk students from dropping out of school and continuing their education with the support and care they need from teachers and peers in school. This study can only enhance the well-being of the student and how teachers and school improve programs to display the support to the students a sense of belonging.
The results of this study indicate a high perceived control within the student enhances intrinsic motivation to perform well in school. Students hold highly the importance of teacher support through communication and trust and if these two factors are rated highly the experience of communication and trust are rated high as well. There is a negative correlation between the student feeling isolated or alienated from the teacher. The interest of the subject can also play a role in how motivated the student is to succeed within the class. With interest controlled there is still a significant correlation between the quality of a teacher-student relationship and locus of control, and also strategy effort. Boys are more likely to rate internal factors of effort and attribute as a main reason for success or failure academically. Girls are more likely to rate external factors such as luck and others as reasons for success or failure academically. There were significant sex differences when it comes to what is seen as contributors to success or failures in the classroom. Overall, this study demonstrates the correlation of the teacher-student relationship quality and perception of control to contributors of motivation to academic performance.

Limitations

More research needs to be done with a greater population of adolescents. This research had a small sample of forty-two students, and consisted of only one school. This study only scratched the surface of what needs to be studied within adolescents to bring validation to motivation mediating academic performance through the teacher-student relationship quality. More of focuses on possible difference between course levels within one class subject to further explore the differences among students in class levels and level of intrinsic academic motivation. This study included advanced placement and college prep within a Junior English class, adding a
remedial class to the study would have been beneficial in gaining better insight into the differences of course levels.
References


Appendix

Appendix A: Student Perception of Control Questionnaire

The present study used a shortened version of the SPOCQ. Asterisks indicate the items included in the shortened version. Because higher reliability is obtained with scales that contain more items, we recommend the use of the complete scales. Item numbers are taken from the administration version of the scales.

THE STUDENT PERCEPTIONS OF CONTROL QUESTIONNAIRE (SPOCQ): A NEW MEASURE OF PERCEIVED CONTROL IN CHILDREN IN THE ACADEMIC DOMAIN (FULL SCALE)

James G. Welburn, James P. Comell, and Ellen A. Skinner

Strategy Beliefs

54. For me to do well in school, all I have to do is work hard. ASSE01
27. If I want to do well on my schoolwork, I just need to try hard. ASSE02
25. The best way for me to get good grades is to work hard. ASSE03
35. If I don’t do well in school, it’s because I didn’t work hard enough. ASSE04
23. If I get bad grades, it’s because I didn’t try hard enough. ASSE05
27. If I don’t do well on my schoolwork, it’s because I didn’t try hard enough. ASSE06

Attribute (ability)

46. I have to be smart to get good grades in school. ASSA01
15. Getting good grades depends on how smart I am. ASSA02
55. If I want to do well in school, I have to be smart. ASSA03
58. If I’m not smart, I won’t get good grades. ASSA04
51. If I’m not already good in a school subject, I won’t do well at it. ASSA05
90. If I’m not smart in a school subject, I won’t do well at it. ASSA06

Powerful Others

48. To do well in school, I just have to get my teacher to like me. ASSP01
59. The best way for me to get good grades is to get my teacher to like me. ASSP02
51. If I want to get good grades in a subject, I have to get along with my teacher. ASSP03
33. I won’t do well in school if my teacher doesn’t like me. ASSP04
38. If my teacher doesn’t like me, I won’t do well in that class. ASSP05
34. If I get bad grades, it’s because my teacher doesn’t like me. ASSP06
A CLOSE TEACHER MAKES A BETTER STUDENT

A. Close Teacher Makes a Better Student

1. When I don’t do well in a subject, it’s because of bad luck.

2. Getting good grades for me is a matter of luck.

3. To do well in school, I have to be lucky.

4. If I get good grades, it’s because I’m lucky.

5. If I get good grades, it’s because I’m not working hard.

6. If I don’t get good grades in class, it is because of bad luck.

Unknown

7. When I do well in school, I usually can’t figure out why.

8. I don’t know what it takes for me to get good grades in school.

9. If I get a good grade on a test, I usually don’t know why.

10. When I do badly in school, I usually can’t figure out why.

11. I don’t know how to keep myself from getting bad grades.

12. If I get a bad grade in school, I usually don’t understand why I got it.

Capacity Beliefs

Effort

13. When I’m in class, I can work hard.


15. When I’m doing classwork, I can really work hard on it.

16. I can’t seem to try very hard in school.

17. When I’m in class, I can’t seem to work very hard.

18. I have trouble working hard in school.

Ambitious (Ability)

19. I think I’m pretty smart in school.

20. When it comes to school, I’m pretty smart.

THE DEVELOPMENT OF CONTROL

42. I would say I’m pretty smart in school.

43. I don’t have the brains to do well in school.

44. I’m not very smart when it comes to schoolwork.

45. When it comes to schoolwork, I don’t think I’m very smart.

46. * Powerful Others

47. I am able to get my teacher to like me.

48. I can get my teacher to like me.

49. I can get along with my teacher.

50. I can’t get my teacher to like me.

51. I don’t seem to be able to get my teacher to like me.

52. * I’m just not able to get along with my teacher.

53. * I am lucky in school.

54. * I’m pretty lucky when it comes to getting grades.

55. As far as doing well in school goes, I’m pretty lucky.

56. * I am unlucky when it comes to schoolwork.

57. When it comes to grades, I’m unlucky.

58. I’m unlucky at school work.

COMPUTING SCORES FOR THE SPOCG, FULL SCALE

Key to Coding

Column 1, Domain: Academic
Column 2, Reporter: Student
Column 3, Scale: CN = control, S = strategy, Y = capacity
Column 4, Causal category: Effort, attributes, powerful others, luck, unknown
Column 5, Valence: Positive, negative
Column 6, Item number

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Computing Subscale and Scale Scores

Control Beliefs

Positive events

CONp = (ASCNP01 + ASCNP02 + ASCNP03)/3

Negative events

CONn = (ASCNN01 + ASCNN02 + ASCNN03)/3

Total

CON = (CONp + (5-CONn))/2

Strategy Beliefs

Effect:

Positive events

STeffp = (ASSEf01 + ASSEf02 + ASSEf03)/3

Negative events

STeffn = (ASSEn01 + ASSEn02 + ASSEn03)/3

Total

STeff = (STeffp + STeffn)/2

Attributes (ability):

Positive events

STap = (ASSAP01 + ASSAP02 + ASSAP03)/3

Negative events

STan = (ASSAN01 + ASSAN02 + ASSAN03)/3

Total

STat = (STap + STan)/2

Powerful others:

Positive events

STothp = (ASSTOP01 + ASSTOP02 + ASSTOP03)/3

Negative events

STothn = (ASSON01 + ASSON02 + ASSON03)/3

Total

SToth = (STothp + STothn)/2

Luck:

Positive events

STlhcp = (ASSLP01 + ASSLP02 + ASSLP03)/3

Negative events

STlchn = (ASSLN01 + ASSLN02 + ASSLN03)/3

Total

STlch = (STlhcp + STlchn)/2

Unknown:

Positive events

STunkp = (ASSUP01 + ASSUP02 + ASSUP03)/3

Negative events

STunkn = (ASSUN01 + ASSUN02 + ASSUN03)/3

Total

STunk = (STunkp + STunkn)/2

The Development of Control

Capacity Beliefs

Effect:

Positive events

CPEffp = (ASSEf01 + ASSEf02 + ASSEf03)/3

Negative events

CPEffn = (ASSEn01 + ASSEn02 + ASSEn03)/3

Total

CPEff = (CPEffp + (5-CPEffn))/2

Attributes (ability):

Positive events

CPEap = (ASSAP01 + ASSAP02 + ASSAP03)/3

Negative events

CPEan = (ASSAN01 + ASSAN02 + ASSAN03)/3

Total

CPEat = (CPEap + (5-CPEan))/2

Powerful others:

Positive events

CPEothp = (ASSTOP01 + ASSTOP02 + ASSTOP03)/3

Negative events

CPEothn = (ASSON01 + ASSON02 + ASSON03)/3

Total

CPEoth = (CPEothp + (5-CPEothn))/2

Luck:

Positive events

CPElchp = (ASSLP01 + ASSLP02 + ASSLP03)/3

Negative events

CPElchn = (ASSLN01 + ASSLN02 + ASSLN03)/3

Total

CPElch = (CPElchp + (5-CPElchn))/2

Resultant Scales

SCALE NAME | SCALE LABEL | RANGE |
--- | --- | --- |
1. CON | Control beliefs | (1-4) |
2. STEff | Strategy beliefs for effort | (1-4) |
3. SSTAT | Strategy beliefs for attributes (ability) | (1-4) |
4. STOTH | Strategy beliefs for powerful others | (1-4) |
5. STLCH | Strategy beliefs for luck | (1-4) |
6. STUNK | Strategy beliefs for unknown factors | (1-5) |

High/low scores indicate:

- More control
- Effort is more effective
- Ability is more effective
- Powerful others are more effective
- Luck is more effective
- Less is known about causes
A CLOSE TEACHER MAKES A BETTER STUDENT

<table>
<thead>
<tr>
<th></th>
<th>Strategy</th>
<th>Capacity Beliefs</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.</td>
<td>CEff</td>
<td>Capacity beliefs for effort</td>
<td>(1–4) Effort is more accessible</td>
</tr>
<tr>
<td>8.</td>
<td>CPart</td>
<td>Capacity beliefs for attributes</td>
<td>(1–4) Attributes are more accessible</td>
</tr>
<tr>
<td>9.</td>
<td>CPoth</td>
<td>Capacity beliefs for powerful others</td>
<td>(1–4) Powerful others are more accessible</td>
</tr>
<tr>
<td>10.</td>
<td>CPloc</td>
<td>Capacity beliefs for luck</td>
<td>(1–4) Luck is more accessible</td>
</tr>
</tbody>
</table>

**Computing Interaction Scores and Summary Scores**

**Interaction of Strategy and Capacity Beliefs**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Interaction Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effort</td>
<td>INTEff = STeff × CEff</td>
</tr>
<tr>
<td>Attributes (ability)</td>
<td>INTAtt = (5-STatt) × CPart</td>
</tr>
<tr>
<td>Powerful others</td>
<td>INTPo = STpo × (5-CPo)</td>
</tr>
<tr>
<td>Luck</td>
<td>INTloc = STloc × (5-CPloc)</td>
</tr>
</tbody>
</table>

**Cumulative Effects on Motivation and Performance**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promote</td>
<td>Promote = (CON × 4) + (STeff × CEff) + (STatt × CPart) + (STpo × CPo) + (STloc × CPloc)</td>
</tr>
<tr>
<td>Undermine</td>
<td>Undermine = (STunk × 4) + (CFepp × 4) + (STpdf × 4) + (STpo × CPo) + (STloc × CPloc)</td>
</tr>
<tr>
<td>Maximum control</td>
<td>ConMax = Promote – Undermine</td>
</tr>
</tbody>
</table>
Appendix B: IT-SR

These questions ask for some general information about you, your teachers, and school. There are no “right” or “wrong” answers.

Please write or mark the response that best describes you.

Name: __________________________

Teacher Name: ____________________

1. How old are you?

O 14  O 15  O 16  O 17  O 18  O 19 or older

2. What Grade are you in?

O 8  O 9  O 10  O 11  O 12

3. Are you:

O Male/ Boy  O Female/ Girl

4. What is your race? Please choose ONE answer that best describes what you consider yourself to be.

O White, Caucasian
O Black or African American
O Asian or Asian American
O Hispanic or Latino American
O American Indian or Native American
O Multi-racial
<table>
<thead>
<tr>
<th>Almost Always or Always True</th>
<th>Often True</th>
<th>Sometimes True</th>
<th>Almost Never or Never True</th>
</tr>
</thead>
<tbody>
<tr>
<td>These questions ask you about school...........................</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. My teachers respect my feelings
2. I feel that my teachers are successful as a teacher
3. My teachers accept me as I am.
4. My teachers can tell when something is upsetting me.
5. I get upset easily at school.
6. I get upset a lot more than my teachers know about.
7. My teachers trust my judgment.
8. My teachers help me understand myself better.
9. I tell my teachers about my problems and troubles.
10. My teachers encourage me to talk about my difficulties.
11. My teachers understand me.

12. When I’m angry, my teachers try to be understanding.
13. I trust my teachers.
14. My teachers don’t understand what I’m going through these days.
15. I can count on my teachers when need to get something off chest.
16. I feel that no one understands me.
17. If my teachers know something bothering me, they ask me about it.
18. I feel angry with my teachers.
19. It’s hard for me to talk to my teachers.
### Appendix C: CASSS

<table>
<thead>
<tr>
<th>E</th>
<th>I</th>
<th>A</th>
<th>I</th>
<th>My Teacher(s)...</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. ...cares about me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. ...treats me fairly.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. ...makes it okay to ask questions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. ...explains things that I don’t understand.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. ...shows me how to do things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. ...helps me solve problems by giving me information.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. ...tells me I did a good job when I’ve done something well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. ...nicely tells me when I make mistakes.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21. ...tells me how well I do on tasks.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22. ...makes sure I have what I need for school.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23. ...takes time to help me learn to do something well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. ...spends time with me when I need help.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</table>

### My Classmates

<table>
<thead>
<tr>
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<th>I</th>
<th>My Classmates...</th>
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<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
25. ...treat me nicely. 1 2 3 4 5 6 1 2 3
26. ...like most of my ideas and opinions. 1 2 3 4 5 6 1 2 3
27. ...pay attention to me. 1 2 3 4 5 6 1 2 3
28. ...give me ideas when I don’t know what to do. 1 2 3 4 5 6 1 2 3
29. ...give me information so I can learn new things. 1 2 3 4 5 6 1 2 3
30. ...give me good advice. 1 2 3 4 5 6 1 2 3
31. ...tell me I did a good job when I’ve done something well. 1 2 3 4 5 6 1 2 3
32. ...nicely tell me when I make mistakes. 1 2 3 4 5 6 1 2 3
33. ...notice when I have worked hard. 1 2 3 4 5 6 1 2 3
34. ...ask me to join activities. 1 2 3 4 5 6 1 2 3
35. ...spend time doing things with me. 1 2 3 4 5 6 1 2 3
36. ...help me with projects in class. 1 2 3 4 5 6 1 2 3

<table>
<thead>
<tr>
<th>People In My School</th>
</tr>
</thead>
<tbody>
<tr>
<td>How Often?</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>49. ...care about me.</td>
</tr>
<tr>
<td>50. ...understand me.</td>
</tr>
<tr>
<td>51. ...listen to me when I need to talk</td>
</tr>
<tr>
<td>52. ...give me good advice</td>
</tr>
<tr>
<td>53. ...help me solve my problems by giving me information.</td>
</tr>
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<td>54. ...explain things that I don’t understand.</td>
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<td></td>
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<tr>
<td>---</td>
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<tr>
<td>56.</td>
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<tr>
<td>57.</td>
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<tr>
<td>58.</td>
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<tr>
<td>59.</td>
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<tr>
<td>60.</td>
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</table>