PASS US Standardization

What is PASS?

The Pupil Attitudes to Self and School (PASS) is a universal screener for grades K-12, that can be used to gain insight into attitudes that could hinder achievement. Students take a short self-evaluation survey that captures feelings about school and helps to detect barriers to learning, such as resilience, self-worth, motivation, concentration, and disaffection.

Dynamic interactive reports are available immediately, providing educators with the data to gain a 360 view of their students. Over 4 million PASS surveys have been taken in the last 5 years, helping to uncover barriers that, if left unaddressed, can undermine student wellbeing and academic success.

Please visit passforschools.com for further information on PASS, including school case studies.

PASS development and derivation of factors

PASS is used by schools worldwide but was originally developed in the UK by a team of educational psychologists, Williams, Whittome and Watts (2005), over a period on six years. They describe how a measure of attitudes and self-concept should be reliable and valid, be specific and relevant, be able to assess motivational influences, control for various response sets and distortions, remain objective in scoring responses, and be easy to administer/interpret. With these principles in mind, a fifty-item survey was developed for piloting purposes. The initial trials of PASS in 1999 involved more than 14,000 school-age young people between the ages of 8 and 16. Further information on the pilot is detailed by Williams et al (2005)[1].

Extensive factor analysis was carried out on all PASS items during the initial trials and standardization. In creating the scales, the following considerations were taken:

- Factor structure: Did the statements form distinctive groups in the factor analysis?
- Were the underlying factor structures similar across year groups?
- Face validity of the scales: did the statements in each scale appear to describe the same dimension?
- Internal consistency of the scales in terms of Cronbach's Alpha.

The items were clustered into the following nine factors.

Table 1: Summary of PASS factors

FACTOR	TITLE	DESCRIPTION: This factor measures…
1	Feelings about school	Students' sense of well-being, safety, and comfort in school.
2	Perceived learning capability	Students' views of how positive and successful they feel in their specific capabilities as learners.
3	Self-regard	The impact of students' learning on their concept of self, more generally.
4	Preparedness for learning	Students' perceptions of their behavior and attitude in learning situations (including metacognitive skills).
5	Attitude to teachers	Students' perceptions of their relationships with their teachers.
6	General work ethic	Students' attitudes and responses to work in general.
7	Confidence in learning	Students' confidence in approaching and dealing with learning and perseverance when presented with challenging tasks, including associated feelings such as a high anxiety element.
8	Attitude to attendance	Students' attitudes to attendance at school.
9	Response to curriculum demands	Students' perceptions of the appropriateness of the level of difficulty of work they are asked to complete.

US Standardization

Over 400,000 results were captured by students who took PASS in the United States between August 1, 2021, to November 30, 2022. A standardization sample of 40,268 students was then drawn and a randomized stratified sampling technique was applied.

Standardization samples by school grade

The PASS standardization sample is representative of the general US population and is stratified by age, gender, location, and ethnicity. There are three versions of PASS:
- PASS 1 - for students in Kindergarten to Grade 2
- PASS 2 - for students in Grades 2 to 5
- PASS 3 - for students in Grades 6 to 12.

Note: Schools can take either PASS 1 or PASS 2 for Grade 2 students. Demographic information was not provided by schools for some students, and that percentage is also shown.

Table 2: Number of students in PASS standardizations

Grade	PASS 1	PASS 2	PASS 3	Total
Pre-Kindergarten	268	-	-	**268**
Kindergarten	3,000	-	-	**3,000**
Grade 1	3,000	-	-	**3,000**
Grade 2	2,000	2,000	-	**4,000**
Grade 3	-	3,000	-	**3,000**
Grade 4	-	3,000	-	**3,000**
Grade 5	-	3,000	-	**3,000**
Grade 6	-	-	3,000	**3,000**
Grade 7	-	-	3,000	**3,000**
Grade 8	-	-	3,000	**3,000**
Grade 9	-	-	3,000	**3,000**
Grade 10	-	-	3,000	**3,000**
Grade 11	-	-	3,000	**3,000**
Grade 12	-	-	3,000	**3,000**
Total	**8,268**	**11,000**	**21,000**	**40,268**

Standardization samples by gender

Samples in all standardizations were also distributed by gender and compared to the national population in the US. The gender distributions for different PASS level samples compared with the national US population are shown below.

Table 3: PASS 2022 sample by gender compared to US population

Gender	PASS 1	PASS 2	PASS 3	US Population
Female	51%	51%	51%	**51%**
Male	49%	49%	49%	**49%**
Total	**100%**	**100%**	**100%**	**100%**

Standardization samples by ethnicity

The ethnic distribution for the different PASS level samples compared with the national US population is shown in Table 4 below.

Table 4: PASS 2022 samples by ethnicity

Ethnic Group	PASS 1	PASS 2	PASS 3	US Population
Asian/Pacific Islander	6%	6%	4%	**6%**
Black	14%	15%	11%	**15%**
Hispanic	17%	16%	22%	**28%**
Mixed	2%	2%	2%	**5%**
Native American	2%	2%	2%	**1%**
White	59%	59%	59%	**45%**
Total	**100%**	**100%**	**100%**	**100%**
% Not available	*27%*	*25%*	*26%*	*-*

Standardization samples by location

Within each of the Grade's K to 12, students were randomly sampled to reflect the national population, with approximately 29% from City schools, 20% from Rural schools, 40% from Suburbs, and 11% from Towns.

Table 5: PASS 2022 samples by location

Locale	PASS 1	PASS 2	PASS 3	US Population
City	29%	29%	29%	**29%**
Rural	20%	20%	20%	**20%**
Suburb	40%	40%	39%	**40%**
Town	11%	11%	12%	**11%**
Total	**100%**	**100%**	**100%**	**100%**

Standardization samples by English as an Additional Language (EAL) and Special Educational Needs (SEN)

Demographic information was also collected on EAL and SEN.

Table 6: PASS 2022 samples by English as an Additional Language (EAL)

EAL	PASS 1	PASS 2	US Population		PASS 3	US Population
No	86%	87%	**86%**		91%	**91%**
Yes	14%	13%	**14%**		9%	**9%**
Total	**100%**	**100%**	**100%**		**100%**	**100%**
% Not available	*38%*	*37%*	*-*		*33%*	*-*

Table 7: PASS 2022 samples by Special Education Needs (SEN)

SEN	PASS 1	PASS 2	PASS 3	US Population
SEN	17%	24%	22%	**15%**
None	83%	76%	78%	**85%**
Total	**100%**	**100%**	**100%**	**100%**
% Not available	49.1%	44.2%	39.7%	-

Effect of age and calculating percentiles

Original pilot studies with PASS found that age significantly impacted on students' measured attitudes towards school and these age effects were statistically significant. Average scores as a percentage of the maximum possible score were generally found to decline from Grade 6 to Grade 10. Interestingly, by Grade 11 (age 16) students generally appeared to feel slightly more positive again.

In view of distinct grade attitudinal trends, the percentile norms were calculated for each factor separately for each grade. The norms are based on the methodology employed by the original authors, using cumulative raw score percentiles by overall level, by gender, and by grade for each scale.

Reliability of PASS

Reliability refers to how accurately and consistently an actual measure or test performs. In other words, if the measure was to be used over and over, we could be confident that the results produced would be consistent, assuming conditions of testing remained the same. For example, there was no fatigue, learning effect, or lack of motivation.

The reliability of the PASS instrument was estimated using Cronbach's Alpha which produces values ranging from 0 to 1. Reliability was calculated as part of this standardization based on students in this standardization study. Values of 0.7 or higher are considered to be good. For example, Factor 1 (Feelings about school) for levels 2 and 3 was 0.85 and 0.88, respectively; Factor 7 (Confidence in learning) has a reliability score of 0.82 and 0.85, respectively. A full reliability study is underway to determine reliability across each factor and each level of PASS.

Validity of PASS

A measure is considered valid if it actually measures what it claims to measure. The primary types of validity include criterion validity (including concurrent and predictive validity) and construct validity (including convergent and internal validity). Together these pieces of evidence support the overall validity of a measure.

The studies surrounding PASS validity were performed in the UK. There are plans to recreate these studies using the new US standardization.

Predictive validity

Predictive validity refers to the accuracy with which a measure predicts future response in some area (Cronbach & Meehl, 1955). As part of the piloting process, total scores on PASS and individual item ratings were correlated with actual pupil attendance for 1,444 students between the ages of 11 and 16 in two. Results indicated a high statistically significant correlation between attitude to attendance as determined by PASS and actual attendance of 0.91.

Construct validity

Construct validity refers to the ability of an instrument to accurately measure underlying, unobservable theoretical constructs, which might be linked to the main focus of measurement (Cronbach & Meehl, 1955). In the case of PASS, given the conceptual origins in achievement motivation literature, attainment measures might be expected to vary consistently with a student's attitudes towards their learning.

GL Education (a subsidiary of Renaissance Learning) conducted an analysis to show the correlations between the PASS factors and the New Group Reading Test (NGRT). main focus of measurement (Cronbach & Meehl, 1955). In the case of PASS, given the conceptual origins in achievement motivation literature, attainment measures might be expected to vary consistently with a student's attitudes towards their learning.

Table 8: Correlational analysis by age group and factor

	Correlation		
PASS Factors	**Students age 7-11**	**Students age 12-14**	**Students age 15-16**
1. Feelings about school	0.12	0.10	0.05
2. Perceived learning capability	0.23	0.30	0.30
3. Self-regard	0.35	0.29	0.25
4. Preparedness for learning	0.20	0.20	0.19
5. Attitudes to teachers	0.01	-0.03	-0.09
6. General work ethic	0.24	0.15	0.09
7. Confidence in learning	0.15	0.18	0.16
8. Attitude to attendance	0.13	0.09	0.05
9. Response to curriculum demands	0.38	0.32	0.28
Number of students	**9,339**	**26,751**	**4,153**

Chart 1 below shows the mean PASS score based on the age-adjusted UK national percentiles and the three NGRT ability bands based on stanines (below average - bottom 23%, average – middle 54%, and above average – top 23%). The steeper the difference in columns for each factor, the stronger the correlation of PASS with reading ability.

Chart 1: Mean PASS attitude score by reading ability
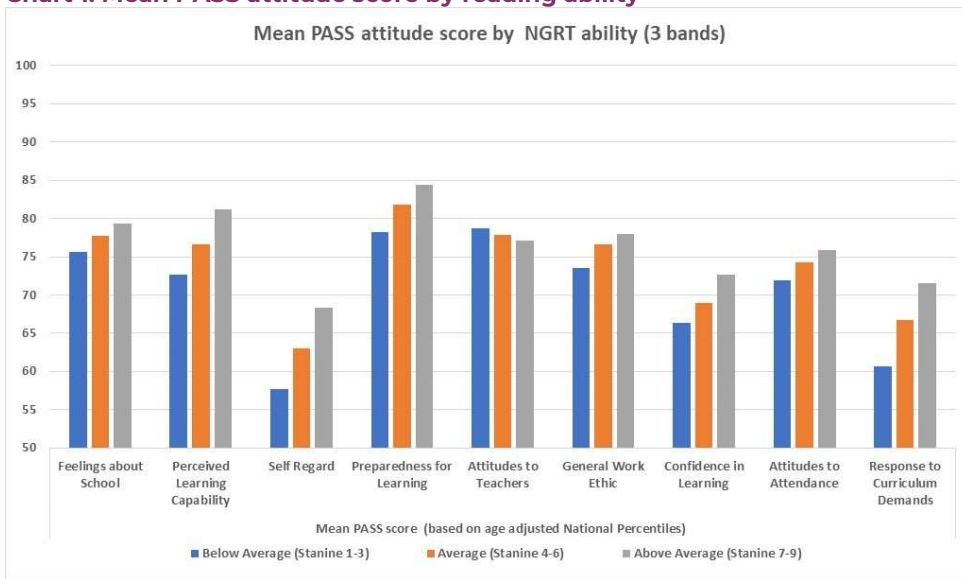
In terms of the individual factors within PASS, highly significant positive correlations were found between reading scores and perceived learning capability, preparedness for learning, general work ethic, confidence in learning, and response to curriculum demands. Self-regard also showed a highly significant association with attainment. A student's attitude to teachers did not have as strong a link with reading attainment.

Further information

Further detail about PASS and how it was developed can be found in the following chapter written by the original authors of PASS:

[1]Williams, G. Whittome, B. & Watts, P. (2005) 'Attitude Measurement to Bridge the Post-16 Gap. In Hillier, Y. & Thompson, A. (Eds.) Readings in Post-Compulsory Education. London: Continuum International Publishing Group.

References

Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological bulletin*, *52*(4), 281.

NAEP (2022) Report Card Study for grades 4 and 8 (Online: https://www.nationsreportcard.gov/reading/states/groups/?grade=8).

[1]Williams, G. Whittome, B. & Watts, P. (2005) 'Attitude Measurement to Bridge the Post-16 Gap. In Hillier, Y. & Thompson, A. (Eds.) Readings in Post-Compulsory Education. London: Continuum International Publishing Group.

Note: GL Education has conducted a study to provide a US Standardization for PASS. This document outlines the methodology and results from this study. Prior to 2023, the survey used norms based on the UK population. The new US norms were applied in August 2023.