



Socioaffective factors related to engagement in regular classes of academically gifted adolescent students in Taiwan

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Academically gifted adolescent students ($N = 213$) at 10 junior high schools in Taoyuan, Taiwan, completed a survey to examine the socioaffective factors associated with their engagement in regular classes. Structural equation modeling was performed for inferential statistical analysis. The results show that the students' emotional intelligence was associated with their engagement in regular classes. In addition, teacher–student and peer relationships mediated the relationship between students' emotional intelligence and engagement. Therefore, emotional competencies and interpersonal relationships may play a crucial role in promoting academically gifted adolescent students' engagement in regular classes.

Keywords

academically gifted students; regular classes; resource classes; socioaffective factors; student engagement; emotional intelligence

Article Highlights

- The favorable socioaffective development of academically gifted adolescents was found to be positively related to their engagement in inclusive education.
- The development and application of appropriate emotional intelligence programs may promote the engagement of academically gifted students in regular classes.
- Teachers are strongly urged to monitor the social relationships of academically gifted students in their regular classes.

In Taiwan most students identified as having special needs are provided with inclusive education, studying in regular classes. Academically gifted adolescent students divide their time between regular and resource classes. After being identified from the seventh grade as candidates for special education, they are placed in *resource classes* that feature enrichment programs and are held at specific times during their regular class schedule. Outside these scheduled times, these students attend *regular classes* for the purpose of inclusive education. Thus, they spend limited time in resource classes and the majority of their time in regular classes.

Certain characteristics of academically gifted students, such as perfectionism, overexcitability, and being highly critical, may be interdisciplinary in nature (Clark, 2002). These characteristics manifest during both regular and resource classes and can cause misunderstandings and conflicts in mixed-ability and heterogeneous classes (Schuler, 2002; Silverman, 2012). These situations may partially explain why researchers have suggested in both qualitative and quantitative studies that some gifted students have

psychosocial problems or experience misfit in their regular classes (Cramond et al., 2007; Cross & Cross, 2018; Hansen & Toso, 2007; Vaivre-Douret, 2011).

Reis and Renzulli (2004) concluded in their review of the literature that the proportion of gifted students with school adaptation problems approximates that of regular students. They also noted that in addition to psychosocial problems, gifted students may experience difficulties when engaging in learning tailored to their basic needs. Studies of underachieving gifted adolescent students (Landis & Reschly, 2013; Plucker et al., 2010) have further suggested that failure to engage with the environment is related to underachievement; this lack of engagement can be exacerbated over time, worsening as the students progress toward middle and late adolescence.

In contrast, studies have also been conducted on gifted high achievers. For example, results of an 11-year longitudinal study involving 121 high-achieving gifted adolescent students and their parents (Peterson et al., 2009) showed that these adolescents tended to have more difficulty than did their low-achieving gifted peers in actively expressing their distress to significant adults. Peterson et al. (2009) thus advocated for significant adults to attempt to understand the engagement status of gifted students by becoming more closely involved in various aspects of the lives of the students. However, topics related to engagement of gifted students and the mechanisms underlying the relationship between affective status and engagement in class have often been overlooked in the extant research (McCormick & Plucker, 2013; Wang, 2019).

In the classic definition, *student engagement* is categorized in two dimensions: behavioral and emotional (Audas & Willms, 2001; Willms, 2003). *Behavioral engagement* includes positive behavior, such as participation and concentration, and *emotional engagement* includes reactions such as interest, curiosity, and sense of belonging. Most researchers, however, have adopted three subconstructs of student engagement: behavioral, emotional, and cognitive (Kindermann, 2007; Skinner et al., 2009), and, more recently, some studies have also included agentic engagement (Reeve, 2012; Reeve et al., 2020). *Cognitive engagement* indicators include the setting of learning goals and use of learning strategies. *Agentic engagement* refers to dynamics generated through interaction with the learning environment; some indicators of agentic engagement are the asking of questions and expression of opinions in classes (Reeve, 2012).

To increase adolescent student engagement, researchers have examined factors related to classroom engagement. For example, Yazzie-Mintz (2007) conducted a large-scale survey and found that in addition to teaching quality, adolescents' perception of the teacher–student relationship appeared to be related to their engagement. In longitudinal and experimental studies with adolescents, other scholars have obtained similar results (Klem & Connell, 2004; Reeve et al., 2020). Therefore, a favorable teacher–student relationship may increase the likelihood of adolescents engaging in learning at school.

Studies have also highlighted the effects of teacher–student and peer relationships on adolescent engagement at school. For example, in their examination of causality among early adolescent social relationships, student engagement, and problem behavior in middle adolescence in a school context, Latsch et al. (2016) found that both teacher–student and peer relationships were associated with adolescents' emotional engagement; moreover, teacher–student relationships were linked to students' behavioral engagement.

These results indicate that adolescents exhibit stronger engagement at school when their social needs are met. Further, adolescents' social relationships are correlated with their emotions (Petrides et al., 2006). Some longitudinal studies on student engagement, for example, those by Jackson et al. (2020) and Reschly et al. (2008), also support the crucial roles of emotional intelligence and socioemotional development in adolescent student engagement. Accordingly, the engagement of adolescents at school may be related to their emotional competencies and interpersonal relationships (i.e., socioaffective development).

Lee et al. (2012) concluded in their review that some academically gifted students exhibited favorable social competencies with higher academic achievement, whereas others exhibited unfavorable social competencies with lower achievement or underachievement. Therefore, gifted students' social competencies may be associated with their learning, similar to regular students. However, the extent of the effect of socioaffective factors on gifted adolescents prone to disengagement and psychosocial problems is unclear and requires further research.

On the basis of the broaden-and-build theory of positive emotions within positive psychology (Fredrickson, 2001; Fredrickson & Losada, 2005) and previous results on academically gifted students (Chan, 2003, 2006), I proposed and verified a model concerning the relationships among the emotional intelligence and social relationships of academically gifted adolescents, and their engagement in resource classes (Wang, 2019). I sought to determine whether these positive changes in emotional intelligence facilitate learning and social interaction in regular classes, where gifted students interact with diverse groups of students. Therefore, this study investigated the socioaffective factors related to the engagement of academically gifted adolescents in regular classes, and proposed the following hypotheses:

Hypothesis 1: Academically gifted adolescent students' emotional intelligence will be positively related to their teacher–student relationships in regular classes.

Hypothesis 2: Academically gifted adolescent students' emotional intelligence will be positively related to their peer relationships in regular classes.

Hypothesis 3: Academically gifted adolescent students' emotional intelligence will be positively related to their engagement in regular classes.

Hypothesis 4: Teacher–student relationships will mediate the relationship between emotional intelligence and academically gifted students' engagement in regular classes.

Hypothesis 5: Peer relationships will mediate the relationship between emotional intelligence and academically gifted students' engagement in regular classes.

Method

Participants

Participants were 213 academically gifted students (107 boys, 106 girls; $M_{\text{age}} = 13.71$ years, $SD = 0.79$) at 10 junior high schools in Chung Li, Taoyuan, Taiwan, the location of my affiliated institution. There were 85 (40%) in the seventh grade (12–13 years), 88 (41%) in the eighth grade (13–14 years), and 40 (19%) in the ninth grade (14–15 years).

As all participants had scored at least two standard deviations above the mean on a standardized aptitude test in linguistic, mathematical, or scientific domains, they had been selected for placement in resource classes. Of the participants, 108 (51%) were assessed as being scientifically and mathematically gifted and 105 (49%) were verbally gifted.

Procedure

The chief of the Special Education Division in each of the 10 junior high schools assisted with the distribution of the survey form to the gifted students on the school campus during the first semester of 2019. The distribution process was as follows: First, with assistance from the chiefs, 258 parental consent forms were distributed. On these forms the purpose of the research and the survey distribution process were described, and the parents and students decided independently if they would participate. After obtaining 230 completed consent forms, the research team administered the survey in groups at a time and place arranged by the staff at each school. Before the distribution of the survey, the research team explained that the study purpose was to understand the overall experiences and feelings of gifted students in regular classes. They informed the students that there was no time limit for completion of the survey, for which the

average time taken was 15 minutes. Finally, the research team collected 230 survey forms, of which 213 contained valid complete responses.

Measures

I collected data using a survey designed to assess the relationship between socioaffective status and student engagement in regular classes, with items from the Questionnaire on Emotional Intelligence, Interpersonal Relationships, and Student Engagement in Academically Gifted Adolescents, which has been shown to possess acceptable validity and reliability (Wang, 2019). Composite reliability for the emotional intelligence, teacher–student relationships, peer relationships, and engagement subscales of this questionnaire were reported by Wang (2019) as .82–.92, .90, .84, and .86–.93, respectively. To account for the different purpose of this study, I modified the items in the original questionnaire by adding the words “during regular classes.” In addition, a confirmatory factor analysis (i.e., the measurement model stage of structural equation modeling) was performed, and the results confirmed the questionnaire’s reliability and validity for the current context of academically gifted students in regular classes.

The first part of the questionnaire comprised demographic data, including grade level, gender, and academic aptitude (i.e., scientific and mathematical giftedness or verbal giftedness).

Emotional Intelligence

In the second part of the questionnaire (Wang, 2019), to understand participants’ emotional competence, I measured emotional intelligence with 14 items: four items pertaining to assessment of one’s emotions (e.g., “I can understand my feelings”), three items on emotional regulation (e.g., “I can control my temper when encountering difficulties”), three items relating to application of emotions (e.g., “I can encourage myself”), and four items on assessment of others’ emotions (e.g., “I can perceive the feelings and emotions of others”).

Interpersonal Relationships

In the third part of the questionnaire, I assessed interpersonal relationships with a 14-item scale comprising two subscales: peer relationships (seven items, e.g., “I like to help my classmates during regular classes, and I like receiving help from them”) and teacher–student relationships (seven items, e.g., “Overall, regular class teachers care about my learning status”).

Engagement

In the final part of the questionnaire, I assessed engagement with a 16-item scale comprising agentic engagement (four items, e.g., “I speak up and ask questions during regular classes”), behavioral engagement (four items, e.g., “I study hard during regular classes”), emotional engagement (four items, e.g., “I find it fun to learn during regular classes”), and cognitive engagement (four items, e.g., “I integrate various concepts when learning in regular classes”).

All items were measured on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Measurement Model

The absolute fit indices I calculated included chi square, root mean square error of approximation, and standardized root mean square residual. Their values were 1,407.59, .05, and .08, respectively. Incremental fit indices included comparative fit index and nonnormed fit index. Their values were .93 and .92, respectively. In terms of parsimonious fit indices, the χ^2/df value, the parsimonious goodness-of-fit index, and the parsimonious normed fit index values were 1.58, .69, and .78, respectively. All these values reached the recommended level (Hair et al., 2010; Kline, 2016), indicating that the model had a good fit to the data. In addition, all factor loadings reached significance at $p < .001$, and the loadings of the observed variables were all higher than .60, with most exceeding .70. For the factor loadings of latent variables, except for agentic student engagement (.50), the values were higher than .55 (see Figure 1). As shown in Table 1, the

composite reliability for the four constructs was between .83 and .95, and average variance extracted (AVE) values exceeded .50, all of which are consistent with Fornell and Larcker’s (1981) recommendations.

Table 1. Composite Reliability and Average Variance Extracted of Constructs

Construct	Number of items	CR	AVE
Emotional intelligence			
Assessment of one’s emotions	4	.86	.60
Emotion regulation	3	.85	.66
Application of emotions	3	.83	.62
Assessment of others’ emotions	4	.92	.75
Peer relationships	7	.92	.63
Teacher–student relationships	7	.92	.63
Student engagement			
Cognitive engagement	4	.92	.74
Behavioral engagement	4	.95	.83
Emotional engagement	4	.91	.72
Agentic engagement	4	.84	.58

Note. CR = composite reliability; AVE = average variance extracted.

The overall quality of the measure was favorable, and the constructs exhibited acceptable convergent validity (Hair et al., 2010). I used the AVE method (Fornell & Larcker, 1981) to determine discriminant validity. As the correlation coefficients between the constructs were all smaller than the square roots of the AVE for each construct, discriminant validity was established (see Table 2). A minimum sample size of 176 was estimated for adequate statistical power, with a root mean square error of approximation value of .05 (Kline, 2016). Therefore, my sample size of 213 had sufficient power to detect the observed effects.

Table 2. Square Root of Average Variance Extracted and Construct Correlation Coefficients

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Cognitive engagement	3.79	0.96	.86									
2. Emotional engagement	3.56	1.00	.56	.85								
3. Behavioral engagement	3.90	1.03	.49	.65	.91							
4. Agentic engagement	2.95	1.12	.39	.39	.24	.76						
5. Assessment of others’ emotions	4.04	0.85	.30	.28	.33	.26	.87					
6. Application of emotions	3.73	0.86	.39	.38	.33	.41	.26	.79				
7. Emotion regulation	3.56	0.84	.22	.17	.27	.19	.39	.40	.81			
8. Assessment of one’s emotions	4.29	0.67	.37	.34	.39	.17	.47	.35	.43	.77		
9. Teacher–student relationships	3.68	0.98	.45	.55	.51	.37	.20	.34	.18	.35	.79	
10. Peer relationships	4.14	0.85	.48	.46	.54	.40	.39	.24	.12	.36	.45	.79

Note. **Boldface** values on the diagonal denote the square roots of average variance extracted. Off-diagonal values are correlation coefficients among constructs. All coefficients attained significance at $p < .001$.

Results

I analyzed the data through second-order structural equation modeling using Amos 23. As shown in Figure 1, the structural model showed a good fit to the data. Regarding the relationship analysis results, the path coefficient for the relationship between emotional intelligence and student engagement was significant, $\beta =$

.37, 95% confidence interval (CI) [0.14, 0.62], $SE = 3.11$, $p = .002$. Thus, adolescents' emotional intelligence was positively related to their engagement in their regular classes. Therefore, Hypothesis 3 was supported.

The path coefficient for the link between emotional intelligence and teacher–student relationships was significant, $\beta = .53$, 95% CI [0.32, 0.72], $SE = 5.36$, $p < .001$. The path coefficient for the link between emotional intelligence and peer relationships was also significant, $\beta = .54$, 95% CI [0.36, 0.72], $SE = 5.41$, $p < .001$. Thus, students' emotional intelligence was also positively related to teacher–student and peer relationships in regular classes. Therefore, Hypotheses 1 and 2 were supported.

Further, the path coefficient for the link between teacher–student relationships and student engagement, $\beta = .37$, 95% CI [0.16, 0.55], $SE = 3.94$, $p < .001$, and for the link between peer relationships and student engagement, $\beta = .31$, 95% CI [0.13, 0.51], $SE = 3.53$, $p < .001$, were significant. Therefore, the teacher–student and peer relationships of the gifted students in regular classes were also positively related to student engagement. Regarding the correlation analysis, when further analysis based on fit statistics in practice ($r = .50$ or higher) was performed, the association between peer relationship quality and behavioral engagement was closest, $r(211) = .54$, $p < .001$, whereas teacher–student relationship quality was closely associated with emotional and behavioral engagement, $r(211) = .55$, $p < .001$, and $r(211) = .51$, $p < .001$, respectively (see Table 2).

In summary, students' emotional intelligence and teacher–student and peer relationships were all related to student engagement. On the basis of the observed significant effects, I analyzed the mediating effects using Amos 23, employing bootstrapping analysis with 10,000 resamples and maximum likelihood estimation. The results show that teacher–student and peer relationships were partial mediators in the relationship between students' emotional intelligence and their engagement in regular classes. The mediating effect of peer relationships was .17; $.54 \times .31$; 95% CI [0.06, 0.27], $p = .008$, and that of teacher–student relationships was .20; $.53 \times .37$; 95% CI [0.10, 0.33], $p = .002$. Thus, the emotional intelligence of academically gifted adolescent students in regular classes was not only directly related to their engagement but also indirectly related through the mediating effects of teacher–student and peer relationships (see Figure 1). Therefore, Hypotheses 4 and 5 were supported.

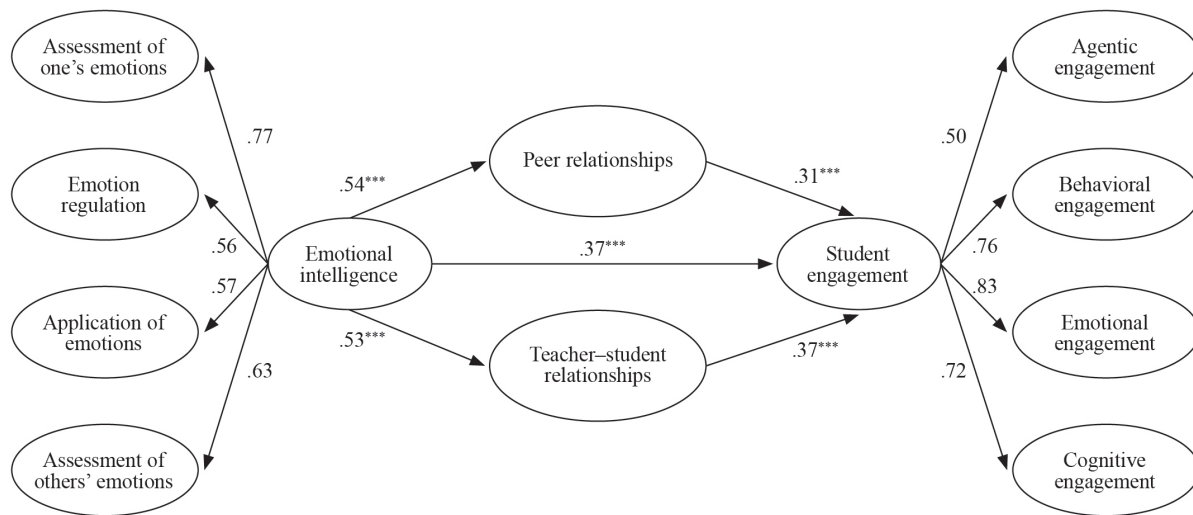


Figure 1. *Pathway Analysis*

Note. CFI = comparative fit index; NNFI = nonnormed fit index; PGFI = parsimonious goodness-of-fit index; PNFI = parsimonious normed fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual.

** $p < .01$. *** $p < .001$.

Discussion

Little is known regarding the effects of socioaffective factors on gifted students' learning. Therefore, I investigated the relationships among academically gifted adolescent students' emotional intelligence, their social relationships, and their engagement in regular classes. I found that the students' emotional intelligence was positively related to their teacher-student and peer relationships, which is consistent with the results of Chan (2003, 2006) and my own findings in the context of resource classes (Wang, 2019).

In addition, I found that students' emotional intelligence was positively related to their engagement in regular classes. These results are consistent with prior findings regarding the link between emotional intelligence and engagement among adolescents at high school (Jackson et al., 2020) and students in Grades 7 to 10 (Reschly et al., 2008), and also consistent with my finding (Wang, 2019) on the relationship between academically gifted adolescents' emotional intelligence and their engagement in resource classes.

Thus, my findings in this study show that academically gifted adolescents whose emotional intelligence was higher (vs. lower) reported more engagement in regular classes and had better social relationships. Therefore, I suggest that the development of appropriate emotional intelligence programs or affective curricula should be a main concern for encouraging the engagement of academically gifted adolescent students in regular classes. Teachers should collaborate to develop ideas on activities targeted at improving the emotional intelligence of gifted students.

I also found that teacher-student and peer relationships mediated the link between students' emotional intelligence and their engagement in regular classes. Hence, my results involving general class settings are consistent with those I obtained for resource classes for the gifted (Wang, 2019), and support the critical roles of emotional intelligence and social interaction in academically gifted adolescent students' engagement in the classroom.

Further, the correlation coefficient analysis results showed that the interaction between teachers in regular classes and gifted students was closely associated with students' behavioral and emotional engagement, and students' peer relationships were closely associated with their behavioral engagement. These results are consistent with those of Latsch et al. (2016), who conducted a study with a nonclinical sample of students at secondary schools in Germany; that is, the teacher–student relationship was significantly related to students' emotional and behavioral engagement. However, my results about peer relationships are inconsistent with those of Latsch et al., who reported that peer relationships were significantly related to students' emotional engagement. My view (Wang, 2019) is that in general in Taiwanese junior high schools, peer interaction does not primarily occur during class time, and gifted students generally enjoy learning (Clark, 2002); hence, teachers who share knowledge may exert a greater effect on gifted students' emotional engagement than do peer groups.

Therefore, teachers of regular classes are strongly encouraged to monitor students' social relationships. In particular, as engagement decreases with advancing grade level (Landis & Reschly, 2013; Plucker et al., 2010), a high-quality emotional environment in regular classes may encourage gifted adolescents to continue to enjoy learning in regular classes and to develop their potential. For example, teachers can use positive classroom management and the interactive methods proposed in the relevant literature to enable students to learn mutual respect, caring for each other, and spontaneity. Implementing these measures in classroom interaction will facilitate favorable teacher–student relationships, and improve interpersonal communication and interaction skills.

There are several limitations in this study. The items in the survey were closed-ended, which may have compromised participants' responses by requiring them to select only from the options for response that were provided. Further, given the study's cross-sectional nature, I cannot draw conclusions around causality in the relationship model. Future researchers could include additional factors in longitudinal experiments or qualitative studies.

References

- Audas, R., & Willms, J. D. (2001). *Engagement and dropping out of school: A life-course perspective*. Human Resources Development Canada.
- Chan, D. W. (2003). Dimensions of emotional intelligence and their relationships with social coping among gifted adolescents in Hong Kong. *Journal of Youth and Adolescence*, 32(6), 409–418.
<https://doi.org/10.1023/A:1025982217398>
- Chan, D. W. (2006). Emotional intelligence, social coping, and psychological distress among Chinese gifted students in Hong Kong. *High Ability Studies*, 16(2), 163–178.
<https://doi.org/10.1080/13598130600617589>
- Clark, B. (2002). *Growing up gifted: Developing the potential of children at home and at school* (6th ed.). Merrill/Prentice Hall.
- Cramond, B., Kuss, K. D., & Nordin, R. G. (2007, August 5–9). *Why high-ability students drop out: School-related factors* [Paper presentation]. World Conference for Gifted Children, University of Warwick, Coventry, UK.
- Cross, T. L., & Cross, J. R. (2018). *Suicide among gifted children and adolescents: Understanding the suicidal mind* (2nd ed.). Prufrock Press.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
<https://doi.org/10.1177/002224378101800104>

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, *56*(3), 218–226.
<https://doi.org/10.1037/0003-066X.56.3.218>

Fredrickson, B. L., & Losada, M. F. (2005). Positive affect and the complex dynamics of human flourishing. *American Psychologist*, *60*(7), 678–686.
<https://doi.org/10.1037/0003-066X.60.7.678>

Hair, J. F., Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective* (7th ed.). Pearson Education.

Hansen, J. B., & Toso, S. J. (2007). Gifted dropouts: Personality, family, social, and school factors. *Gifted Child Today*, *30*(4), 30–41.
<https://doi.org/10.4219/gct-2007-488>

Jackson, C. K., Porter, S. C., Easton, J. Q., Blanchard, A., & Kiguel, S. (2020). School effects on socioemotional development, school-based arrests, and educational attainment. *American Economic Review: Insights*, *2*(4), 491–508.
<https://doi.org/10.1257/aeri.20200029>

Kindermann, T. A. (2007). Effects of naturally existing peer groups on changes in academic engagement in a cohort of sixth graders. *Child Development*, *78*(4), 1186–1203.
<https://doi.org/10.1111/j.1467-8624.2007.01060.x>

Klem, A. M., & Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health*, *74*(7), 262–273.
<https://doi.org/10.1111/j.1746-1561.2004.tb08283.x>

Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). Guilford Press.

Landis, R. N., & Reschly, A. L. (2013). Reexamining gifted underachievement and dropout through the lens of student engagement. *Journal for the Education of the Gifted*, *36*(2), 220–249.
<https://doi.org/10.1177/0162353213480864>

Latsch, A., Raufelder, D., & Wulff, T. (2016). The influence of social relationships on conduct problems in school context: Does school engagement matter? *International Journal of Criminology and Sociology*, *5*, 113–122.
<https://doi.org/10.6000/1929-4409.2016.05.11>

Lee, S.-Y., Olszewski-Kubilius, P., & Thomson, D. T. (2012). Academically gifted students' perceived interpersonal competence and peer relationships. *Gifted Child Quarterly*, *56*(2), 90–104.
<https://doi.org/10.1177/0016986212442568>

McCormick, K. M., & Plucker, J. A. (2013). Connecting student engagement to the academic and social needs of gifted and talented students. In K. H. Kim, J. C. Kaufman, J. Baer, & B. Sriraman (Eds.), *Creatively gifted students are not like other gifted students: Research, theory, and practice* (pp. 121–135). Sense.
https://doi.org/10.1007/978-94-6209-149-8_9

Peterson, J., Duncan, N., & Canady, K. (2009). A longitudinal study of negative life events, stress, and school experiences of gifted youth. *Gifted Child Quarterly*, *53*(1), 34–49.
<https://doi.org/10.1177/0016986208326553>

Petrides, K. V., Sangareau, Y., Furnham, A., & Frederickson, N. (2006). Trait emotional intelligence and children's peer relations at school. *Social Development*, *15*(3), 537–547.
<https://doi.org/10.1111/j.1467-9507.2006.00355.x>

Plucker, J. A., Burroughs, N., & Song, R. (2010). *Mind the (other) gap: The growing excellence gap in K-12 education*. Center for Evaluation and Education Policy.

- Reeve, J. (2012). A self-determination theory perspective on student engagement. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 149–172). Springer.
https://doi.org/10.1007/978-1-4614-2018-7_7
- Reeve, J., Cheon, S. H., & Yu, T. H. (2020). An autonomy-supportive intervention to develop students' resilience by boosting agentic engagement. *International Journal of Behavioral Development*, 44(4), 325–338.
<https://doi.org/10.1177/0165025420911103>
- Reis, S. M., & Renzulli, J. S. (2004). Current research on the social and emotional development of gifted and talented students: Good news and future possibilities. *Psychology in the Schools*, 41(1), 119–130.
<https://doi.org/10.1002/pits.10144>
- Reschly, A. L., Huebner, E. S., Appleton, J. J., & Antaramian, S. (2008). Engagement as flourishing: The contribution of positive emotions and coping to adolescents' engagement at school and with learning. *Psychology in the Schools*, 45(5), 419–431.
<https://doi.org/10.1002/pits.20306>
- Schuler, P. (2002). Perfectionism in gifted children and adolescents. In M. Neihart, S. M. Reis, N. M. Robinson, & S. M. Moon (Eds.), *The social and emotional development of gifted children: What do we know?* (pp. 71–77). Prufrock Press.
- Silverman, L. K. (2012). *Giftedness 101*. Springer.
<https://doi.org/10.1891/9780826107985>
- Skinner, E. A., Kindermann, T. A., Connell, J. P., & Wellborn, J. G. (2009). Engagement and disaffection as organizational constructs in the dynamics of motivational development. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 223–245). Lawrence Erlbaum Associates.
- Vaivre-Douret, L. (2011). Developmental and cognitive characteristics of “high-level potentialities” (highly gifted) children. *International Journal of Pediatrics*, 2011, Article e420297.
<https://doi.org/10.1155/2011/420297>
- Wang, W.-L. (2019). Investigating the relationships among emotional intelligence, classroom relations, and student engagement in academically gifted adolescents: A two-mediator model [In Chinese]. *Journal of Special Education*, 49, 1–34.
- Willms, J. D. (2003). *Student engagement at school: A sense of belonging and participation: Results from PISA 2000*. Organisation for Economic Co-operation and Development.
- Yazzie-Mintz, E. (2007). *Voices of students on engagement: A report on the 2006 High School Survey of Student Engagement*. Center for Evaluation & Education Policy.