


Summer 2019

Development of a school boredom proneness scale for children

Taylor Carrington

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Carrington, Taylor, "Development of a school boredom proneness scale for children" (2019). *Educational Specialist*. 151.
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Development of a School Boredom Proneness Scale for Children

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A research project submitted to the Graduate Faculty of

JAMES MADISON UNIVERSITY

In

Partial Fulfillment of the Requirements

for the degree of

Education Specialist

Department of Graduate Psychology

August 2019

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Abstract

One common phrase heard from students is, “I’m bored.” However, there is no real understanding of what this actually means. In this study, elementary-age students were asked to respond to a newly developed School Boredom Proneness Scale (SBPS) including questions relating to a five-factor model of boredom. Students were also asked to rate how often they become bored at school and how bored they seem compared to classmates. In addition to student responses, parents and teachers were asked to rate how bored they thought the student was, and teachers were additionally asked to rate students’ level of work completion. The researchers found that the higher students’ total school boredom proneness scores were, the higher self-ratings of boredom, comparison to classmates, and teacher ratings of boredom were; however, total scores did not correlate with parent ratings of boredom. The researchers also found that teacher ratings of work completion were significantly and negatively correlated with students’ total school boredom proneness score. Results of the study also showed that scores on the total scale were reliable, but scores on the subscales were not. These analyses extend previous work (Farmer & Sundberg, 1986), in which a Boredom Proneness Scale (BPS) for adults was developed

Development of a School Boredom Proneness Scale for Children

It is no surprise that students experience boredom in the classroom. A 2010 study found that over 44% of students report feeling bored to some degree while in class (Daschmann, Goetz, & Stupnisky, 2010). Goetz, Frenzel, and Pekrun (2007) found that students report being bored during almost half of each lesson on average. Boredom has been linked to social dependency, a disregard for rules, and the ability to be peer pressured. Apprehension, insecurity, and disordered eating were also found to correlate with high scores of boredom proneness (Vodanovich, Wallace, & Kass, 2005). Boredom negatively impacts an overall experience of different situations, specifically class time for young students. Boredom has been related to lower academic achievement, absenteeism, and dropout (Robinson, 1975). Perpetual class-related boredom can lead to trait boredom and decrease motivation for goal setting, making life choices, and lifelong learning (Cui, Yao, & Zhang, 2017). Despite its high impact and widespread consequences, the assessment of boredom for intervention has been neglected compared to other constructs in the psychological literature.

The literature boasts many definitions of boredom. Greenson (1953) described boredom as an experience associated with a negative attitude toward an activity, an inability to specify what one desires, a passive attitude toward change, and a sense of time distortion. This work led to further investigation on boredom. More recently, boredom has been related to low arousal, increased feelings of unpleasantness, constraint, and repetitiveness. Boredom has been defined as a negative emotion whereby one cannot meaningfully engage in a task, is unable to sustain attention, and attributes the external environment as the source of the frustration (Geiwitz, 1966; Eastwood et al, 2012). Preliminary efforts to define boredom have highlighted the importance of grounding the definition in a model of theoretical framework.

There are differing theoretical perspectives on what causes boredom. Psychological models of boredom conclude that boredom is a state of under-arousal related to performance of tasks that are repetitive. This model suggests we might find boredom occurring for adolescents across all settings that are deemed too challenging or not challenging at all. Zuckerman's (1969) theory states that there is an

optimum level of arousal (OLA) at which person are most comfortable. When individuals are at this state, it can be highly motivating. To reach OLA, people will act to decrease mental arousal levels when stimulation is too high and, conversely, will increase mental arousal when stimulation is too low.

Zuckerman states that OLA varies from person to person and is highly based on personality traits (Leong & Schneller, 1991). Personality has been conceptualized by Buss and Plomin (1975) as four separate dimensions of temperament, including emotionality, activity, sociability, and impulsivity. Individuals who are easily aroused emotionally, have high activity levels, are highly social, and are less impulsive are less likely to be bored (Leong & Schneller, 1991). When an individual is in a low level of stimulation compared to their OLA and they are unable to increase their arousal level, boredom results (Zuckerman, 1971).

Another perspective comes from DeChenne (1988). He defines boredom as “a negative affect involving a sense of inadequate stimulation from the environment.” DeChenne argued that there are four environmental factors that can mediate boredom proneness—customary activation, orientation to sources of stimulation, degree to which needs and interests are met by the content of the environmental stimulation, and skill level of the individual seeking stimulation. Customary activation is similar to OLA in that it involves psychological and physiological activation of an individual. Orientation to sources of stimulation categorizes the sources into external and internal, external being environment and internal being one’s subjective state. Regardless of the amount of emotional stimulation, it must be relevant and important to the individual to defer boredom. Lastly, DeChenne states that intellectual abilities, aptitudes, creativity, and social skills are all tools that help to maintain the customary activation level and prevent boredom.

One study addressed the relationship of boredom to cognitive processes. Bornstein, Kale, and Cornell (1990) found that individuals who are bored more often rate favorability to stimuli they have been repeatedly exposed to differently than those who are not often bored. Those with high boredom will rate this type of stimulus less favorably than those with low boredom. An explanation for this may be that bored individuals habituate faster to stimuli, which may explain their inability to remain engaged for

longer periods of time. DeChenne's hypothesis states that those with better cognitive skills are better at finding stimulation and are less likely to be bored than those with lower cognitive skills. It is likely that a useful cognitive skill for combating boredom is the ability to take on new perspectives and finding stimulation in under stimulating environments. A study conducted by Leong and Schneller (1991) suggested that cognitively rigid persons are more likely to become bored because they are less likely to be open to different environmental stimulation. The ability to keep oneself entertained is important in regulating one's mood and the experience of boredom. Being able to self-generate information and activities can play a role in decreasing boredom. Individuals who can maintain adequate levels of internal stimulation are not likely to experience boredom.

Academic boredom is one of the most widespread emotions experienced by students. Pekrun's (2006) Control-Value Theory explains how boredom may arise in an academic setting. Pekrun proposes that students' emotions have individual and social determinants, which both influence the fit between person and the environment. Personality antecedents to boredom consist of non-cognitive factors, such as temperament and situational appraisals, such control and value assessments. The extent to which students subjectively value the learning material and perceive control over the situation can facilitate the occurrence of different emotions. Environmental influences (e.g. quality of classroom instruction) can also make certain emotions arise. Students will most likely experience the most boredom if they do not value the learning material and they perceive too much or too little control over the situation (Pekrun, 2006).

Academic boredom has been classified into two categories: class-related boredom and learning-related boredom (Pekrun, 2010). Class-related boredom is a type of state boredom experienced by students in class due to the teaching style or environment. Learning-related boredom is more about the content and act of learning. Understanding how students experience boredom in the class can provide important information to limit the amount of boredom the students feel (Cui, Yao, & Zhang, 2017).

Robinson (1975) developed a model of boredom at school in which situational and personal characteristics were attributed to experiencing boredom. Robinson believed the main causes of boredom

were monotonous classes, perceived uselessness of the subject, and a lack of goals. The study also discussed the role of home life, parents, peers, and teachers in relation to the experience of boredom. Similarly, Hill and Perkins (1985) theorized that boredom is related to a person's subjective construal of a situation. They found that bored versus non-bored subjects perceived the ongoing task as more homogenous and undifferentiated, even when the task was complex. This lack of differentiation promoted rapid habituation, leading the subject to experience monotony. Hill and Perkins conceptualized monotony as not only sensory-motor repetition, but also the students' perceptions of the school day. If students perceive a situation as relevant for their needs, it becomes more meaningful and less likely to instill boredom.

Boredom is best viewed as a two-pronged concept resulting from a combination of personal and environmental influences. Boredom may occur in the classroom setting when there is no stimulation. When stimulation is low, students will act to increase the level of arousal. Students may also experience boredom due to their lack of interest in a topic, the difficulty of the material, or their unpreparedness and lack of orientation to teaching material. In summation, students are most likely to be bored in situations where they feel there is nothing to do and when they do not like what is going on.

Boredom is typically considered to be a temporary condition that changes due to internal and external arousal. Some individuals have been identified to have a propensity to be bored across situations, or prone to boredom (Vodanovich, Verner, & Gilbride, 1991). Boredom susceptibility is the aversion to repetitive tasks, routines, and other people who are not stimulating. Individuals with a propensity to be bored tend to experience extreme restlessness under conditions when escape is not possible (Zuckerman, 1979).

Farmer and Sundberg saw a gap in the boredom literature that they attribute to a lack of knowledge of and ability to measure the construct. The Boredom Proneness Scale (BPS) was created to address this issue (Farmer & Sundberg, 1986). The BPS is a 28-item true-false form that measures the likelihood adults will be bored in different environments and follows a generic two-factor structure consisting of items related to internal and external stimulation. Follow-up researchers, Vodovich and

Kass (1990), conducted a factor analysis and derived five main factors contributing to boredom. These five different subscales are external stimulation (need for excitement, change, and variety), internal stimulation (difficulty in keeping oneself interested and entertained), affective responses (negative emotional reactions to boredom), perception of time (perception of slow time passage), and constraint (feelings of restlessness and impatience). The original findings demonstrated that many people are bored, but furthermore, how they rated themselves on the different factors influenced their likelihood of becoming bored in specific situations. The Boredom Proneness Scale developed by Farmer and Sundberg (1986) differs from the Boredom Susceptibility Scale from the Sensation Seeking Measure from Zuckerman (1979). The Boredom Susceptibility Scale measures one's ability to tolerate monotonous environmental stimulation, while the Boredom Proneness Scale emphasizes one's connectedness with the environment on many situational dimensions, as well as the ability access adaptive resources and realize competencies.

It is important to note that individuals can share the same overall boredom proneness score, but load more heavily on one dimension than another compared to others (Vodanovich & Kass, 2011). This would indicate that a student is just as bored as another student in the class, but the predictors for experiencing the boredom are different. One student may feel that time is passing extremely slowly, which makes him feel bored, while another wishes she could do what she wanted to do in class instead of listening to the teacher. This information from the scale further supports the idea that boredom is an individualized experience comprised of personal and situational traits.

Studies examining boredom in learning and achievement settings are relatively rare. A 2009 study conducted by Lehr and Todman Chronic adapted two adult boredom measures, the Boredom Proneness Scale (Farmer & Sundberg, 1986) and the State Boredom Measure (SBM; Todman, 2004), to analyze the relationships between state and trait boredom, school performance, and ratings of overall adjustment in a sample of young children. The researchers developed the Boredom Proneness Scale – Child Version (BPS-C) from the BPS by rewording the original items to reduce the vocabulary to a third grade reading level. Other researchers and teachers then reviewed the wording of each item to ensure

comprehensibility. The State Boredom Measure – Child Version (SBM-C) was developed using the same process as the BPS-C. The final children’s versions contained the same number of items as the original adult versions and were administered in a forced-choice format, where children were asked to choose between “Agree” and “Disagree” as their answers to each item. The findings of this study suggest that reports of frequent and persistent boredom may be a useful marker for distress and maladjustment in children as young as eight years old (Lehr & Todman, 2009).

The identification of those who are boredom prone could aid in the choice of coping strategies best suited for each individual. Therapeutic interventions for boredom should be focused on the specific reasons or deficits that account one one’s boredom. Currently, the main use for boredom proneness scores is research, not clinical or educational application (Vodanovich, Wallace, & Kass 2005). Expanding on this research would allow researchers and educators to develop and implement boredom reducing intervention programs for individuals and school-wide. This information could also inform teacher training programs to improve overall school instruction.

An increasing interest in boredom research has developed in the past two decades, but it remains a neglected topic in both psychology and education. Most research has been conducted with college aged and young adult individuals, leaving a gap in the literature on boredom and children. The purpose of the present study is to investigate the reliability and validity of a newly developed scale called the School Boredom Proneness Scale (SBPS). On the basis of the previous review, the researcher aims to find sufficient internal consistency and demonstrate face validity within the scale. The specific hypotheses are listed below:

1. The School Boredom Proneness scale will demonstrate adequate reliability.
2. There will be a significant positive correlation between students’ overall school boredom proneness score and self-rating of boredom.
3. There will be a significant positive correlation between students’ overall school boredom proneness score and comparison of own boredom to other students in their class.
4. There will be a significant positive correlation between students’ overall school boredom proneness score and parent ratings of boredom.
5. There will be a significant positive correlation between students’ overall school boredom proneness score and teacher ratings of boredom.

6. There will be a significant negative relationship between students' overall school boredom proneness score and teacher ratings of work completion.

Method

Participants

Participants were 44 elementary-aged students from a private school in Virginia, 22 students in the fourth and fifth grades. There were 18 boys and 26 girls. Participation in the study was voluntary, and consent was obtained from parents and/or guardians. Assent was also obtained from student participants. The parent who gave consent for their child to participate also completed the parent question for all 44 students, and the two teachers completed their questions for all students.

Materials

School Boredom Proneness Scale. The literature shows no existing measure of boredom proneness appropriate for children and focused on the school experience. For this thesis we developed a 15-item scale, tentatively called the School Boredom Proneness Scale which was modeled on Farmer and Sundberg's 1986 Boredom Proneness Scale. While the Farmer and Sundberg scale has been shown to have overall reliability, its factor structure has been elusive (Vodanovich & Kass, 1990).

Items for the new scale were developed by a group of Master's level school psychology graduate students who were sent a prompt with the five factors from Vodanovich and Kass (1990) and an example of an item from the BPS that loaded on that factor. The five factors were external stimulation, internal stimulation, perception of time, affective responses, and restraint. The students were asked to write items for each factor, focusing on the elementary school experience and using the language of elementary school children. The researcher selected the items that most closely resembled those from the Boredom Proneness Scale and altered them for wording and to create some positive and negative affective statements. Three items were selected for each factor. The resulting scale is contained in Table 1 and the instrument is Appendix A.

Validity items. The researcher also added one item asking parents to rate how bored they felt their child was compared to other children their age, and two items asking teachers to report levels of homework completion and rating of boredom compared to others in the class to the survey to assess for validity. Students were also asked to rate how often they experienced boredom in class and to compare their level of boredom with others students in the classroom.

Figure 1. *Research Version of the Boredom Proneness Scale for Children.*

School Boredom Proneness Scale			
Never 1	Sometimes 2	Usually 3	Always 4
External Stimulation			
1. My school day is fun. (reverse-coded)			
2. I do the same things at school every day.			
3. My classwork is not interesting.			
Internal Stimulation			
1. I pay less attention when the teacher is talking about something I already know.			
2. I can focus more in class when I get to choose what to do. (reverse-coded)			
3. It is hard to pay attention in class.			
Affective Responses			
1. I need to get up and do something else when I sit in class for a long time.			
2. Sitting in class all day makes me tired.			
3. I don't like when I have to do the same thing over and over.			
Perception of Time			
1. I count down the minutes until I get to do something else at school.			
2. The school day passes by quickly. (reverse-coded)			
3. I watch the clock waiting for class to end.			
Constraint			
1. I can choose what I do at school. (reverse-coded)			
2. I wish I could leave class.			
3. I have to do work that is not important to me.			

In this study, the SBPS was used in a 4-point Likert-type format with responses ranging from *never* to *always* to increase sensitivity of responses by eliminating the option to choose a neutral response. Higher collective scores reflect greater boredom proneness. After reverse-coding the reverse-worded items, higher cores on specific factors may represent a greater propensity to become bored in that environmental situation. Each of the five subscales includes three items. Therefore, when subscales are totaled, the possible scores for each subscale ranges from 3 to 12, and the maximum total score for the SBPS is 60.

Procedure

Participants came from the fourth and fifth grade classrooms of a small, private school in Virginia. Informed consent forms were sent home to parents for permission to work with their child and requesting their rating of their child's boredom proneness. Over 90% of parents gave permission. The researcher administered assent forms and the surveys to students who had returned parental consent forms in a group setting. To connect children's responses to the parent and teacher responses, children put their initials on their questionnaires. Within a half an hour of receiving the questionnaires, they were paired with the teacher and parent responses and then de-identified.

Results

The reliabilities of the scores reported on the SBP Scale were assessed by calculating internal consistency for each of the five subscales and the total scale using Cronbach's Alpha. The external stimulation subscale consisted of three items ($\alpha = .64$), the internal stimulation subscale consisted of three items ($\alpha = .074$), the affective responses subscale consisted of three items ($\alpha = .55$), the perception of time subscale consisted of three items ($\alpha = .64$), and the constraint subscale consisted of three items ($\alpha = .52$). Overall, the School Boredom Proneness Scale was found to be highly reliable (15 items; $\alpha = .87$). Thus, for the whole scale, Hypothesis 1, that the scores from the scale would be reliable was supported. The low internal consistency of the subscales suggests caution when using them as stand-alone measures. The mean levels of each subscale and the overall school boredom proneness score are reported below. Each scale's score ranges from 4 to 12, and the total boredom proneness score ranges from 15 to 60. Table 1 presents the findings.

Table 1

School Boredom Proneness Scale Responses (n = 44)

Scale	Mean	SD
External Simulation	7.70	1.72
Internal Simulation	8.25	1.28
Affective Responses	8.25	1.51

Perception of Time	6.91	1.89
Constraint	8.00	1.58
Total Score	37.8	6.32

The researchers tested the relationships between students' total school boredom proneness score with their self-ratings of boredom, parent ratings of boredom, teacher ratings of boredom and work completion, and a student self-comparison of boredom to other students in class. On a scale of 15 to 60, total boredom proneness scores averaged 37.80 ($SD = 6.32$). On a scale of 1 to 4, self-ratings of boredom averaged 2.34 ($SD = 0.75$), comparison ratings averaged 2.41 ($SD = 0.95$), parent ratings averaged 2.34 ($SD = 0.83$), teacher ratings averaged 1.50 ($SD = 0.59$), and teacher ratings of work completion averaged 3.70 ($SD = 0.51$). The total school boredom proneness scores were significantly correlated with self-rating of boredom ($r = .34, p < .05$), supporting Hypothesis 2. The total school boredom proneness scale and ratings of boredom compared to others were correlated at $r = .64, p < .01$, supporting Hypothesis 3. Hypothesis 4, that boredom proneness and parents' ratings of boredom would be significantly correlated was not supported. The correlation between the two measures was $r = .26, p = n. s.$ There was a significant correlation between school boredom proneness and teacher ratings of boredom, $r = .38, p < .05$, confirming Hypothesis 5 and between total school boredom proneness and teachers' ratings of work completion, $r = -.49, p < .01$, supporting Hypothesis 6. See Table 2.

Table 2

Correlations Between Student Overall Score and Student, Parent, and Teacher Ratings of Boredom (N = 44)

Item	I get bored in class.	I get bored more than other students my age.	My child gets bored with school.	This student gets bored in class.	This student turns in homework.	Total School Boredom Proneness Score
I get bored in class.	1.0	0.26	0.71	0.13	-0.22	0.34*
I get bored more than other students my age.	0.26	1.0	0.17	0.21	-0.32*	0.64**
My child gets bored with school.	0.71	0.17	1.0	0.17	-0.14	0.23
This student gets bored	0.13	0.21	0.17	1.0	-0.12	0.38*

in class.

This student turns in homework.	-0.22	-0.32*	-0.14	-0.12	1.0	-0.49**
Total School Boredom Proneness Score	0.34*	0.64**	0.23	0.38*	-0.49*	1.0
Mean	2.34	2.41	2.34	1.50	3.70	37.80
SD	0.75	0.95	0.83	0.59	0.51	6.32

* $p < .05$

** $p < .01$

The purpose of this study was to develop a scale that can help measure and aid in understanding boredom proneness in children within the school setting. The researchers expected the scale to demonstrate sufficient internal consistency, suggesting that the scale overall measures boredom proneness at school. Analysis showed that the scores from the School Boredom Proneness Scale overall demonstrated sufficient reliability and measures what it proposes to measure; however, the scores on the individual subscales did not. The researchers did not specifically state a hypothesis related to the reliability of each subscale; however, adequate internal consistency was expected for each. High reliability within subscales suggests that the items within the scale are closely related and seemingly measure the same construct. The results of the data analysis did not reveal internal consistency for the five subscales of the School Boredom Proneness Scale, indicating that the scores on the subscales are not reliable.

The external stimulation, affective responses, constraint, and perception of time scales demonstrated poor to questionable reliability, indicating that they somewhat measure the same construct, or idea. When looking at the analysis for external stimulation, item 1 was least correlated to its counterparts, item 10 and item 13. This may be due to item 1 asking about monotonous situations compared to the other questions focusing more on interest and engagement. Despite having the lowest correlation of the three items, the reliability of the external stimulation scale would not significantly increase upon the deletion of this item. The analysis for the affective responses subscale revealed that item 12 demonstrated the lowest correlation compared to the other items, item 2 and item 7. Item 12 again related more to monotony whereas the other questions focused on emotions. The alpha if item-

deleted showed that the reliability would not significantly increase if item 12 was removed, but would be negatively impacted if item 7 was deleted, signifying that this question, which states, “sitting in class all day makes me tired,” is an appropriate representation of what the scale is measuring, which is his emotion. An analysis of the reliability of the constraint scale noted weak correlations with item 9 compared to the other items in the subscale. This item was reverse coded, which may have impacted the relation between items and overall reliability of the subscale. The reliability would increase if this item was removed from the scale. The final analysis that demonstrated moderate reliability was within the perception of time subscale. Every item was moderately correlated, and no one item stood out as impacting the scale. Overall, the items written for this scale were somewhat related to the construct it was trying to measure.

Only one subscale was measured to demonstrate low reliability. The internal stimulation subscale demonstrated weak correlations among items overall. There would be a significant improvement if item 15 were to be deleted from the scale. The item states, “I can focus more in class when I get to choose what to do.” This item is long and wordy, which may have been confusing to participants, thus changing the reliability of the answers.

Discussion

The researchers expected to find that a higher school boredom proneness score would also be reflected in students’ own ratings, comparisons to other students, and teacher and parent ratings of boredom. The results showed that if a student’s school boredom proneness score was high, his or her self-rating of boredom, comparison of self to others, and teacher rating would also be high. These results demonstrate that not only is a boredom prone student more likely to be bored in class, but that it is also apparent to the teacher. Something that was not expected was to find that parent ratings of student boredom were not significantly correlated with students’ overall school boredom proneness score. This may have occurred for a number of reasons. First, students behave much differently at home versus school, so the behaviors that parents observe day-to-day at home may not be indicative of student behavior at school. Additionally, students are typically more comfortable and able to engage in preferred activities at home than at school, which may decrease observable boredom at home. Lastly, many

students participate in extracurricular activities and adhere to a schedule with little free time after school, which may create an environment where boredom is not typically present.

The final hypothesis of this study stated that total school boredom proneness scores would be significantly and negatively correlated with work completion. Results showed that the higher a student's total boredom proneness score was, the less likely he or she is to complete work, as reported by the teacher. This may also be for a number of reasons. Students who are less engaged within the classroom may be less likely to value completing work and participating in class. Alternatively, this finding could be explained by the idea that students who do not complete assignments may become more bored in class because they do not understand the information being presented.

Limitations

As with all research, there were a number of limitations present in this study. First, the sample size of the present study was relatively small for conducting correlations and reliability analyses. When sample sizes are small, it becomes difficult to find significant and stable relationships between data. Additionally, it was difficult to collect willing participants for this study. The study originally aimed to collect data in a rural public elementary school. The response rate from parents giving consent was extremely low, and the researchers had to change the population in which they conducted the research. This resulted in participants from a private school, which typically narrows the demographic variety of students. Having a larger sample size and a more diverse sample typically ensures a better likelihood of gathering results that are more generalizable to larger populations. It is unclear if the results found from this study are indicative of a larger group of people outside of the sample size.

Another limitation is the lack of current research around the topic of boredom proneness, especially with children and within the school setting. Having a breadth of research articles about a topic helps to lay the foundation for which a study is based, and having limited information to base a study off of can be difficult. The measure created for this study was based on a previous scale and adapted using similar questions, but changing word selection to be more appropriate for elementary-aged students. Because the primary researcher simply based the scale off limited research, this method of development

may also be a limitation. The analyses yielded results that suggest scores on some subscales and items were unreliable in assessing school boredom proneness, which indicates a need for scale revision if future research is conducted. A limitation related to the data collection measure and process is the tendency for respondents to inaccurately self-report. The basis of this research was founded in the ability for elementary-aged students to be able to appropriately rate themselves on a series of questions. Bias is always an issue with survey research for a number of reasons, but most poignant for this study is exaggeration or underestimation. Students may have stated that they *rarely* feel one way when maybe they actually *usually* experience that feeling, or vice versa. The final limitation in regards to the measure used to collect the data is that students may not have understood the items, even if they asked for clarification. If a participant is responding even though they do not understand, the data are likely not the best representation of a true score.

Finally, another limitation that may have influenced the results of this study is the cultural understandings and values associated with the behaviors and ideas related to boredom. In typical American culture, feeling time pass slowly, doing the same thing every day, and other beliefs associated with boredom are considered undesirable or producing unfavorable outcomes. In other cultures, or for differently developing students, this may not be the case. Some participants may look at the scale and even be unable to conceptualize what the scale is asking, which may influence the data and results.

Conclusion and Future Research

In conclusion, the results of the present study suggest that scores from the School Boredom Proneness Scale demonstrate adequate internal consistency to conclude that it is a reliable measure of boredom proneness at school. However, there were significant inconsistencies within the five subscales, namely internal stimulation, that do not suggest the items are appropriate evaluators of their respective constructs. Because of this result, follow-up item development is suggested to increase the accuracy and reliability of the instrument. A few ways to do this would be to modify the wording of the items, removing and replacing weakly correlated items, and developing new items for the construct completely.

Future research would them repeat the procedures of this study to find the reliability of the new scale and subscales.

Implications for School Psychology

An overall benefit of having a measure of school boredom proneness is to be able to understand students' individual needs and respond appropriately. While this study did not investigate differences within the sample, the literature field of boredom may benefit from an analysis of the differences in boredom proneness within the school setting between different demographics, such as sex, level of support, such as exceptional education or general education, language, and educational setting, or type of school. Additionally, using the scale on an individual basis can yield scores in each subscale that may reveal in which settings a student is likely to become more bored. Conducting this research can assist in the possible development of new teaching styles and more targeted intervention within the classroom for students experiencing high levels of boredom, ultimately helping to improve the quality of education our students are receiving.

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Appendix A

Table 3
School Boredom Proneness Scale Responses (n = 44)

Item	Mean	SD	95% CI Lower	95% CI Upper
I do the same things at school every day.	2.75	.65	2.66	2.84
I need to get up and do something else when I sit in class for a long time.	2.41	.69	2.31	2.51
I pay less attention when the teacher is talking about something I already know.	3.23	.52	3.15	3.31
I have to do work that is not important to me.	2.45	.63	2.36	2.54
It is hard to pay attention in class.	2.61	.69	2.51	2.71
The school day passes by quickly.	2.39	.78	2.27	2.51
Sitting in class all day makes me tired.	3.09	.60	3.00	3.18
I wish I could leave class.	2.41	.95	2.32	2.55
I can choose what I do at school.	3.14	.59	3.05	3.23
My classwork is not interesting.	2.23	.64		
I count down the minutes until I get to do something else at school.	2.59	.87	2.46	2.72
I don't like when I have to do the same thing over and over.	2.75	.78	2.63	2.87
My school day is fun.	2.73	.92	2.59	2.87
I watch the clock waiting for class to end.	1.93	.82	1.81	2.05
I can focus more in class when I get to choose what to do.	2.41	.90	2.27	2.55

Appendix B

Table 4
Frequency (Percent) for Each Response Option

Item	Never	Sometimes	Usually	Always
I do the same things at school every day.	0 (0%)	16 (34.8%)	23 (50%)	5 (10.9%)
I need to get up and do something else when I sit in class for a long time.	2 (4.3%)	25 (54.3%)	14 (30.4%)	3 (6.5%)
I pay less attention when the teacher is talking about something I already know.	0 (0%)	2 (4.3%)	30 (65.2%)	12 (26.1%)
I have to do work that is not important to me.	0 (0%)	27 (58.7%)	14 (30.4%)	3 (6.5%)
It is hard to pay attention in class.	1 (2.2%)	19 (41.3%)	20 (43.5%)	4 (8.7%)
The school day passes by quickly.	4 (8.7%)	23 (50%)	13 (28.3%)	4 (8.7%)
Sitting in class all day makes me tired.	0 (0%)	6 (13%)	28 (60.9%)	10 (21.7%)
I wish I could leave class.	7 (15.2%)	19 (41.3%)	11 (23.9%)	7 (15.2%)
I can choose what I do at school.	0 (0%)	5 (10.9%)	28 (60.9%)	11 (23.9%)
My classwork is not interesting.	3 (6.5%)	30 (65.2%)	9 (19.6%)	2 (4.3%)
I count down the minutes until I get to do something else at school.	4 (8.7%)	17 (37%)	16 (34.8%)	7 (15.2%)
I don't like when I have to do the same thing over and over.	1 (2.2%)	17 (37%)	18 (39.1%)	8 (17.4%)
My school day is fun.	2 (4.3%)	20 (43.5%)	10 (21.7%)	12 (26.1%)
I watch the clock waiting for class to end.	14 (30.4%)	21 (45.7%)	7 (15.2%)	2 (4.3%)
I can focus more in class when I get to choose what to do.	7 (15.2%)	17 (37%)	15 (32.6%)	5 (10.9%)

Appendix C

Table 5

Inter-item Correlation Matrix

Item	I do the same things at school every day.	I need to get up and do something else when I sit in class for a long time.	I pay less attention when the teacher is talking about something I already know.	I have to do work that is not important to me.	It is hard to pay attention in class.	The school day passes by quickly.	Sitting in class all day makes me tired.	I wish I could leave class.	I can choose what I do at school.	My classwork is not interesting.	I count down the minutes until I get to do something else at school.	I don't like when I have to do the same thing over and over.	My school day is fun.	I watch the clock waiting for class to end.	I can focus more in class when I get to choose what to do.	Alpha if Item-Deleted
I do the same things at school every day.	1.00	.49	.38	.29	.45	.38	.06	.58	.09	.25	.14	.38	.39	.32	.10	.86
I need to get up and do something else when I sit in class for a long time.	.48	1.00	.32	.26	.39	.39	.41	.52	.23	.20	.13	.15	.43	.34	.02	.86
I pay less attention when the teacher is talking about something I already know.	.38	.32	1.00	.03	.12	.24	.15	.04	.05	-.09	.06	.09	.18	-.02	.05	.88
I have to do work that is not important to me.	.29	.26	.03	1.00	.09	.34	.20	.42	.20	.32	.26	.33	.50	.29	.12	.87
It is hard to pay attention in class.	.45	.39	.12	.09	1.00	.33	.42	.50	.47	.47	.39	.68	.45	.45	-.04	.86
The school day passes by quickly.	.38	.39	.24	.34	.33	1.00	.32	.53	.43	.38	.48	.35	.60	.33	.33	.86
Sitting in class all day makes me tired.	.06	.41	.15	.20	.42	.32	1.00	.42	.35	.31	.43	.35	.55	.34	.27	.86
I wish I could leave class.	.58	.52	.04	.42	.50	.53	.42	1.00	.19	.38	.40	.36	.64	.58	.21	.86
I can choose what I do at school.	.09	.26	.05	.20	.47	.43	.35	.20	1.00	.34	.29	.28	.28	.31	-.02	.86
My classwork is not interesting.	.25	.20	-.09	.32	.47	.38	.31	.38	.34	1.00	.21	.39	.50	.30	.20	.86
I count down the minutes until I get to do something else at school.	.14	.13	.06	.26	.40	.48	.43	.40	.29	.21	1.00	.50	.55	.32	.13	.86
I don't like when I have to do the same thing	.38	.15	.09	.33	.68	.35	.35	.36	.28	.39	.50	1.00	.45	.34	.08	.86

over and over.																
My school day is fun.	.39	.43	.18	.50	.45	.60	.55	.64	.28	.50	.55	.45	1.00	.53	.25	.85
I watch the clock waiting for class to end.	.32	.34	-.02	.29	.45	.33	.34	.58	.31	.30	.32	.34	.53	1.00	.29	.86
I can focus more in class when I get to choose what to do.	.10	.02	.05	.12	-.04	.33	.27	.21	-.02	.20	.13	.08	.25	.29	1.00	.89

Appendix D
School Boredom Proneness Scale

Instructions: Circle the number that best describes how you feel during a typical school day.

	Never	Sometimes	Usually	Always
1. I do the same things at school every day.	1	2	3	4
2. I need to get up and do something else when I sit in class for a long time.	1	2	3	4
3. I pay less attention when the teacher is talking about something I already know.	1	2	3	4
4. I have to do work that is not important to me.	1	2	3	4
5. It is hard to pay attention in class.	1	2	3	4
6. The school day passes by quickly.	1	2	3	4
7. Sitting in class all day makes me tired.	1	2	3	4
8. I wish I could leave class.	1	2	3	4
9. I can choose what I do at school.	1	2	3	4
10. My classwork is not interesting.	1	2	3	4
11. I count down the minutes until I get to do something else at school.	1	2	3	4
12. I don't like when I have to do the same thing over and over.	1	2	3	4
13. My school day is fun.	1	2	3	4
14. I watch the clock waiting for class to end.	1	2	3	4
15. I can focus more in class when I get to choose what to do.	1	2	3	4

Instructions: Circle your answer to the following questions.

	Never	Sometimes	Usually	Always
1. I get bored in class.	1	2	3	4
2. I get bored more than other kids in my age.	1	2	3	4

Appendix E
Parent/Guardian Informed Consent

Identification of Investigators & Purpose of Study

Your child is being asked to participate in a research study conducted by Taylor Carrington, M.A. from James Madison University. The purpose of this study is to understand how children experience boredom within the classroom setting. This study will contribute to the researcher's completion of her Educational Specialist research project.

Research Procedures

Should you decide to allow your child to participate in this research study, you will be asked to sign this consent form once all your questions have been answered to your satisfaction. This study consists of a brief informational presentation on boredom including a YouTube video, discussion, and written survey that will be administered to individual participants. Your child will be asked to complete a written survey consisting of a series of questions related to understanding how children experience boredom in the classroom.

Time Required

Participation in this study will require 15 minutes of your child's time during morning meeting at the start of the day and will not interfere with academic instructional time.

Risks

The investigator does not perceive more than minimal risks from your child's involvement in this study (that is, no risks beyond the risks associated with everyday life).

Benefits

Potential benefits to the child from participating in this study may be learning how to properly and appropriately complete a survey. The data and information obtained by this study will add to the existing literature on boredom proneness.

Payment for participation

There is no payment for participating in this study.

Confidentiality

The results of this research will be presented at a research symposium at James Madison University. Your child will be identified in the research records by a code name or number. Only aggregated group data will be used for the purposes of this study, and children's individual responses will not be retained. The researcher retains the right to use and publish non-identifiable data. When the results of this research are published or discussed in conferences, no information will be included that would reveal your child's identity. All data will be stored in a secure location accessible only to the researcher. Upon completion of the study, all information that matches up individual respondents with their answers will be destroyed.

There is one exception to confidentiality we need to make you aware of. In certain research studies, it is our ethical responsibility to report situations of child abuse, child neglect, or any life-threatening situation to appropriate authorities. However, we are not seeking this type of information in our study nor will you be asked questions about these issues.

Participation & Withdrawal

Your child's participation is entirely voluntary. He/she is free to choose not to participate. Should you and your child choose to participate, he/she can withdraw at any time without consequences of any kind.

Questions about the Study

If you have questions or concerns during the time of your child's participation in this study, or after its completion or you would like to receive a copy of the final aggregate results of this study, please contact:

Taylor Carrington, MA

Ashton Trice, Ph.D.

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Questions about Your Rights as a Research Subject

Dr. Taimi Castle

Chair, Institutional Review Board

James Madison University

(540) 568-5929

castletl@jmu.edu

Giving of Consent

I have read this consent form and I understand what is being requested of my child as a participant in this study. I freely consent for my child to participate. I have been given satisfactory answers to my questions. The investigator provided me with a copy of this form. I certify that I am at least 18 years of age.

Name of Child (Printed)

Name of Parent/Guardian (Printed)

Name of Parent/Guardian (Signed)

Date

Name of Researcher (Signed)

Date

Appendix F

CHILD ASSENT FORM (Ages 7-12)

ASSESSMENT OF BOREDOM PRONENESS IN CHILDREN WITHIN THE CLASSROOM

I would like to invite you to take part in this study. I am asking you because you are a child who goes to school.

In this study we will try to learn more about what it means to be bored at school. You will be listening to a quick classroom lesson on boredom and how it might feel to be bored at school. Once the lesson is over, I am asking you to answer questions about different things you may experience in the classroom on a survey.

Participating in this study will not hurt you in any way. The reason we are doing this study is so that you can learn about what it means to feel bored and how to be bored less at school.

Your parents have been asked to give their permission for you to take part in this study. Please talk this over with your parents before you decide whether or not to participate.

You do not have to be in this study if you do not want to. If you decide to participate in the study, you can stop at any time.

If you have any questions at any time, please ask me.

IF YOU PRINT YOUR NAME ON THIS FORM IT MEANS THAT YOU HAVE DECIDED TO PARTICIPATE AND HAVE READ EVERYTHING THAT IS ON THIS FORM. YOU AND YOUR PARENTS WILL BE GIVEN A COPY OF THIS FORM TO KEEP.

Name of Child (printed)

Date

Signature of Investigator

Date

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