

Association of School Engagement, Well-being, Resilience, and Growth Mindset Among Adolescents in High School

**Nazia Iqbal, Bushra Hassan, Sundas Jadoon,
and Neelam Ehsen**

International Islamic University

The present study was designed to examine the relationship between school engagement and well-being through a sequential mediating role of growth mindset and resilience among adolescents. A sample of 350 adolescent students (male = 150) (females = 200) age ranged between 13-17 years participated from three main schools in Islamabad and Rawalpindi. Results indicated that present study variables including growth mindset, resilience, school engagement, and well-being were found to have positive associations with each other. Moreover, the sequential mediation path analysis showed that resilience and growth mindset acted as significant mediators between school engagement and well-being among adolescents. Furthermore, gender differences were also calculated indicating that female students showed greater school engagement, higher levels of growth mindset, and psychological well-being in comparison to male students. Findings of the present study emphasized understanding the key positive role school environment could have in enhancing resilience and growth mindset among students resulting in their greater well-being.

Keywords. Growth mindset, resilience, school engagement

The role of schools in developing children competencies and abilities is long been acknowledged (Hamilton & Hamilton, 2009). A more recent shift is, however, towards positive education, a paradigm that is developed recently implying application of positive psychology within the contexts of education to enhance mental health among students (Noble & McGrath, 2008; Oades, Robinson, & Green, 2011). Positive education often described as a discipline of positive psychology provides finest teaching support along with finding ways

Nazia Iqbal, Bushra Hassan, Sundas Jadoon, and Neelam Ehsen, Department of Psychology, International Islamic University (Female Campus) Islamabad, Pakistan.

Correspondence concerning this article should be addressed Nazia Iqbal, Department of Psychology, International Islamic University (Female Campus) Islamabad, Pakistan. Email: nazia.iqbal@iiu.edu.pk

for enhancing character and well-being of students (Peterson et al., 2007). This study is primarily inspired by the work of Zeng, Hou, and Peng (2016) who explored a relatively less tested relationship between school engagement, psychological well-being and resilience among Chinese primary and middle school students. Their study revealed a positive relationship among these variables whilst resilience partially mediated the relationship between growth mindset and school engagement. Considering the significance of these variables, we sought to test these variables into a different academic and a cultural context such as Pakistan. The present study thus investigates a relationship between school engagement and well-being. Moreover, we aim to test a sequential mediation through resilience and growth mindset. Testing such a mediational role of resilience and growth mindset is especially significant as positive education suggests fluid and adaptive role of these variables in enhancing the well-being and in improving the engagement of students at the school. Following paragraphs briefly describe each of these variables.

School Engagement

School engagement illustrates students' thoughts, behaviors, and feelings about what they experience in school and found related to positive academic outcomes such as high school completion and achievement (Wang & Holcombe, 2010). For the students to acquire knowledge and skills they must be actively engaged in school for the purpose of successful transition from primary level to post-secondary career and programs (Wang, Willet & Eccles, 2011). Schaufeli, Martinez, Pinto, Salanova, and Bakker (2002) defined school engagement comprising of three main elements including vigor, dedication, and absorption. Whilst, **vigor** is a mental resilience indicating high levels of energy while studying; **dedication** refers to a sense of significance, enthusiasm, inspiration, pride and challenge; **absorption** means concentration and happiness when performing one's study tasks. There is a strong empirical evidence for associations between school engagement and resultant positive outcomes. For students' school engagement is most effective when the school environment fulfills the student's need of relatedness, competency, and autonomy (Niemic & Ryan, 2009). As an example, high-quality classrooms provide an environment that is warm, centered on children, and promote support for student's independence. Moreover, Vasalampi, Salmela-Aro, and Nurmi (2009) conclude that in upper secondary school a high engagement predicts success in students' academic achievement. Several studies have shown that the

value that is attached by students to school is predicted by their perceptions of the school environment. Students whose learning abilities are enhanced in school are those who have experienced emotional support and respect from teachers and peers (Furrer, Skinner, & Pitzer, 2014; Pianta et al., 2002). Similarly, students experience positive feelings if their teachers express clear expectations, provide appropriate help, and support their independence (Assor, Kaplan, & Roth, 2002). Therefore, the student's achievement and engagement in school are enhanced by the affective and social environment of classroom. Likewise, when a child displays a positive attitude towards school, shows a greater level of engagement through attendance, this will thus in turn results in better well-being including the educational success of the child (Dotterer, McHale, & Crouter, 2009; Ladd & Burgess, 2001). Therefore, a related construct that we are interested in studying is student's psychological well-being.

Psychological Well-being

Ryff, Singer, Love, and Essex (1998) defined psychological well-being as positive psychological functioning. It is associated with overall life satisfaction and is often discussed as happiness and positive affect. Previous research indicates that an individual's thoughts, behavior, and emotions, along with external experiences may influence one's state of well-being (Diener, Lucas, & Oishi, 2002). In present study we are particularly interested in studying positive behavioral outcome for school engagement therefore subjective psychological well-being (Diener, 2009; Diener et al., 2010) is treated as an outcome variable. It comprises of positive outcome of life including meaning and the purpose in life, happiness, personal growth, positive affect and satisfaction with life (Diener, 2000).

Resilience

Tugade and Fredrickson (2004) refer resilience as an ability to bounce back from negative emotional experiences and flexibly adapt to the changing environment. Consistently for Ryff et al. (1998) resilience is the capacity to maintain or recover high well-being in the face of life adversity. Studies have showed that resilient individuals maintain both their psychological well-being and physical health through effectively encountering the negative events (Connor & Davidson, 2003; Ryff & Singer, 2000).

This is of specific importance to us as to build the social and emotional skills for the students, schools play a most important role in determining their resilience abilities especially for the vulnerable children (Rodríguez-Fernández, Ramos-Díaz, & Axpe, 2018). Resilience is most important factor correlated with school engagement rather than academic achievements in students who face much pressure from family, school, and community stress. A resilience curriculum focuses on promoting education that includes internal fostering of optimism, problem solving, positive attitudes, self-awareness, self-efficacy, empathy and collaboration (Benard, 2004; Cefai, 2008; Elbertson, Brackett, & Weissberg, 2009). Therefore, in this study we are also interested in testing association between school engagement and resilience among students.

Growth Mindset

Another relevant study variable i.e., growth mindsets refers to student's perceived ability as a malleability skill of personal qualities (Hochanadel & Finamore, 2015; Molden & Dweck, 2006; Yeager & Dweck, 2012). In addition, Dweck and Legget (1988) developed the implicit theories of intelligence. This theory further consisted of two mindsets that are fixed or entity theory of intelligence and growth or incremental theory. Whilst fixed mindset sees intellectual ability as something of which people has a fixed, unchangeable amount on the other hand growth mindset is an intellectual ability that can be grown or developed (Yeager & Dweck, 2012). Between these two growths mindsets have been recognized as having a positive effect on academic achievement. Due to these mindsets' students view the educational world in a different way. Growth mindset effectively enhances resilience while the fixed mindset does not (Dweck, 2006). Students with growth mindset are inclined to think that their academic lives are a process of gaining knowledge, developing, and growing. Students who possess a growth mindset understand challenges, hardships, and attempt as approaches to effectively improve their intelligence, capability and practice. It is documented in many studies that mindsets have an effect on behaviors and influence them that in turn impact academic achievement of students (Hochanadel & Finamore, 2015; Rattan, Savani, Chugh, & Dweck, 2015).

Rationale

The aim of this research is to explore associations between growth mindset and school engagement of adolescent students from a sample drawn from Pakistani context. There is limited research on

positive education in the context of Pakistan, especially in the implicit theories of intelligence and its contribution towards adolescent's engagement in school. However, previous past research is mainly done on children; this research extends it to testing such associations among adolescent sample. As adolescents is the crucial period of development in terms of physical, psychological, and mental health and growth mindsets play a salient part in their transition from high school to college. Consequently, students with growth mindset learn to adapt to their environment more effectively and respond positively towards challenges they face in the educational settings. Nonetheless, adolescents need to adequately understand their mindsets and gain the idea that their educational and social setbacks have the potential to get better. Once they understand this mechanism then they can be taught the social skills and intellect which they need to be resilient.

This study can be used in schools and family environment to gain a better understanding of the problems that the students face. It can be used to enhance the knowledge of teachers regarding improving study environment and in fostering student's mindsets which in turn can influence their positive well-being.

Hypotheses

1. There is a positive relationship between school engagement, psychological well-being, resilience, and growth mindset.
2. Resilience and growth mindset mediate the relationship between school engagement and psychological well-being.

Method

Sample

The sample comprised of 350 school students (150 boys and 200 girls). Their age ranged between 13-17 years ($M = 15.06$). Convenient sampling technique was used to recruit adolescent students from different schools situated in Islamabad and Rawalpindi cities located in Pakistan. The medium of instructions in these schools is English.

Instruments

Growth Mindset Inventory. Growth mindset was measured with The Growth Mindset Inventory (Dweck, 2006). It comprises of five items; it attempts to measure both growth and fixed mindsets. It intends to measure current student's level of understanding and depth of knowledge of key concepts. It is a five-item inventory, an example

item includes “*I am comfortable with making many mistakes along the way to figuring things out*”. Responses were made on a 5-point Likert scale ranged from 1= *strongly disagree* to 5 being *strongly agree*. The alpha Cronbach’s reliability for this scale on present sample is $\alpha = .67$.

School Engagement Scale. This scale (Fredericks, Blumenfeld, Friedel, & Paris, 2005) includes items which were drawn from variety of measures such as behavioural, cognitive, and emotional engagement. It consists of 15 items that include four behavioural engagement items (e.g. “*I pay attention in class*”), six emotional engagement items (e.g. “*I feel excited by the work in school*”), and five cognitive engagement items (e.g. “*I study at home even when I don’t have a test*”). The items 2, 4, and 6 are reversed scored. Respondents scored on a 5-point Likert scale (1= *never* to 5 = *very true*); while, in current study sample it has a good reliability of $\alpha = .72$.

Brief Resilience Scale. Resilience was measured through the Brief Resilience Scale developed by Smith et al. (2008). It assesses one’s ability to bounce back or recover from stressful life events (e.g., “*I tend to bounce back quickly after hard times*”). It is a six item scale with three items worded positively and the other three are phrased negatively. Participants are asked to answer each question by representing their agreement with each statement by using the 5-point Likert type scale ranged from 1= *strongly disagree* to 5 = *strongly agree*. Alpha Cronbach’s reliability for this scale found in the current study is $\alpha = .77$.

Psychological Well-being Scale. It is a brief scale designed to measure participants’ psychological well-being developed by Diener et al. (2010) used in present study. The scale includes eight items to access meaning, positive social relationships (including helping others and one’s community), self esteem, competency, and mastery. For example: “*I lead a purposeful and meaningful life*”. Each item is answered on a Likert scale of 1-7 points that has a range from *strong disagreement* to *strong agreement*. All items are phrased positively. The reliability of the scale is found to be $\alpha = .75$ in the present study.

Procedure

We used a cross sectional study design. Firstly, the permission was obtained from school administration to conduct the survey in their area. The data were collected during regular school hours. The survey questionnaires were administered in a classroom setting. Prior to the administration of the questionnaires, participants were briefly

informed about the objectives of the study and were assured of confidentiality. Then the informed consent was obtained. Once the participants were provided with the questionnaires they were illustrated with verbal instructions and were motivated to complete their questionnaires. They were also informed that if they had any difficulty while completing the questions, they were free to ask from the researcher. Students completed the questionnaires with least difficulty. The same process was applied to all the schools and data was gathered from different classes and different age groups.

Results

Pearson Product Moment Correlations were tabulated to determine the relationships among the variables.

Table 1

Zero Order Correlations Among All Study Variables

Variables	1	2	3	4
1. School Engagement	-	.70**	.66**	.60**
2. Well-being		-	.71**	.55**
3. Growth Mindset			-	.55**
4. Resilience				-

* $p < .00$.

Correlations among all study variables are presented in Table 1. All three predictors including school engagement, resilience and growth mind set are positively related to the measures of well-being.

The following model presents the direct, indirect and the total effect that is tested in the sequential mediational model.

Table 2

Direct Effects Model

Paths	Predictors	β	t	p	LL	UL
a	School Engagement \rightarrow Resilience	0.19	12.69	.00	11.05	13.89
b	Growth Mindset \rightarrow Well-being	1.01	8.02	.00	0.76	1.26
c	School Engagement \rightarrow Well-being	0.25	6.49	.00	0.17	0.33
d	Resilience \rightarrow Growth mindset	0.22	4.69	.00	0.13	0.31
e	School Engagement \rightarrow Growth mindset	0.15	9.96	.00	0.12	0.18
f	Resilience \rightarrow Well-being	0.28	2.64	.00	0.07	0.49

The direct effect suggests that, whilst controlling for the effect of resilience and growth mindset on well-being, the school engagement has a significant positively relationship with well-being, $\beta = .25$, $t = 6.49$, $p < .001$, 95% BCa CI [.17, .33]. The R^2 tells us that school engagement, resilience and growth mindset explain 60% of the

variation in well-being. We can see that the variable of school engagement positively predicts resilience, $b = .19$, $t = 12.70$, $p < .001$, 95% BCa CI [.16, .22], and explains 35% of its variation. Moreover, school engagement also positively predicts growth mindset, $b = .20$, $t = 15.30$, $p < .001$, 95% BCa CI [.17, .22], and explains 43% of its variation in it.

Table 3

Decomposition of Standardized Indirect Effects in Path Analysis

Predictors	95% Bootstrap Confidence Interval		
	β	LL	UL
School→Resilience →Well-being	a*f	.07	.02 .12
School→Growth Mindset →Well-being	e*b	.21	.15 .26
School→Resilience →Growth Mindset →Well-being	a*d*b	.05	.03 .09

The above Table indicates that CIs do not cross zero, so it can be inferred that all the indirect effects in this model are significant. However, the direct effect $c' = .25$ [.17 .33] is albeit significant, as the confidence intervals do not cross zero, but is smaller than model's total effect that is, $c = .51$, $p < .001$, [.45 .57]. Therefore, from above model, a partial sequential mediation effect of school engagement through resilience and growth mindset on well-being is inferred.

Table 4

Gender Differences Across Study Variables

Variables	Male ($n = 150$)		Female ($n = 200$)		t	p	95% CI		Cohen's d
	M	(SD)	M	(SD)			LL	UL	
Well-Being	46.13	(5.90)	47.61	(5.02)	2.33	.02	-2.72	-0.23	0.27
School Engagement	44.69	(7.63)	47.69	(6.75)	3.60	.00	-4.63	-1.36	0.41
Resilience	21.25	(2.54)	21.77	(2.28)	1.83	.06	-1.06	0.03	0.21
Growth Mindset	19.49	(2.10)	20.17	(2.28)	2.67	.00	-1.18	-0.18	0.31

The above Table 4 indicates females are found higher on the variables of well-being, school engagement, and growth mindset in comparison to males. However, there are nonsignificant differences between male and female students on resilience.

Discussion

The purpose of this study was to investigate the association of growth mindset on school engagement among adolescents in Pakistan. Along with this, the study also tests a sequential mediation through resilience and growth mindset that acted as a mediator between these two variables.

The results showed a positive relationship among these study variables. Several possible explanations contribute to this relationship affirming implicit theories develop students' personal characteristics during educational and social adversities which affect resilience (Yeager & Dweck, 2012). Thus, the results are in line with past studies that are showed in different contexts. Resilience is defined as successful adaptation in the face of adversity and environmental stressors, such as poverty, unemployment, homelessness, and family instability and breakdown (Masten, 1994). In order to manage such challenges growth mindset is of utmost importance (Peterson, Ruch, Beerman, Park, & Seligman, 2007). The subjective experiences are valued by positive psychology towards the past, present and future and it also helps enhance the positive qualities that could be used to prevent and effectively deal with everyday problems (Seligman & Csikszentmihalyi, 2000). As it focuses on cognitive processes such as, thinking optimistically, positive self talk, awareness and regulating the emotions positively. In order to manage such challenges growth mindset is of utmost importance (Peterson, Ruch, Beerman, Park, & Seligman, 2007). The subjective experiences are valued by positive psychology towards the past, present and future and it also helps enhance the positive qualities that could be used to prevent and effectively deal with everyday problems (Seligman & Csikszentmihalyi, 2000). As it focuses on cognitive processes such as, thinking optimistically, positive self talk, awareness and regulating the emotions positively. The development of positive thinking during setbacks provides children with an opportunity to engage in optimistic thinking, to challenge the unhelpful thoughts and dealing with the challenges with a positive attitude (Noble & McGrath, 2008). The children may be taught the skills referring to their thoughts, such as helping them to attribute bad or stressful events in the lives as external or unstable causes that can result in developing a more positive mindset (Buchanan & Seligman, 1995). This can illustrate that both growth mindset and resilience have a positive relationship.

Thus, the sequential mediation effect of school engagement on well-being through resilience and growth mindset highlights the successive contribution of each predictor into our outcome variable

that is well-being. In comparison to past studies we tested growth mindset as the outcome of school engagement than as its predictor. The positive relationship between the two in our direct effects model demonstrates the need to foster school atmosphere in ways students feel engaged at schools. This will in turn enhance their growth mindedness that developing high levels of growth mindsets in students as a result predicts higher psychological well-being through the enhancement of resilience. This finding of a positive association between resilience in an academic setting and well-being is consistent with the past research (see e.g., Karreman & Vingerhoets, 2012; Mak, Ng, & Wong, 2011).

Moreover, significant gender differences among adolescents are found in psychological well-being. The results showed a significant difference indicating that female adolescents tend to have greater level of psychological well-being as compared to males. The results are in contradiction with the study carried out by Sagone and Caroli (2013) where boys were found experiencing high level of psychological well-being. Furthermore, the *t*-test analysis of the difference of mean among male and female adolescents revealed a significant difference in school engagement. The female adolescent students tend to have higher school engagement and growth mindset than male students. These results are in accordance to the previous literature (Johnson, Crosnoe, & Elder, 2001). Their findings revealed that female students showed higher engagement within schools in comparison to boys. Which in turn results in the conclusion that school environment is perceived differently by boys and girls. Moreover, Wang, Willett, and Eccles (2011) have found in their research that girls showed greater level of identification and participation in school as compared to boys.

The uniqueness of this research is its emphasis on enhancing school engagement so that the consequent positive relationship between resilience, growth mindset, and well-being can be established. According to the past investigations it is noted that students with a growth mindset tend to earn higher grades and are involved more in school engagement because it provides as a platform for them to learn from the challenges and mistakes rather than just looking smart (Blackwell, Trzesniewski, & Dweck, 2007).

Limitations and Future Implications

The findings of this research have wider implications on the academic and school relevant tasks of the students. In Pakistan, there is a greater need to adequately understand student's mindsets and gain the idea that their educational and social setbacks have the potential to

get better. Our sequential mediational model suggests that greater school engagement increased resilience among students that subsequently leads to growth mindset and consequently have positive impact on student's well-being. This study thus demonstrates that growth mindset is the outcome of school engagement. Therefore, we suggest greater emphasis on enhancing school environment to provide a conducive environment where they can enhance their resilience and learn through growth mindset. Once students have this understanding that their mindsets can be changed then this change can alternatively have an impact on their resilience level which can have a positive effect on their social skills and resultant psychological well-being.

Although this research provides an exciting overview of the ways school engagement can be enhanced through resilience and enhancing resilience. However, this is a relatively small-scale study and is not without its limitations. One of the main limitations is a limited sample size only comprising of adolescent students from the Schools based in Islamabad city of Pakistan. Therefore, we suggest obtaining a more representative sample of students from rural as well as urban Schools located in Pakistan that can add more breadth in understanding the variables under study at a more rigor. The study findings could have been supplemented whilst taking the viewpoint of teachers in respective schools. In this regard, we suggest an extensive qualitative study to explore the ways growth mindset, resilience and school engagement can be enhanced at schools as these variables are viable indicators of academic success at schools.

We have mainly relied on self-report measures of positive psychology outcomes. In this regard we have used well established measures of variables under study. For future research we suggest testing the validity of these measures through confirmatory factor analysis to assess their adequacy on a sample under study. Moreover, for the present study we have obtained data from only private schools. An interesting future line of research is to extend this work and have some comparative research between government and private sector schools. Such research will in turn help policy makers in maintaining uniformity of instructions in both private and public sector schools to enhance indicators of positive psychology such as growth mindset, resilience and school engagement and resultant well-being among students.

References

- Assor, A., Kaplan, H., & Roth, G. (2002). Choice is good, but relevance is excellent: Autonomy-enhancing and suppressing teacher behaviours predicting students' engagement in schoolwork. *British Journal of Educational Psychology*, 72(2), 261-278.

- Benard, B. (2004). *Resiliency: What we have learned*. San Francisco, CA: West Ed.
- Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development, 78*(1), 246-263.
- Buchanan, G. M., & Seligman, M. E. P. (1995). *Explanatory style*. Hillsdale, NJ: Erlbaum.
- Cefai, C. (2008). *Promoting resilience in the classroom*. London: Jessica Kingsley Publications.
- Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale. *Depression and Anxiety, 18*(1), 76-82. doi:10.1002/da.10113
- Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist, 55*(1), 34-46.
- Diener, E. (2009). *The science of well-being*. Dordrecht: Springer.
- Diener, E., Lucas, R. E., & Oishi, S. (2002). Subjective well-being: The science of happiness and life satisfaction. *Handbook of Positive Psychology, 2*(1), 63-73.
- Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D. W., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research, 97*(2), 143-156.
- Dotterer, A. M., McHale, S. M., & Crouter, A. C. (2009). Sociocultural factors and school engagement among African-American youth: The roles of racial discrimination, racial socialization, and ethnic identity. *Applied Developmental Science, 13*(2), 61-73.
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York: Random House.
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review, 95*(2), 256-268. doi:10.1037/0033-295X.95.2.256
- Elbertson, N., Brackett, M., & Weissberg, R. (2009). School-based social and emotional learning programming: Current perspectives. In A. Hargreaves, A. Lieberman, M. Fullan, & D. Hopkins (Eds.), *Second international handbook of educational change*, (pp. 1017-1032). New York: Springer International Handbooks of Education.
- Fredricks, J. A., Blumenfeld, P., Friedel, J., & Paris, A. (2005). *School engagement: In what do children need to flourish?* Boston, MA: Springer.
- Furrer, C. J., Skinner, E. A., & Pitzer, J. R. (2014). The influence of teacher and peer relationships on students' classroom engagement and everyday motivational resilience. *National Society for the Study of Education, 113*(1), 101-123.

- Oades, L. G., Robinson, P., & Green, S. (2011). Positive education: Creating flourishing students, staff and schools. *InPsych: The Bulletin of the Australian Psychological Society*, 33(2), 16-28.
- Hamilton, S., & Hamilton, M. (2009). The transition to adulthood: Challenges of poverty and structural lag. In R. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology*, (pp. 56-80). New York: Springer.
- Hochanadel, A., & Finamore, D. (2015). Fixed and growth mindset in education and how grit helps students persist in the face of adversity. *Journal of International Education Research*, 11(1), 47-50.
- Johnson, M. K., Crosnoe, R., & Elder, G. H. (2001). Students' attachment and academic engagement: The role of race and ethnicity. *Sociology of Education*, 8(2), 318-340.
- Karreman, A., & Vingerhoets, A. J. (2012). Attachment and well-being: The mediating role of emotion regulation and resilience. *Personality and Individual Differences*, 53(7), 821-826.
- Ladd, G. W., & Burgess, K. B. (2001). Do relational risks and protective factors moderate the linkages between childhood aggression and early psychological and school adjustment? *Child Development*, 72, 1579-1601. doi:10.1111/1467-8624.00366.
- Mak, W. W., Ng, I. S., & Wong, C. C. (2011). Resilience: Enhancing well-being through the positive cognitive triad. *Journal of Counseling Psychology*, 58(4), 610-622.
- Masten, A. S. (1994). *Resilience in individual development: Challenges and prospects*. New York: Lawrence Erlbaum.
- Molden, D. C., Plaks, J. E., & Dweck, C. S. (2006). "Meaningful" social inferences: Effects of implicit theories on inferential processes. *Journal of Experimental Social Psychology*, 42(6), 738-752.
- Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory and Research in Education*, 7(2), 133-144.
- Noble, T., & McGrath, H. (2008). The positive educational practices framework: A tool for facilitating the work of educational psychologists in promoting pupil well-being. *Educational and Child Psychology*, 25(2), 119-134.
- Pianta, R. C., La Paro, K. M., Payne, C., Cox, M. J., & Bradley, R. (2002). The relation of kindergarten classroom environment to teacher, family, and school characteristics and child outcomes. *The Elementary School Journal*, 102(3), 225-238.
- Rattan, A., Savani, K., Chugh, D., & Dweck, C. S. (2015). Leveraging mindsets to promote academic achievement: Policy recommendations. *Perspectives on Psychological Science*, 10(6), 721-726.
- Rodríguez-Fernández, A., Ramos-Díaz, E., & Axpe, I. (2018). The role of resilience and psychological well-being in school engagement and perceived academic performance: An exploratory model to improve

- academic achievement. *Health and Academic Achievement*, 18(1), 159-176.
- Ryff, C. D., & Singer, B. (2000). Interpersonal flourishing: A positive health agenda for the new millennium. *Personality and Social Psychological Research*, 4(1), 30-44.
- Ryff, C. D., Singer, B., Love, G. D., & Essex, M. J. (1998). Resilience in adulthood and later life: Defining features and dynamic processes. In J. Lomranz (Ed.), *Handbook of aging and mental health: an integrative approach* (pp. 69-96). New York: Plenum Press.
- Sagone, E., & De Caroli, M. E. (2013). Relationships between resilience, self-efficacy, and thinking styles in Italian middle adolescents. *Procedia-Social and Behavioral Sciences*, 92(8), 838-845.
- Schaufeli, W. B., Martinez, I. M., Pinto, A. M., Salanova, M. P., & Bakker, A. B. (2002). Burnout and engagement in university students across-national study. *Journal of Cross-Cultural Psychology*, 33(4), 464-481. doi:10.1177/00220221020330 05003
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). *Positive psychology: An introduction*. Boston: Sage, Ltd.
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The Brief Resilience Scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*, 15(3), 194-200.
- Tugade, M. M., & Fredrickson, B. L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of Personality and Social Psychology*, 86(2), 320-335.
- Vasalampi, K., Salmela-Aro, K., & Nurmi, J. E. (2009). Adolescents' self-concordance, school engagement, and burnout predict their educational trajectories. *European Psychologist*, 14(4), 332-341.
- Wang, M. T., & Holcombe, R. (2010). Adolescents' perceptions of school environment, engagement, and academic achievement in middle school. *American Educational Research Journal*, 47(3), 633-662.
- Wang, M. T., Willett, J. B., & Eccles, J. S. (2011). The assessment of school engagement: Examining dimensionality and measurement invariance by gender and race/ethnicity. *Journal of School Psychology*, 49(4), 465-480.
- Yeager, D. S., & Dweck, C. S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychology*, 47(2), 302-314.
- Zeng, G., Hou, H., & Peng, K. (2016). Effect of growth mindset on school engagement and psychological well-being of Chinese primary and middle school students: The mediating role of resilience. *Frontiers in Psychology*, 7, 1873-1880.

Received 15 July 2019

Revision received 19 April 2020