

ORIGINAL ARTICLE

General Education Teachers' Perceptions of Their Attitudes Towards Adopting Evidence-Based Practices and Its Relations With Individual and Contextual Factors

Hari Jang 

National Institute of Education, Nanyang Technological University, Singapore
Email: hari-jang@e.ntu.edu.sg

(Received 16 August 2024; revised 31 July 2025; accepted 4 August 2025)

Abstract

The implementation of evidence-based practices (EBPs) does not always lead to successful outcomes due to various contextual factors. The Evidence-Based Practice Attitude Scale (EBPAS; Aarons, 2004) assesses implementers' attitudes towards adopting EBPs (ATE), helping to understand the discrepancy between planned and implemented EBPs. Despite the growing implementation of school-based EBPs, the EBPAS has seldom been applied to general education teachers. This study aimed to validate the EBPAS for primary school teachers in Singapore using content validity and confirmatory factor analysis and to examine how the contextual characteristics influence ATE. A total of 170 teachers from 10 schools participated anonymously in an online survey. Confirmatory factor analysis results supported the four-factor structure of the EBPAS. All subscales showed excellent to acceptable internal consistency, with Divergence being the lowest. Teachers with higher educational attainment were more likely to be open to adopting EBPs. Similarly, teachers' perceived school leadership support was significantly associated with their ATE. However, neither years of teaching experience, years of supporting students with special educational needs, nor teacher efficacy in inclusive practices significantly predicted ATE. The study highlights the need for further refinement, particularly of the Divergence subscale, through the exploration of alternative constructs and validation with larger samples.

Keywords: evidence-based practices; teachers' attitudes towards adopting EBPs; Evidence-Based Practice Attitude Scale; primary school teachers; educational attainment; implementation leadership

In Singapore, approximately 80% of students with special educational needs (SEN) are enrolled in mainstream schools, with increasing efforts to provide inclusive classroom practices (Ministry of Education, 2023). The tiered system of support (Aljunied, 2021) has increased general education teachers' involvement in implementing educational practices for students with SEN in inclusive environments. Additionally, the recently updated Character and Citizenship Education (Ministry of Education, 2021) syllabus guides school leaders and teachers in creating 'a caring and enabling school environment' for all students, including those with SEN.

Despite teachers' increasing exposure to school-based programs supporting students with SEN, the systematic evaluation and monitoring of these programs in Singapore remain limited (Chong & Lee, 2021; Poon, 2019). School leaders may face challenges in reviewing their effectiveness (Chong & Lee, 2021), partly because the success of such programs is shaped by multiple contextual factors. Evidence-

based practices (EBPs) do not always ensure success across different contexts (Moir, 2018). In particular, outcomes can vary depending on characteristics such as individual implementers' traits (Aarons et al., 2010) and organisational factors (Odom et al., 2022). Among these, attitudes have received growing attention (Aarons, 2004; Aarons et al., 2010; Cook et al., 2018; Farahnak et al., 2020; Locke et al., 2019; Merle et al., 2023), as they may influence an implementer's willingness to adopt new practices.

Originally developed for mental health providers, the Evidence-Based Practice Attitude Scale (EBPAS; Aarons, 2004) has been widely used to assess attitudes towards adopting EBPs (ATE). The results of the EBPAS indicate that such attitudes are a critical factor influencing implementation outcomes (e.g., Beidas et al., 2014; Reding et al., 2014). In the context of implementing EBPs in schools, however, there is no widely established measurement specifically designed to assess teachers' ATE (Merle et al., 2023). The absence of such a measure may have contributed to the limited research on general education teachers' ATE despite the increasing emphasis on EBP implementation in school settings (Merle et al., 2023).

To date, two notable studies have addressed this gap by validating the EBPAS (Aarons, 2004) in school-based settings. Cook et al. (2018) demonstrated the relevance of the EBPAS beyond health care by focusing on behavioural health consultants working in schools. More recently, Merle et al. (2023) validated an adapted version of the EBPAS for general education teachers in primary schools, highlighting its applicability in educational contexts.

Although the adaptation for primary school teachers (e.g., Merle et al., 2023) is a significant step in contextualising the scale, further research is needed to generalise how general education teachers' ATE differs from that of other professionals. Therefore, validating a Singapore version of the EBPAS and examining its associations with individual and organisational characteristics are crucial. This will support informed decision-making in school-based EBP implementation for students with SEN.

Evidence-Based Practice Attitude Scale and Its Predictors

The original EBPAS, developed by Aarons (2004), assesses mental health providers' ATE. It comprises 15 items across four subscales: Requirements (three items, $\alpha = .90$), Appeal (four items, $\alpha = .80$), Openness (four items, $\alpha = .78$), and Divergence (four items, $\alpha = .59$). Higher scores on the Appeal subscale indicate a greater positive attitude towards EBPs when they are perceived as appealing and adequately supported by training and colleagues (Aarons, 2004). The Requirements subscale reflects providers' willingness to adopt a new practice when required by an authority (Aarons, 2004). The Openness subscale indicates the extent of the providers' openness to trying new practices (Aarons, 2004). The Divergence subscale is reverse-scored; a lower score signifies more positive perceptions of research-based interventions (Aarons, 2004).

Research has demonstrated that individual and organisational factors, such as educational attainment, leadership style, and years of experience, influence implementers' ATE. Educational attainment and leadership are positively associated with ATE, whereas years of experience show a negative association. For instance, healthcare providers with higher *educational attainment* have shown increased openness to new practices (van Sonsbeek et al., 2015), especially when these practices are appealing (Aarons, 2004; Aarons et al., 2010).

Conversely, *years of teaching experience* appear to have the opposite influence. Less experienced implementers tend to hold more positive attitudes (Aarons, 2004). On the other hand, more experienced implementers typically score lower on both the total EBPAS scores (Egeland et al., 2016; Melas et al., 2012) and the Openness subscale (Aarons et al., 2010).

Similar to educational attainment, *leadership* style has been identified as a critical organisational factor influencing ATE. Studies have found that transformational (Aarons, 2006; Aarons & Sommerfeld, 2012; Farahnak et al., 2020), transactional (Aarons, 2006), and proactive leadership (Powell et al., 2017) are positively associated with ATE. Transactional leadership involves timely

reinforcement based on individuals' accomplishments, while transformational leadership involves visionary, motivating individuals to exceed expectations (Aarons, 2006).

Such leadership styles may be shaped by cultural differences across nations and organisational contexts (Hofstede et al., 2010). According to Hofstede and his research team, Singapore has a Power Distance Index score of 74, placing it in the upper-medium range (Hofstede et al., 2010). This suggests that although people in Singapore are more likely to accept hierarchical structures, they also expect those in authority to fulfil their obligations (Hofstede et al., 2010, p. 80). These cultural norms around power and leadership may influence Singaporean general education teachers' perceptions of school leadership and how those perceptions relate to their ATE.

Although previous studies have demonstrated the impact of individual and organisational characteristics (i.e., highest educational attainment, years of teaching experience, and organisational leadership) on healthcare providers' ATE, research on their application to general education teachers' ATE remains underexplored. Notably, Merle (2021) examined primary school teachers' ATE using an adapted version of the EBPAS. He found a weak negative association between years of teaching experience and school-based EBPAS. This finding is consistent with those reported in healthcare settings (Aarons et al., 2010; Egeland et al., 2016; Melas et al., 2012). Merle also highlighted the strong positive influence of implementation leadership (Aarons et al., 2014) on teachers' ATE, aligning with similar findings among healthcare providers (Powell et al., 2017). Although Merle suggests that the influence of individual and organisational factors on ATE may be consistent across professions, including health care and education, further validation is needed before generalising these findings to general education teachers.

Additionally, factors such as years of supporting students with SEN and teacher efficacy may also influence teachers' ATE. Similar to years of teaching experience, longer periods of supporting students with SEN may negatively affect ATE, potentially due to the challenges of managing disruptive behaviours (Yeo et al., 2016). General education teachers have reported decreased job satisfaction as the number of students with SEN in their classroom increases (Chen, 2024). This suggests that sustained exposure to the demands of supporting students with SEN may contribute to accumulated on-the-job stress (Chen, 2024) over time, which could negatively influence their ATE.

Teacher efficacy, defined as beliefs in one's own capabilities to achieve given attainments (Ahsan & Malak, 2020), is another factor that could influence ATE. Teachers who believe in their capabilities are more likely to engage in new tasks due to repeated experiences of success (Bandura, 1977; Ghaith & Yaghi, 1997). While several studies have demonstrated positive relationships between teacher efficacy and attitudes towards inclusion (e.g., Yada et al., 2022), the impact of teacher efficacy on ATE has seldom been studied. Notably, two studies found that teachers with higher teaching efficacy were more likely to hold positive attitudes towards new instructional innovations (Ghaith & Yaghi, 1997; Guskey, 1988). Although these studies have enhanced our understanding, further research using the EBPAS is needed to determine whether teacher efficacy in inclusive practices influences ATE.

Hypotheses of the Current Study

Based on the review of previous studies, the following hypotheses are proposed:

1. *Years of teaching experience and years of supporting students with SEN* are negatively associated with general education teachers' attitudes towards adopting EBPs.
2. *Teacher efficacy in inclusive practices* significantly predicts positive attitudes towards adopting EBPs.
3. General education teachers' openness to adopting EBPs is positively associated with their *educational attainment*.
4. *Teachers' perceived implementation leadership* is positively associated with their attitudes towards adopting EBPs.

Method

Participants and Procedure

The Institutional Review Board at Nanyang Technological University in Singapore approved this study (NTU-IRB-2022-837). Participants were recruited from 10 primary schools across Singapore in 2023. Stratified random sampling (Cochran, 1977) was initially used to ensure geographic representation from Singapore's four official school clusters: north, south, east, and west. The author randomly selected schools within each cluster and contacted school leaders via email to request permission for teacher recruitment. Once permission was granted, teachers were emailed a link to an online survey, which remained accessible for approximately 3 weeks. Participation was anonymous and voluntary, with informed consent obtained from all participating teachers.

The data collection timeline varied across schools to minimise the burden on teachers. Initially, five schools were recruited, and additional schools were progressively contacted to ensure an adequate sample size. In total, 170 general education teachers from 10 public primary schools across various regions of Singapore (i.e., four in the east, two in the west, one in the south, and three in the north) participated in the online survey. Table 1 presents the demographic information of the participants.

Measurements

Evidence-Based Practice Attitude Scale

The EBPAS (Aarons, 2004; Cook et al., 2018) was adapted to examine Singapore primary school teachers' ATE in general education settings. A 5-point Likert scale was used, ranging from 1 (*not at all*) to 5 (*to a very great extent*). The adaptation process involved a systematic content validity analysis with six experts: two primary school leaders, two educational psychologists, one senior lecturer from a tertiary educational institution, and one SEN officer (SENO). The panel rated the relevance and clarity of each item using a 4-point Likert scale, ranging from 1 (*not relevant/clear*) to 4 (*very relevant/clear*). For items rated between 1 and 3, the experts provided qualitative feedback and suggestions for improvement. The item content validity index (I-CVI), the scale content validity index (S-CVI), and kappa statistics were calculated for both relevance and clarity.

Teacher Efficacy for Inclusive Practices

Teacher efficacy in inclusive practices was measured using an adapted version of the Teacher Efficacy for Inclusive Practices (TEIP; Sharma et al., 2012) tailored for general education teachers in Singapore (Jang & Tan, 2024). The scale comprises three subscales, each containing six items: Efficacy to Use Inclusive Instructions (use of strategies to promote inclusion), Efficacy in Collaboration (collaboration with parents and professionals), and Efficacy in Managing Behaviour (handling disruptive behaviours; Sharma et al., 2012). Responses were collected using a 6-point Likert scale, ranging from 1 (*strongly disagree*) to 6 (*strongly agree*).

Implementation Leadership Scale

The Implementation Leadership Scale (ILS; Aarons et al., 2014; Lyon et al., 2018) was adapted to measure Singapore general education teachers' perceptions of school leadership in supporting EBP implementation. The scale includes four subscales, each containing three items: Proactive Leadership, Knowledgeable Leadership, Supportive Leadership, and Perseverant Leadership. According to Aarons et al. (2014), a higher score on the Proactive Leadership subscale indicates that leaders are proactive in anticipating and resolving implementation challenges. The Knowledgeable Leadership subscale reflects the extent to which leaders understand EBPs and related implementation issues. Supportive Leadership indicates the degree of support provided by leaders for EBP adoption and use. Lastly, the Perseverant Leadership subscale refers to whether leaders consistently address challenges associated with EBP implementation. Items are rated on a 5-point Likert scale, ranging from 0 (*not at all*) to 4 (*very great extent*).

Table 1. Demographic Information of Participants

Demographic information	<i>n</i> (%)
Gender (<i>n</i> = 170)	
Female	135 (79.4%)
Male	35 (20.6%)
Highest academic education level (<i>n</i> = 170)	
Diploma	13 (7.65%)
Advanced diploma	2 (1.18%)
Bachelor's degree	114 (67.06%)
Master's degree	40 (23.53%)
PhD degree	1 (0.59%)
Years of teaching experience (<i>n</i> = 170)	<i>M</i> = 14.1 years (<i>SD</i> = 8.40)
0 to 5 years	31 (18.24%)
5+ to 10 years	22 (12.94%)
10+ to 15 years	41 (24.12%)
15+ to 20 years	29 (17.06%)
20+ to 25 years	17 (10.00%)
25+ to 30 years	24 (14.12%)
More than 30 years	6 (3.53%)
Years of teaching students with SEN (<i>n</i> = 170)	<i>M</i> = 6.48 years (<i>SD</i> = 6.22)
0 years	18 (10.59%)
0+ to 5 years	83 (48.82%)
5+ to 10 years	36 (21.18%)
More than 10 years	33 (19.41%)
Types of SEN training obtained (Multiple answers were allowed, <i>n</i> = 331)	
No training	16 (4.83%)
Teachers trained in special needs	35 (10.57%)
School-based workshops or seminars	139 (41.99%)
School-based peer coaching from colleagues involving observations	66 (19.94%)
Cluster-wide workshops or seminars	48 (14.50%)
PD courses for in-service teachers at the National Institute of Education	25 (7.55%)
Postgraduate courses in postsecondary education	2 (0.60%)

Note. SEN = special educational needs; PD = professional development.

Data Analysis

Content validation

The I-CVI was computed for each item as the proportion of experts who rated it as 3 (*relevant*) or 4 (*very relevant*). The S-CVI was then calculated as the mean of the I-CVIs across all 15 EBPAS items (Polit & Beck, 2006). Additionally, to assess the presence of random agreement among experts, kappa coefficient statistics were computed using the formula by Shrotryia and Dhanda (2019). According to

Cicchetti (1994), a kappa coefficient below .40 is considered poor; between .40 and .59 is fair; between .60 and .74 is good, and above .74 is excellent. Items with I-CVI scores below the acceptable threshold of 0.78 (Lynn, 1986) or kappa coefficients below .40 (Cicchetti, 1994) were revised based on expert feedback due to their lack of alignment with the Singapore educational context. It should be noted that changes were made minimally and only when necessary.

Confirmatory factor analysis and reliability

Confirmatory factor analysis (CFA) was conducted without exploratory factor analysis since the survey items were only minimally modified from the original version (Aarons, 2004) and its adapted version for school settings (Cook et al., 2018). Using RStudio (Posit Team, 2024), CFA with a maximum likelihood robust (MLR) estimator was conducted to examine the first-order factor model (Aarons, 2004) and the higher-order factor model (Aarons et al., 2010). The MLR estimator was chosen due to data non-normality, confirmed by the Kolmogorov–Smirnov and Shapiro–Wilk tests ($p < .001$). Model fit was assessed using several fit indices, such as chi-square statistics, comparative fit index (CFI), Tucker–Lewis index (TLI), root-mean-square error of approximation (RMSEA), and standardised root-mean-square residual (SRMR). This study follows commonly recommended thresholds: CFI and TLI values $> .95$, RMSEA $< .06$, and SRMR $< .08$ (Hu & Bentler, 1999). Reliability for the overall scale and subscales was measured using RStudio (Posit Team, 2024). Additionally, subscale and total mean scores were computed for follow-up regression analysis using IBM SPSS Statistics (Version 28.0).

Regression analysis

Robust regression was conducted using the Modern Applied Statistics with S (MASS) package in RStudio (Posit Team, 2024) to examine the impact of individual teacher and organisational characteristics on the total EBPAS score and its four subscales (i.e., Appeal, Requirements, Openness, and Divergence). Robust regression was chosen due to violations of the normality assumption across all subscales and violations of homoscedasticity in the Openness and Appeal subscales. Robust regression is less sensitive to these issues (The Pennsylvania State University, n.d.).

Five predictors were examined: (a) highest academic degree, (b) years of teaching experience, (c) years of supporting students with SEN, (d) the mean score of TEIP, and (e) the mean score of ILS. The highest academic degree was originally surveyed across five categories and later recategorised into diploma ($n = 15$), bachelor's degree ($n = 114$), and graduate degrees ($n = 41$). This variable was treated as ordinal since the educational levels have a clear order. Years of teaching experience and supporting students with SEN were converted to decimal years for analysis. The Divergence subscale was reverse-scored so that higher scores represent more positive attitudes towards research-based interventions. These reversed scores were used in both the regression and the CFA.

Interfactor correlation analysis

Interfactor correlations were measured using Pearson's correlation analysis via the 'lavaan' package in RStudio (Posit Team, 2024) to understand the extent to which these factors were correlated. The correlation matrix included the means of the total EBPAS and its subscales, as well as mean scores of educational attainments, years of teaching experience, years of supporting students with SEN, the total TEIP score, and the total ILS score.

Results

Descriptive Analysis

Table 2 presents the descriptive statistics for the EBPAS and its four subscales, including means, standard deviations, and internal reliability as measured by Cronbach's alpha. Overall, teachers' ATE

were generally very positive ($M = 3.61$, $SD = .457$), indicating responses between *to a great* and *a very great extent*. Among the four subscales, the Divergence subscale had the highest mean score ($M = 3.77$, $SD = .717$), whereas the Requirements subscale had the lowest ($M = 3.38$, $SD = .892$). Cronbach's alpha indicated good internal consistency for all subscales and the total EBPAS ($\alpha > .80$), except for the Divergence subscale ($\alpha = .717$).

Content Validity

The I-CVI for relevance ranged from 0.33 to 1.00; for clarity, the I-CVI ranged from 0.67 to 1.00. The S-CVI achieved 0.86 for relevance and 0.88 for clarity, with both surpassing the acceptable threshold of 0.78 (Lynn, 1986). Items with lower relevance and clarity scores, particularly Requirements 3 and Divergence 1, were revised to reflect the Singapore context and improve word choices. Additionally, items in the Divergence subscale had low I-CVI and kappa coefficients due to experts' disagreement with the content of the statements rather than their relevance to the target population. These items were retained, as they are crucial for assessing teachers' perceptions of research-based interventions. Lastly, while Requirements 1 and 2 demonstrated excellent I-CVI and kappa coefficients, specific terms such as 'administrator' and 'school' were revised to better reflect Singapore educational terminology based on expert feedback. Table 3 presents the I-CVI, S-CVI, and kappa coefficients for relevance and clarity.

Construct Validity

The construct validity of the EBPAS for general education teachers was assessed in two stages. First, a first-order four-factor model identified by Aarons (2004) was tested. As shown in Figure 1, the CFA factor loadings for the Singapore version confirmed the factor structure demonstrated by Aarons (2004). The fit statistics were $X^2(84) = 134.483$, $p < .000$, CFI = .960, TLI = .950, RMSEA = .062, SRMR = .071. All standardised item factor loadings were significant at $p < .000$ and greater than .50.

Second, the higher-order factor CFA model was compared to the first-order model. The initial model did not converge during the estimation process because of a high correlation between RM1 (required by head of department/reporting officer) and RM2 (required by school leaders). After adjusting the model to account for this correlation, a moderately adequate fit was achieved, $X^2(85) = 127.269$, $p = .002$, CFI = .967, TLI = .953, RMSEA = .056, SRMR = .070, with most standardised item factor loadings significant at the $p < .01$ level (see Figure 2). However, four items under the Appeal subscale, as well as the Appeal ($p = .19$) and Divergence ($p = .72$) subscales, were not statistically significant. It should also be noted that the factor loading for the Appeal subscale exceeded 1 ($\lambda = 2.14$). Notably, the variance was positive, and the model showed no issue with R-squared ($R^2 = .819$). This indicates that the loading represented a regression coefficient rather than a correlation (Jöreskog, 1999). Nonetheless, the nonsignificant factor loadings in the higher-order factor model suggest that it did not outperform the first-order model.

Interfactor Correlations

Table 4 presents a correlation matrix that includes the total EBPAS score, its subscales, and predictor variables, along with corresponding p -values. Using the conventional approach for interpreting correlation coefficients (Schober et al., 2018), the total EBPAS score exhibited a strong positive correlation with Appeal ($r = .790$), moderate positive correlations with Requirements ($r = .677$) and Openness ($r = .672$), and a weak positive correlation with Divergence ($r = .365$) at the $p < .01$ level. The Appeal subscale showed moderate positive correlations with both Openness ($r = .487$) and Requirements ($r = .499$), significant at the $p < .01$ level. Additionally, Requirements showed a weak but statistically significant correlation with Openness ($r = .285$) at the $p < .01$ level. In contrast,

Table 2. Descriptive Statistics for the Evidence-Based Practice Attitude Scale (EBPAS) and Its Four Subscales

EBPAS subscales	<i>N</i>	<i>M</i>	<i>SD</i>	α
Appeal	170	3.74	.689	.829
• [AP1] It was intuitively appealing?		3.62	.800	
• [AP2] It 'made sense' to you?		3.91	.783	
• [AP3] It was being used by colleagues who were happy with it?		3.79	.842	
• [AP4] You felt you had enough training to use it correctly?		3.62	.954	
Requirements	170	3.38	.892	.939
• [RM1] It was required by your head of department/reporting officer?		3.28	.950	
• [RM2] It was required by your school leaders?		3.34	.973	
• [RM3] It was required by Ministry of Education (MOE)?		3.52	.912	
Openness	170	3.49	.676	.875
• [OP1] I like to use new types of methods/interventions to help students.		3.58	.751	
• [OP2] I am willing to try new types of methods/interventions even if I have to follow a teaching/training manual.		3.54	.800	
• [OP3] I am willing to use new and different types of methods/interventions developed by researchers.		3.47	.786	
• [OP4] I would try new methods/interventions even if it were very different from what I am used to doing.		3.38	.829	
Divergence	170	3.77	.717	.717
• [DV1] I know better than academic researchers how to support students.		4.04	1.02	
• [DV2] Research-based teaching methods/interventions are not useful in the classroom.		4.05	.925	
• [DV3] Professional experience is more important than using manualised methods/interventions.		2.99	1.01	
• [DV4] I would not use manualised methods/interventions.		4.02	.945	
Total EBPAS score	170	3.61	.457	.801

Note. AP = Appeal; RM = Requirements; OP = Openness; DV = Divergence.

Divergence demonstrated weak negative correlations with Openness ($r = -.072$) and Requirements ($r = -.064$), although these were not statistically significant. Among the predictor variables, the total ILS score was positively correlated with the largest number of variables, including Openness ($r = .295$), Appeal ($r = .377$), Requirements ($r = .213$), the total EBPAS score ($r = .317$), and the total TEIP score ($r = .203$).

Regression Results

The results of the robust regression analyses indicated that the highest academic degree was significantly and positively associated with the Openness subscale with a moderate effect size (Cohen, 1988), $t(163) = 2.450$, $p = .012$, $R^2 = .140$. According to Cohen (1988, pp. 413–414), an R^2 value between .13 to .26 is interpreted as indicating a moderate effect size. Additionally, the mean ILS score was a significant predictor for Appeal, $t(163) = 4.553$, $p = .001$; Openness, $t(163) = 3.263$, $p = .010$; Requirements, $t(163) = 2.639$, $p = .042$; and the total mean EBPAS score, $t(163) = 3.210$, $p = .005$. However, it was not a significant predictor for Divergence, $t(163) = -.676$, $p = .502$. None of the other predictors — namely, years of teaching experience, years of supporting students with SEN, and

Table 3. Content Validity Results With I-CVI, S-CVI, and Kappa Coefficients

EBPAS items	Relevance		Clarity	
	I-CVI	<i>k</i>	I-CVI	<i>k</i>
AP1	1.00	1.00	1.00	1.00
AP2	1.00	1.00	1.00	1.00
AP3	1.00	1.00	1.00	1.00
AP4	1.00	1.00	1.00	1.00
RM1	1.00	1.00	1.00	1.00
RM2	1.00	1.00	1.00	1.00
RM3	0.33	0.13	0.67	0.56
OP1	1.00	1.00	1.00	1.00
OP2	1.00	1.00	0.83	0.82
OP3	1.00	1.00	1.00	1.00
OP4	1.00	1.00	1.00	1.00
DV1	0.5	0.27	0.67	0.56
DV2	0.67	0.56	0.67	0.56
DV3	0.67	0.56	0.67	0.56
DV4	0.67	0.56	0.67	0.56
S-CVI average	0.86		0.88	

Note. I-CVI = item content validity index; S-CVI = scale content validity index; EBPAS = Evidence-Based Practice Attitude Scale; AP = Appeal; RM = Requirements; OP = Openness; DV = Divergence.

teacher efficacy in inclusive practices — significantly predicted any of the EBPAS subscales or the total EBPAS score (see Table 5 for the full robust regression results).

Discussion and Implications

The current study validated the use of the EBPAS for assessing Singapore primary school teachers' ATE. Content validity confirmed that the survey items were relevant and clear for this population. CFA supported the original first-order four-factor structure (Openness, Appeal, Requirements, and Divergence) proposed by Aarons (2004). Additionally, Cronbach's alpha indicated good internal reliability. The interfactor correlations and robust regression results provided unique insights specific to general education teachers' ATE.

Interfactor Correlations

The interfactor correlations revealed that the Appeal subscale had stronger correlations with Openness and Requirements. This suggests that teachers who find EBPs appealing are more likely to adopt them and comply with changes required by authorities during the implementation process (Aarons, 2004). It also aligns with Cook et al.'s (2018) findings that the appeal of EBPs is an important gateway to increasing providers' openness.

In contrast, the Divergence subscale exhibited weaker correlations with other subscales, consistent with previous studies (Cook et al., 2018; Merle et al., 2023). This suggests that teachers who value research-based interventions may not always be open to new practices, find them more appealing, or adopt them when required.

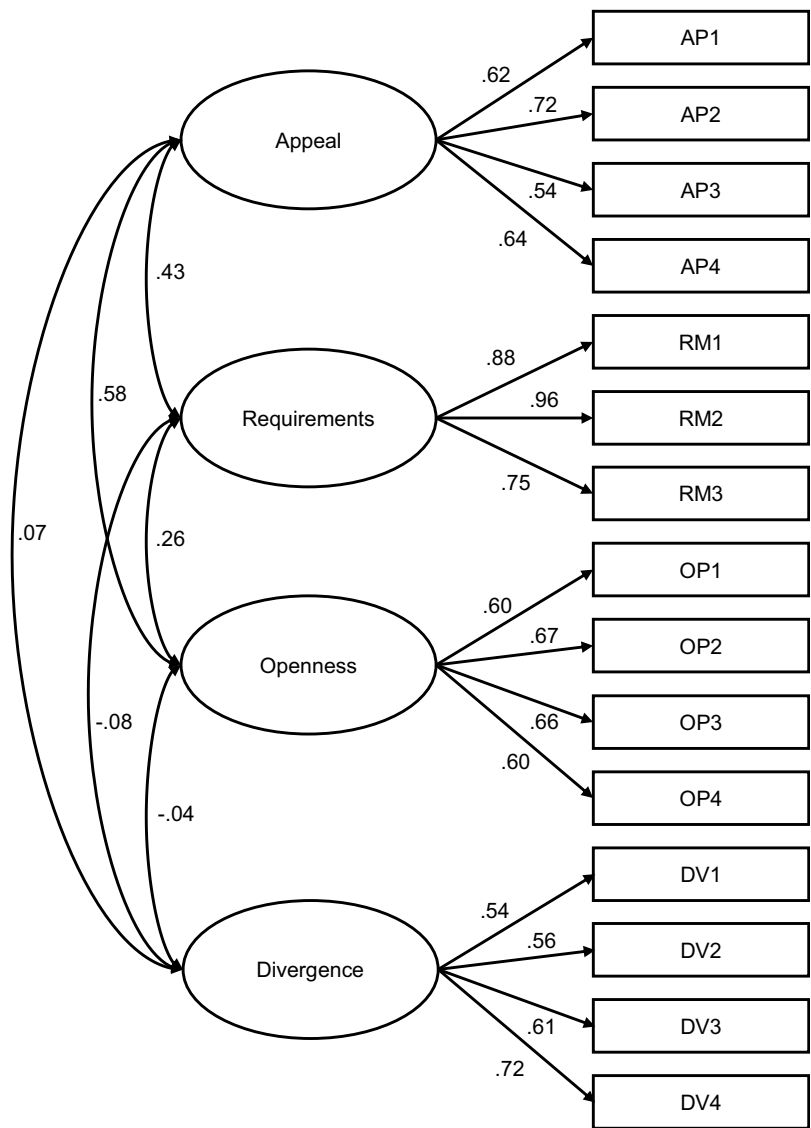


Figure 1. First-Order Confirmatory Factor Analysis Model of the Evidence-Based Practice Attitude Scale (EBPAS).

Individual Characteristics as Predictors of Teacher Attitudes Towards Adopting EBPs (Hypotheses 1 to 3)

The results indicate that years of teaching experience and supporting students with SEN did not significantly influence teachers' ATE, thereby *rejecting the first hypothesis*. In other words, teachers with more experience in teaching and supporting students with SEN do not necessarily hold more negative ATE. This finding contrasts with Merle (2021), who reported a weak but negative correlation between years of teaching experience and ATE. This insignificant finding may be explained by the significant positive correlations among the Requirements, Appeal, and Openness subscales. It is possible that Singapore teachers, regardless of their years of experience in teaching and supporting students with SEN, remain open to adopting new practices when those practices are required by authorities.

Similarly, teacher efficacy in inclusive practices did not predict willingness to implement EBPs, *rejecting the second hypothesis*. This contrasts with previous studies that found positive relationships

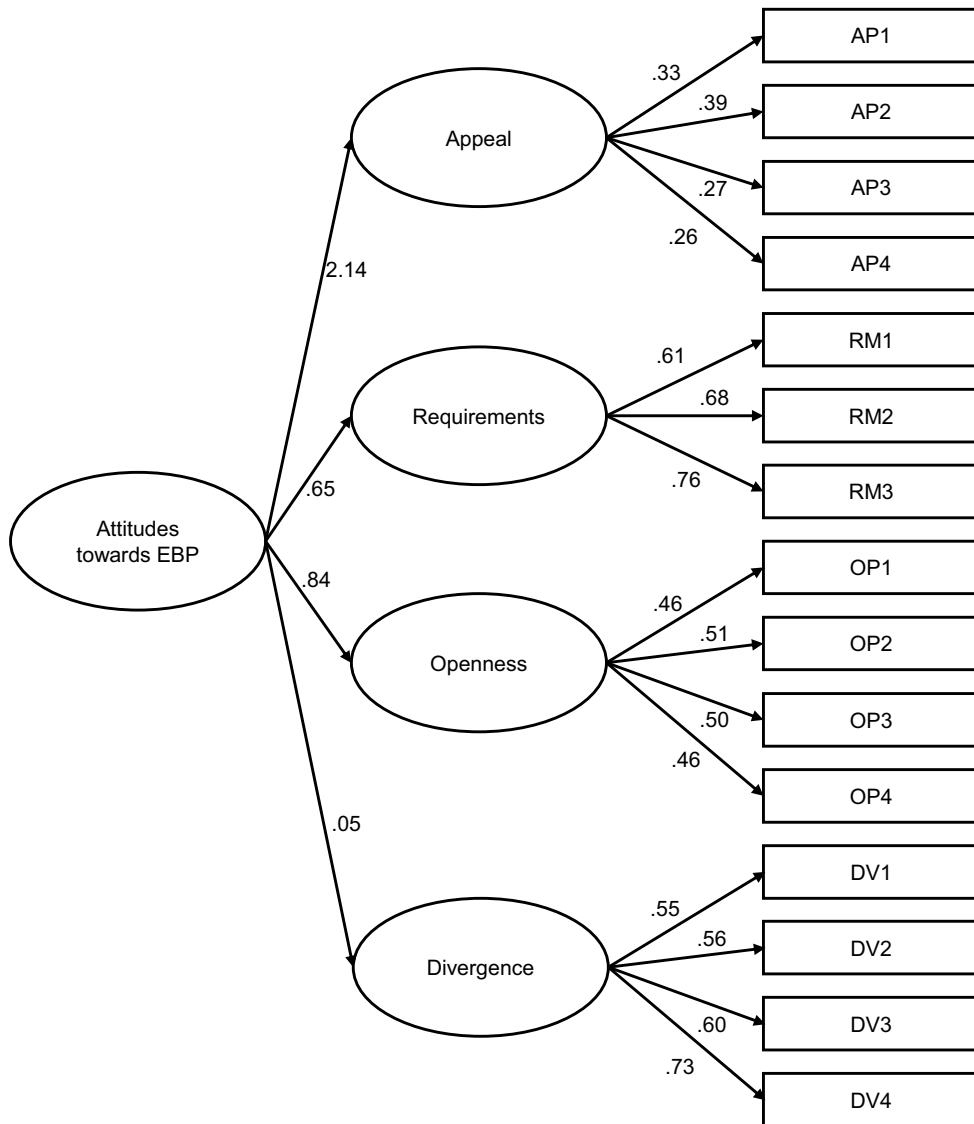


Figure 2. Higher-Order Confirmatory Factor Analysis Model of the Evidence-Based Practice Attitude Scale (EBPAS).

between teacher efficacy and the adoption of innovative practices (Ghaith & Yaghi, 1997; Guskey, 1988) or the inclusion of students with SEN (Yada et al., 2022). Notably, Yada et al. (2022) consolidated studies that examined teachers' attitudes towards including students with SEN in mainstream schools. In contrast, the EBPAS in the current study focused on attitudes towards disseminating and implementing new practices to enhance students' learning and behaviour (Aarons, 2004). In other words, although teacher efficacy in inclusive practices may enhance their attitudes towards inclusion (Yada et al., 2022), it may not directly influence their willingness to adopt EBPs.

The highest academic degree significantly predicts the Openness subscale, *confirming the third hypothesis*. This suggests that primary school teachers with higher educational attainments are more likely to be open to new practices. This finding supports van Sonsbeek et al. (2015) but differs from Aarons (2004) and Aarons et al. (2010), who found that educational attainment was more closely related to Appeal. These differences suggest that the impact of educational attainment on the EBPAS

Table 4. Correlation Matrix of Predictors and the EBPAS

No		1	2	3	4	5	6	7	8	9	10
1	Openness	1.000									
2	Divergence	−.072	1.000								
3	Appeal	.487**	.000	1.000							
4	Requirements	.285**	−.064	.499**	1.000						
5	EBPAS total	.672**	.365**	.790**	.677**	1.000					
6	Edu-level	.174*	.095	.074	−.038	.123	1.000				
7	Teach exp.	−.054	.097	−.104	−.067	−.049	−.004	1.000			
8	SEN exp.	.036	−.074	.022	.074	.021	.049	.382**	1.000		
9	TEIP total	.207**	−.167*	.196*	.107	.133*	−.015	.181*	.289**	1.000	
10	ILS total	.295**	−.082	.377**	.213**	.317**	.087	−.018	.001	.203**	1.000

Note. EBPAS = Evidence-Based Practice Attitude Scale (Aarons, 2004; Cook et al., 2018); Edu-level = highest educational attainment level; Teach exp. = years of teaching experience; SEN exp. = years of supporting students with special educational needs; TEIP = Teacher Efficacy for Inclusive Practices (Sharma et al., 2012); ILS = Implementation Leadership Scale (Aarons et al., 2014).

** $p < .01$ level. * $p < .05$ level.

may vary across professions and contexts. In this study, teachers with higher academic degrees may be more open to new EBPs because of a greater likelihood of exposure to such practices at the postgraduate level. Conversely, the appeal of EBPs could play a more significant role for mental health providers (Aarons, 2004; Aarons et al., 2010), as they are typically more accustomed to EBPs.

This finding of a positive relationship between educational attainment and openness to adopting EBPs suggests that it is crucial to provide compulsory courses on understanding EBPs at the university level (Diery et al., 2021). As Diery and her colleagues (2021) pointed out, offering such courses to preservice teachers may help address the challenges of promoting EBP implementation among in-service teachers. Currently, Singapore's tertiary education institution offers various elective courses aimed at enhancing preservice teachers' understanding of SEN and teaching strategies (Nanyang Technological University/National Institute of Education, 2025). Making these courses, along with an additional course introducing EBPs for students with SEN, compulsory may increase teachers' willingness to adopt EBPs in school settings.

Organisational Characteristics as a Predictor of Teacher Attitudes Towards Adopting EBPs (Hypothesis 4)

The results *confirmed the fourth hypothesis*, with the mean ILS score consistently predicting the subscales of the EBPAS and the total EBPAS score, except for the Divergence subscale. This finding suggests that teachers who perceive strong school leadership support for EBP implementation are more likely to be open to new practices, find them appealing, and adopt them when required. This aligns with Singapore's 'nuanced implementation of distributed leadership' (Tan, 2024, p. 289). Despite the practice of distributed leadership in Singapore, the high-power distance culture, typical of Asia, leads teachers to seek final approval from school leaders (Tan, 2024). Consequently, teachers tend to be more open and hold positive ATE when they perceive clear leadership support. In other words, school leadership plays a crucial role in enhancing teachers' positive ATE in schools.

This finding, along with the positive correlations between Appeal, Openness, and Requirements, suggests the importance of professional development for school leaders to support EBP implementation for students with SEN in mainstream schools. School leaders who are aware of EBPs are more likely to promote their implementation in school settings, which can increase teachers' acceptance of and willingness to adopt these practices.

Table 5. Robust Regression Results

Predictors	Estimate	SE	t-value	p-value	95% CI		R ²	R ² _{adj}
					LB	UB		
Openness model							.140	.113
Constant	1.448	.436	3.318	.004**	.593	2.303		
Years of teaching experience	−.007	.006	−1.173	.321	−.019	.005		
Years of supporting SEN	−.005	.008	−.538	.577	−.021	.012		
Highest academic degree	.208	.085	2.450	.012*	.042	.375		
TEIP total mean score	.209	.086	2.441	.064	.041	.377		
ILS total mean score	.236	.072	3.263	.010*	.094	.378		
Appeal model							.177	.151
Constant	1.687	.469	3.599	.000**	.768	2.605		
Years of teaching experience	−.010	.007	−1.532	.162	−.023	.003		
Years of supporting SEN	.001	.009	.113	.902	−.017	.019		
Highest academic degree	.106	.091	1.158	.253	−.073	.284		
TEIP total mean score	.179	.092	1.949	.137	−.001	.359		
ILS total mean score	.354	.078	4.553	.001**	.202	.506		
Requirements model							.068	.039
Constant	2.429	.632	3.841	.000**	1.190	3.668		
Years of teaching experience	−.014	.009	−1.599	.168	−.031	.003		
Years of supporting SEN	.011	.012	.926	.336	−.013	.035		
Highest academic degree	−.116	.123	−.940	.287	−.357	.126		
TEIP total mean score	.104	.124	.838	.526	−.139	.347		
ILS total mean score	.277	.105	2.639	.042*	.071	.482		
Divergence model							.063	.035
Constant	4.319	.525	8.232	.000**	3.291	5.348		
Years of teaching experience	.012	.007	1.650	.067	−.002	.026		
Years of supporting SEN	−.009	.010	−.890	.294	−.029	.011		
Highest academic degree	.121	.102	1.180	.198	−.080	.321		
TEIP total mean score	−.154	.103	−1.497	.166	−.356	.048		
ILS total mean score	−.059	.087	−.676	.502	−.229	.112		
Total EBPAS model							.119	.092
Constant	2.474	.328	7.535	.000**	1.831	3.118		
Years of teaching experience	−.004	.005	−.936	.380	−.013	.005		
Years of supporting SEN	.001	.006	.091	.919	−.012	.013		
Highest academic degree	.091	.064	1.419	.145	−.035	.216		
TEIP total mean score	.094	.064	1.460	.233	−.032	.220		
ILS total mean score	.175	.055	3.210	.005**	.068	.282		

Note. SE = standard error; CI = confidence interval; LB = lower bound; UB = upper bound; R^2 = R-squared; R^2_{adj} = adjusted R-squared; SEN = special educational needs; TEIP = Teacher Efficacy for Inclusive Practices (Sharma et al., 2012); ILS = Implementation Leadership Scale (Aarons et al., 2014; Lyon et al., 2018).

** $p < .01$ level. * $p < .05$ level.

Limitations and Future Directions

Although this study demonstrates that the revised version of EBPAS can evaluate Singapore general education teachers' ATE, some limitations should be acknowledged. First, the study validated the EBPAS using content validity, CFA, and internal reliability with a relatively small sample size ($N = 170$). While the first-order model demonstrated a good model fit, the higher-order model could not be confirmed. According to Kyriazos (2018), a large sample size is crucial when the assumption of normality is violated. Despite using a robust estimator (i.e., MLR) to mitigate the influence of non-normality, the sample size might not have been sufficient to confirm the higher-order factor model. Therefore, it is recommended that researchers of future studies test the model with a larger sample.

Second, the Divergence subscale of the EBPAS may require adaptation to better reflect the professional and cultural context of general education teachers in Singapore. Although the current study retained the Divergence items due to their importance in assessing teachers' attitudes towards research-based interventions, this subscale has been noted as problematic, showing lower internal reliability (Santesson et al., 2020), weak factor loading (Baumann et al., 2022), and weak correlations with other subscales and the total score (Cook et al., 2018; Merle et al., 2023; van Sonsbeek et al., 2015). As a result, several studies have suggested adapting the EBPAS to align with specific national and professional contexts. For example, the Brazilian Portuguese version of the EBPAS dropped one item ('Know better than researchers') from the Divergence scale (Baumann et al., 2022). Similarly, the Swedish version recommended replacing the same item (Santesson et al., 2020). Another example can be found from Merle et al. (2023), who identified a new subscale, *Fit*, and removed the Divergence scale to assess ATE among US primary school teachers. Therefore, refining the Divergence subscale by identifying and validating constructs better suited to Singapore teachers through exploratory factor analysis and CFA with a larger sample may further enhance the applicability of the EBPAS for general education teachers in Singapore.

Third, the current study focused on Singapore general education teachers in primary schools and relied on self-report surveys, which might limit the generalisability and in-depth understanding of teachers' ATE. Understanding teachers' ATE across different school settings and cultural contexts is particularly important, given the global commitment to inclusive education. For example, 80% of students with SEN are currently included in mainstream schools in Singapore (Ministry of Education, 2023), and various school-based programs have been introduced to support them (Landulfo et al., 2015; Teng, 2019). Researchers of future studies should explore the applicability of the adapted EBPAS across other educational settings, such as secondary schools, early childhood education, and postsecondary institutions, as well as in broader international contexts. Additionally, interviews or focus-group discussions could complement self-report survey methods and provide a deeper understanding of teachers' ATE.

Fourth, the TEIP (Sharma et al., 2012) measuring teacher efficacy in inclusive practices might not be the best fit for understanding the relationship between teacher efficacy and ATE. The current study employed the TEIP (Sharma et al., 2012) because a specific measure of teacher efficacy for EBP implementation in schools has not yet been developed. Although the TEIP broadly involves various inclusive practices such as managing disruptive behaviour, collaborating with colleagues and parents, and providing instructional strategies (Sharma et al., 2012), EBPs specifically focus on implementing interventions or strategies proven effective in improving students' learning and behaviour (The IRIS Center, 2016). Hence, developing a survey to measure teacher efficacy in school-based EBP implementations should be prioritised in future research to accurately examine the relationship between teacher efficacy and ATE. As Tucker et al. (2021) developed self-efficacy for EBP implementation focusing on nurses in healthcare institutions, this approach could serve as a starting point to contextualise teacher efficacy for EBP implementation in school settings.

Funding. This research was supported by a Nanyang Technological University Research Scholarship (NTU-RSS) and a John M. Elliott Memorial Research Grant from the Singapore Children's Society. The funders had no role in the study design, data collection, analysis, or manuscript preparation.

Competing interests. The author of this study certifies that she has no affiliations with or involvement in any organisation or entity with any financial or non-financial interest in the subject matter or materials discussed in this manuscript.

References

- Aarons, G. A. (2004). Mental health provider attitudes toward adoption of evidence-based practice: The Evidence-Based Practice Attitude Scale (EBPAS). *Mental Health Services Research*, 6(2), 61–74. <https://doi.org/10.1023/B:MHSR.0000024351.12294.65>
- Aarons, G. A. (2006). Transformational and transactional leadership: Association with attitudes toward evidence-based practice. *Psychiatric Services*, 57(8), 1162–1169. <https://doi.org/10.1176/ps.2006.57.8.1162>
- Aarons, G. A., Ehrhart, M. G., & Farahnak, L. R. (2014). The Implementation Leadership Scale (ILS): Development of a brief measure of unit level implementation leadership. *Implementation Science*, 9, Article 45. <https://doi.org/10.1186/1748-5908-9-45>
- Aarons, G. A., Glisson, C., Hoagwood, K., Kelleher, K., Landsverk, J., & Cafri, G. (2010). Psychometric properties and U.S. national norms of the Evidence-Based Practice Attitude Scale (EBPAS). *Psychological Assessment*, 22(2), 356–365. <https://doi.org/10.1037/a0019188>
- Aarons, G. A., & Sommerfeld, D. H. (2012). Leadership, innovation climate, and attitudes toward evidence-based practice during a statewide implementation. *Journal of the American Academy of Child & Adolescent Psychiatry*, 51(4), 423–431. <https://doi.org/10.1016/j.jaac.2012.01.018>
- Ahsan, M. T., & Malak, M. S. (2020, July 30). Teaching efficacy and inclusive practices in Asian countries. *Oxford Research Encyclopedia of Education*. <https://doi.org/10.1093/acrefore/9780190264093.013.1227>
- Aljunied, M. (2021). Psychological services for children with special educational needs in mainstream schools. In M. E. Wong & L. Lim (Eds.), *Special needs in Singapore: Trends and issues* (pp. 149–167). World Scientific Publishing. https://doi.org/10.1142/9789814667142_0008
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Baumann, A. A., Vázquez, A. L., Macchione, A. C., Lima, A., Coelho, A. F., Juras, M., Ribeiro, M., Kohlsdorf, M., & Carothers, B. J. (2022). Translation and validation of the Evidence-Based Practice Attitude Scale (EBPAS-15) to Brazilian Portuguese: Examining providers' perspective about evidence-based parent intervention. *Children and Youth Services Review*, 136, Article 106421. <https://doi.org/10.1016/j.childyouth.2022.106421>
- Beidas, R. S., Edmunds, J., Ditty, M., Watkins, J., Walsh, L., Marcus, S., & Kendall, P. (2014). Are inner context factors related to implementation outcomes in cognitive-behavioral therapy for youth anxiety? *Administration and Policy in Mental Health*, 41(6), 788–799. <https://doi.org/10.1007/s10488-013-0529-x>
- Chen, Y. (2024). Effects of the proportion of students with special educational needs on middle school teachers' well-being. *Frontiers in Education*, 9, Article 1307709. <https://doi.org/10.3389/educ.2024.1307709>
- Chong, W. H., & Lee, B.-O. (2021). Understanding effective implementation of prevention education programmes: Perspective from Singapore schools. *The Asia-Pacific Education Researcher*, 30(1), 23–32. <https://doi.org/10.1007/s40299-020-00511-3>
- Cicchetti, D. V. (1994). Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology. *Psychological Assessment*, 6(4), 284–290. <https://doi.org/10.1037/1040-3590.6.4.284>
- Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). John Wiley & Sons.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Cook, C. R., Davis, C., Brown, E. C., Locke, J., Ehrhart, M. G., Aarons, G. A., Larson, M., & Lyon, A. R. (2018). Confirmatory factor analysis of the Evidence-Based Practice Attitudes Scale with school-based behavioral health consultants. *Implementation Science*, 13, Article 116. <https://doi.org/10.1186/s13012-018-0804-z>
- Diery, A., Knogler, M., & Seidel, T. (2021). Supporting evidence-based practice through teacher education: A profile analysis of teacher educators' perceived challenges and possible solutions. *International Journal of Educational Research Open*, 2, Article 100056. <https://doi.org/10.1016/j.ijedro.2021.100056>
- Egeland, K. M., Ruud, T., Ogden, T., Lindström, J. C., & Heiervang, K. S. (2016). Psychometric properties of the Norwegian version of the Evidence-Based Practice Attitude Scale (EBPAS): To measure implementation readiness. *Health Research Policy and Systems*, 14, Article 47. <https://doi.org/10.1186/s12961-016-0114-3>
- Farahnak, L. R., Ehrhart, M. G., Torres, E. M., & Aarons, G. A. (2020). The influence of transformational leadership and leader attitudes on subordinate attitudes and implementation success. *Journal of Leadership & Organizational Studies*, 27(1), 98–111. <https://doi.org/10.1177/1548051818824529>
- Ghaith, G., & Yachi, H. (1997). Relationships among experience, teacher efficacy, and attitudes toward the implementation of instructional innovation. *Teaching and Teacher Education*, 13(4), 451–458. [https://doi.org/10.1016/S0742-051X\(96\)00045-5](https://doi.org/10.1016/S0742-051X(96)00045-5)
- Guskey, T. R. (1988). Teacher efficacy, self-concept, and attitudes toward the implementation of instructional innovation. *Teaching and Teacher Education*, 4(1), 63–69. [https://doi.org/10.1016/0742-051X\(88\)90025-X](https://doi.org/10.1016/0742-051X(88)90025-X)

- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind: Intercultural cooperation and its importance for survival* (3rd ed.). McGraw-Hill.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- The IRIS Center. (2016). *Autism spectrum disorder (Part 2): Evidence-based practices*. <https://iris.peabody.vanderbilt.edu/module/asd2/>
- Jang, H., & Tan, P. C. (2024). Inclusive education in action: Singapore teachers' efficacy in early childhood and primary school education. *Education 3-13*. Advance online publication. <https://doi.org/10.1080/03004279.2024.2410948>
- Jöreskog, K. G. (1999). How large can a standardized coefficient be? *Mplus*. <https://www.statmodel.com/download/Joreskog.pdf>
- Kyriazos, T. A. (2018). Applied psychometrics: Sample size and sample power considerations in factor analysis (EFA, CFA) and SEM in general. *Psychology*, 9(8), 2207–2230. <https://doi.org/10.4236/psych.2018.98126>
- Landulfo, C., Chandy, C., & Wong, Z. Y. (2015). Expanding the provision for people with dyslexia in Singapore. *Asia Pacific Journal of Developmental Differences*, 2(2), 234–276. <https://doi.org/10.3850/S2345734115000307>
- Locke, J., Lawson, G. M., Beidas, R. S., Aarons, G. A., Xie, M., Lyon, A. R., Stahmer, A., Seidman, M., Frederick, L., Oh, C., Spaulding, C., Dorsey, S., & Mandell, D. S. (2019). Individual and organizational factors that affect implementation of evidence-based practices for children with autism in public schools: A cross-sectional observational study. *Implementation Science*, 14, Article 29. <https://doi.org/10.1186/s13012-019-0877-3>
- Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing Research*, 35(6), 382–385. <https://doi.org/10.1097/00006199-198611000-00017>
- Lyon, A. R., Cook, C. R., Brown, E. C., Locke, J., Davis, C., Ehrhart, M., & Aarons, G. A. (2018). Assessing organizational implementation context in the education sector: Confirmatory factor analysis of measures of implementation leadership, climate, and citizenship. *Implementation Science*, 13, Article 5. <https://doi.org/10.1186/s13012-017-0705-6>
- Melas, C. D., Zampetakis, L. A., Dimopoulou, A., & Moustakis, V. (2012). Evaluating the properties of the Evidence-Based Practice Attitude Scale (EBPAS) in health care. *Psychological Assessment*, 24(4), 867–876. <https://doi.org/10.1037/a0027445>
- Merle, J. L. (2021). *Teacher attitudes toward evidence-based practices: Confirmatory and predictive analyses of the school-adapted Evidence-Based Practice Attitude Scale* [Doctoral dissertation, University of Minnesota]. ProQuest Dissertations & Theses Global.
- Merle, J. L., Cook, C. R., Locke, J. J., Ehrhart, M. G., Brown, E. C., Davis, C. J., & Lyon, A. R. (2023). Teacher attitudes toward evidence-based practices: Exploratory and confirmatory analyses of the school-adapted Evidence-Based Practice Attitude Scale. *Implementation Research & Practice*, 4, 1–16. <https://doi.org/10.1177/26334895221151026>
- Ministry of Education. (2021). *Character and citizenship education (CCE) syllabus: Primary*. <https://www.moe.gov.sg/-/media/files/syllabus/2021-primary-character-and-citizenship-education.pdf>
- Ministry of Education. (2023, May 8). *Support for students with special educational needs in mainstream schools who are not found suitable for government-funded SPED or cannot afford private education* [Parliamentary replies]. <https://www.moe.gov.sg/news/parliamentary-replies/20230509-support-for-students-with-special-educational-needs-in-mainstream-schools-who-are-not-found-suitable-for-government-funded-sped-or-cannot-afford-private-education>
- Moir, T. (2018). Why is implementation science important for intervention design and evaluation within educational settings? *Frontiers in Education*, 3, Article 61. <https://doi.org/10.3389/feduc.2018.00061>
- Nanyang Technological University/National Institute of Education. (2025). *Bachelor of Arts in an academic discipline and in education & Bachelor of Science in an academic discipline and in education*. <https://www.ntu.edu.sg/nie/about-us/programme-offices/office-of-teacher-education-and-undergraduate-programmes/programme-handbooks>
- Odom, S. L., Sam, A. M., & Tomaszewski, B. (2022). Factors associated with implementation of a school-based comprehensive program for students with autism. *Autism*, 26(3), 703–715. <https://doi.org/10.1177/13623613211070340>
- The Pennsylvania State University. (n.d.). *STAT 501: Regression methods. T.1.1 Robust regression methods*. <https://online.stat.psu.edu/stat501/lesson/t/t.1/t.1.1-robust-regression-methods>
- Polit, D. F., & Beck, C. T. (2006). The content validity index: Are you sure you know what's being reported? Critique and recommendations. *Research in Nursing & Health*, 29(5), 489–497. <https://doi.org/10.1002/nur.20147>
- Poon, K. K. (2019). Policies and initiatives for preschool children from disadvantaged environments and preschool children with disabilities in Singapore. In S. S. Teng, M. Manzon, & K. K. Poon (Eds.), *Equity in excellence: Experiences of East Asian high-performing education systems* (pp. 149–160). Springer. https://doi.org/10.1007/978-981-13-2975-3_10
- Posit Team. (2024). *RStudio: Integrated development environment for R*. Posit Software. <http://www.posit.co/>
- Powell, B. J., Mandell, D. S., Hadley, T. R., Rubin, R. M., Evans, A. C., Hurford, M. O., & Beidas, R. S. (2017). Are general and strategic measures of organizational context and leadership associated with knowledge and attitudes toward evidence-based practices in public behavioral health settings? A cross-sectional observational study. *Implementation Science*, 12, Article 64. <https://doi.org/10.1186/s13012-017-0593-9>
- Reding, M. E. J., Chorpita, B. F., Lau, A. S., & Innes-Gomberg, D. (2014). Providers' attitudes toward evidence-based practices: Is it just about providers, or do practices matter, too? *Administration and Policy in Mental Health*, 41(6), 767–776. <https://doi.org/10.1007/s10488-013-0525-1>

- Santesson, A. H. E., Bäckström, M., Holmberg, R., Perrin, S., & Jarbin, H. (2020). Confirmatory factor analysis of the Evidence-Based Practice Attitude Scale (EBPAS) in a large and representative Swedish sample: Is the use of the total scale and subscale scores justified? *BMC Medical Research Methodology*, 20, Article 254. <https://doi.org/10.1186/s12874-020-01126-4>
- Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation coefficients: Appropriate use and interpretation. *Anesthesia & Analgesia*, 126(5), 1763–1768. <https://doi.org/10.1213/ANE.0000000000002864>
- Sharma, U., Loreman, T., & Forlin, C. (2012). Measuring teacher efficacy to implement inclusive practices. *Journal of Research in Special Educational Needs*, 12(1), 12–21. <https://doi.org/10.1111/j.1471-3802.2011.01200.x>
- Shrotryia, V. K., & Dhanda, U. (2019). Content validity of assessment instrument for employee engagement. *SAGE Open*, 9(1), 1–7. <https://doi.org/10.1177/2158244018821751>
- Tan, C. Y. (2024). Influence of cultural values on Singapore school leadership. *Educational Management Administration & Leadership*, 52(2), 280–303. <https://doi.org/10.1177/17411432211073414>
- Teng, A. (2019, November 9). MOE to set up 3 new autism-focused schools; more peer support initiatives for special needs students. *The Straits Times*. <https://www.straitstimes.com/singapore/education/more-peer-support-initiatives-for-special-needs-students-moe-to-set-up-3-new>
- Tucker, S., Zadvinskis, I. M., & Conner, L. (2021). Development of psychometric testing of the Implementation Self-Efficacy for EBP (ISE4EBP) scale. *Western Journal of Nursing Research*, 43(1), 45–52. <https://doi.org/10.1177/0193945920925032>
- van Sonsbeek, M. A. M. S., Hutschemaekers, G. J. M., Veerman, J. W., Kleinjan, M., Aarons, G. A., & Tiemens, B. G. (2015). Psychometric properties of the Dutch version of the Evidence-Based Practice Attitude Scale (EBPAS). *Health Research Policy and Systems*, 13, Article 69. <https://doi.org/10.1186/s12961-015-0058-z>
- Yada, A., Leskinen, M., Savolainen, H., & Schwab, S. (2022). Meta-analysis of the relationship between teachers' self-efficacy and attitudes toward inclusive education. *Teaching and Teacher Education*, 109, Article 103521. <https://doi.org/10.1016/j.tate.2021.103521>
- Yeo, L. S., Chong, W. H., Neihart, M. F., & Huan, V. S. (2016). Teachers' experience with inclusive education in Singapore. *Asia Pacific Journal of Education*, 36(Suppl. 1), 69–83. <https://doi.org/10.1080/02188791.2014.934781>