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REVIEW ARTICLE

Development and Validation of Scores on the School-Based Advocacy and Awareness Scale (SBAAS)

Kimberly M. Knox[1] · **Michael T. Kalkbrenner**[1]

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Abstract

Advocacy is a crucial competency for school social workers (SSWs). Since SSWs often work in multidisciplinary settings, they need a screening tool with valid scores for measuring their advocacy efforts for students, families, schools, and policy change. Currently, the literature is missing a measure with valid scores for assessing SSW's advocacy practices on both microsystemic and macrosystemic levels. Such a tool could offer valuable feedback on enhancing advocacy to promote equity and well-being across micro-, mezzo-, and macro-systems for all School-Based Mental Health Providers. The purpose of the present study was to develop and initially validate scores on the School-Based Advocacy Awareness Scale (SBAAS), a new screening tool for measuring SSW's utilization of advocacy skills on the micro-, mezzo-, and macro-levels in schools. Validity evidence based on internal structure was established for SSW's SBAAS scores through exploratory, confirmatory, and bi-factor confirmatory factor analyses with two independent samples of SSWs. Collectively, we found factor analytic support for the dimensionality of SSW's SBAAS scores across the following tridimensional model: Advocacy for Student Wellness, Advocacy for Laws and Policies, and Confronting Discrimination and Bias. Results revealed that the internal structure of the SBAAS was estimated adequately through both a correlated factor model as well as via a simultaneous general-factor and group-factor model. Moreover, we found strong evidence of convergent validity between SSW's SBAAS scores with several established latent constructs. Results are discussed in terms of how SSWs can use the SBAAS as one way to measure their utilization of advocacy skills on microsystemic and macrosystemic levels.

Keywords Factor analysis · Scale development · School social work · Advocacy · Ecological systems

Introduction

Social workers use advocacy to promote equal access to resources and opportunities that facilitate social change (National Association of Social Workers [NASW], 2024). In social work practice, advocacy takes the form of ensuring stakeholders or decision makers consider enhanced rights or consequences that can negatively impact those who are vulnerable to marginalization and oppression (Wilks, 2012; Wong et al., 2021). For school social workers (SSWs) advocacy practice is defined by the capacity to promote positive school climates, establish interprofessional collaborations, and recognize institutional social justice issues that negatively impact equity and access in schools (Ball, 2020; Gherardi & Warshawer, 2024). SSWs work in three different systems of focus: the micro-level which refers direct intervention with students, families, and groups, the mezzo which is small level contexts such as schools, and the macro-level which is policy development and large system transformation (Elswick et al., 2018). Typical advocacy efforts include educating others about key issues, collecting data to identify needs across systems, and expanding awareness of key issues in schools (Ball, 2022; Bliss, 2015, Masset & Essex, 2022; Rogers et al., 2020). As School-Based Mental Health Providers (SBMHPs) in multidisciplinary settings, often in isolation, it is imperative they have access to a tool that measures the extent to which they engage in advocacy efforts for students, families, schools, and policy change.

Advocacy-based scales exist for professionals in related fields. In fact, equity-based advocacy efforts and actions look similar across School-Based Mental Health Professions (SBMHPs). For example, the School Counselor Advocacy Assessment is an advocacy scale that t was developed for

✉ Kimberly M. Knox
kimknox@nmsu.edu

[1] New Mexico State University, Las Cruces, USA

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school counselors and includes assessing collaboration skills, political, social, and media action, Additionally, the scale assesses student empowerment efforts and actions to reduce achievement barriers (Haskins & Singh, 2016). However, school counseling and school social work are distinct fields and users of standardized tests have a responsibility to use assessment tools with valid scores with the intended normative sample (Lenz et al., 2022). To date, the literature is missing a screening tool with valid scores for measuring advocacy efforts among a normative sample of SSWs. Such a screening tool has potential to provide feedback on how SSWs can engage in advocacy for creating resources, promoting equity, and well-being in the micro-, mezzo-, and macro-practice systems.

The primary aim of this study was to develop and initially validate scores on The School-Based Advocacy Awareness Scale (SBAAS) for measuring SSWs' utilization of advocacy skills on an ecological systems level (across the micro-, mezzo-, and macro-levels) in schools. Establishing an empirical framework is one of the first steps in an instrument development and score validation study (Kalkbrenner, 2021). An empirical framework for a scale development study includes a synthesis of established theories and/or extant literature for outlining the scope and depth of the intended construct of measurement. The empirical framework for the SBAAS is comprised of the following synthesized extant literature: The School Counselor Advocacy Assessment (Haskins & Singh, 2016), defining advocacy practice in schools for SSWs (Allen-Meares et al., 2013, Bachman et al., 2024; Bates, 2022; Fallon et al., 2022; Iachine & Childs, 2022; Joseph et al., 2010; Knox, 2024; Massat & Essex, 2022; Mestler, 2024), national organization practice standards for advocacy practice (National Association of Social Workers, 2025; Sabatino et al., 2013), and the Social Work Advocacy Practice Model (Bliss, 2015).

Advocacy Practice in Schools

The first area of focus for SSW is enhancing school well-being, trauma-informed practices, and school safety (Bates, 2022; Iachine & Childs, 2022). Next, SSWs are called upon to advocate for access to social emotional care, mental health, and basic resources, such as food and clothing, to remove barriers for student success (Allen-Meares et al., 2013; Bachman et al., 2024; Knox, 2024). The last area of advocacy attention is equity in schools, including disproportionality of school funding, school segregation, oppression and gender inequalities (Massat & Essex, 2022; Mestler, 2024). Additionally, advocacy effort includes expanding knowledge of policies that negatively impact marginalized and underserviced children in schools (Fallon et al., 2022; Joseph et al., 2010).

National Organization Practice Standards for SSW Advocacy

In order to further define content areas of SSW advocacy, we looked to national social work organizations standards for SSW advocacy practice. Two national associations of social work suggest that SSWs engage in advocacy efforts in schools. According to The School Social Work Association of America (SSWAA), SSWs should engaged in advocacy efforts "for policies, programs, and services that respect diversity, address individual needs, and support the inherent dignity and worth of all students, families, and school personnel" (Sabatino et al., 2013, p. 8). The National Association of Social Workers Standards for School Social Work suggest everyday advocacy practice should include equal access to education, encouraging self-advocacy, making resources available based on the needs of the school, and being knowledgeable about policies, legislation, and school procedures. Finally, the SSWAA suggests SSWs engage in advocacy to expand knowledge and support for the profession of SSW by introducing legislation and funding for school-based mental health services, recognition of SSWs, and workforce diversity and development (School Social Work Association of America, 2024).

Social Work Advocacy Practice Model

Social workers engage in advocacy in their practice. Bliss (2015) outlined the Social Work Advocacy Practice Model (SWAPM) that identifies steps to facilitate change through advocacy efforts. The five steps are (1) defining the cause, or understanding the problem, (2) identifying the outcome, (3) who is the target audience, or who are the stakeholders that need to be influenced, (4) develop a strategic plan or tactics that identify specific action steps that the SSW needs to take to achieve the desired outcome, and (5) evaluation of the advocacy efforts to determine success or reevaluation or the plan. Although not specific to SSW, the SWAPM is useful to advocacy practice and planning to follow steps to define the needs of the micro-, mezzo-, or macro-level, then creating a plan of action.

The School Counselor Advocacy Assessment

Established screening tools can serve as theoretical models for future instrument development studies (Kalkbrenner, 2021). Haskins and Singh (2016) created the School Counselor Advocacy Assessment (SCAA) as a self-assessment for measuring school counselors' strengths and limitations in terms of advocacy in schools across the following five domains: collaboration with school groups, politician and

social action, individual student empowerment, actions to reduce achievement barriers, and media advocacy across system levels. School counselors and SSWs share some similarities in their scopes of practice (Zabek et al., 2023), for example, intervention, assessment, related coordination, professional enhancement, consultation, and documentation. Accordingly, the latent factor structure of the SCAA was used, in part, to guide the development of the theoretical blueprint for the SBAAS.

While school counselors share some similarities with SSWs, such as supporting social justice issues, and advocating for school resources, the SCAA does not adequately provide an assessment for advocacy action for all school-based mental health providers. SBMHPs professionals are highly trained; however, school counselors work with the whole school to promote the school's academic mission, deliver direct services and supports to students, and promote career and social emotional development to students, and have specific training and expertise in providing curriculum-based prevention intervention at the primary level (American School Counselor Association, 2023; Mitchell et al., 2021). Beyond serving all students, SSWs have specialized training and intervention skills in systems level change and equity issues (Mitchell et al., 2021), social work services identified as a related service under the Individuals with Disabilities Education Act (2004). While all SBMHPs provide counseling, SSWs primary role is to bridge between schools, communities, students, and families to support students' academic success (School Social Work Association of America, 2024). To create a scale that prioritizes advocating for equity and school wellness for all SBMHPs and the broader audience, we conducted an instrument development rather than an instrument adaptation study.

The empirical framework for the SBAAS was developed by weaving together SSW advocacy from national standards and practice realities. The framework was designed to capture SSW's advocacy on multiple ecological levels, including advocacy for workforce development, funding, equity and disproportionality issues, policy impact of marginalized and underserviced children, school safety, well-being, trauma-informed practices, access to social emotional care, mental health, and resources (Allen-Meares et al., 2013, National Association of Social Workers, 2025; Bachman et al., 2024; Bates, 2022; Fallon et al., 2022; Iachine & Childs, 2022; Joseph et al., 2010; Knox, 2024; Massat & Essex, 2022; Mestler, 2024; Sabatino et al., 2013). The SWAPM was included in the empirical framework to determine the stage of advocacy the social worker is engaged in such as understanding the problem or communicating with stakeholders (Bliss, 2015). The SCAA (Haskins & Singh, 2016) was included in the framework as a map to ensure that content was throughout the micro-, mezzo-, macro-level to holistically consider the systems that impact schools and students.

The Present Study

The purpose of this study was to develop and initially validate scores on the SBAAS for measuring SSWs' utilization of advocacy skills across the micro-, mezzo-, and macro-levels in schools. If scores are validated, the SBAAS has potential to offer SSWs and their constituents a tool for collecting data and understanding how and in what ways school social workers are participating in advocacy for social change. Accordingly, the following research questions (RQs) were posed: RQ1. What is the dimensionality of scores on the SBAAS? RQ2. Is the dimensionality of the SBAAS confirmed with a second independent sample of school social workers? RQ2a. Is the dimensionality of SSW's SBAAS scores estimated adequately in a bi-factor model? RQ3.What is the convergent validity of SBAAS scores?

Method

The SBAAS was designed following the MEASURE Approach for instrument development and score validation as outlined by Kalkbrenner (2021). MEASURE encompasses a structured sequence of seven linear steps aimed at building and validating scores on screening tool: (a) Make the purpose and rationale clear, (b) establish empirical framework, (c) articulate theoretical blueprint, (d) synthesize content and scale development, (e) use expert reviewers, (f) recruit participants, and (g) evaluate validity and reliability evidence of scores. Aligned with the MEASURE Approach, we used a research team throughout the instrument development and score validation process. This team included a full professor with over a decade of experience in psychometrics, including developing, validating, and publishing dozens of psychometric studies, and they serve as an associate editor for a national psychometric peer-reviewed journal. This team member also developed the MEASURE Approach, which has been cited over 100 times since 2021. The next research team member is an assistant professor, who has over 10 years of professional experience as a school social worker, and whose current research focuses on school social work. The final research team member is a 2nd year MSW graduate assistant who was completing a field placement in school social work.

We adopted a multifaceted approach to establishing validity and reliability evidence of SBAAS scores based on the standards of the American Educational Research Association (AERA, 2014) and Responsibilities of Users of Standardized Tests (RUST-4E; Lenz et al., 2022). Specifically, we

focused on establishing content validity, internal structure validity, convergent validity, and internal consistency reliability evidence of SBAAS scores.

Content Validity

Content validity refers to how well the set of items on an assessment captures the full scope and depth of the construct it is intended to measure (AERA, 2014). Following the MEASURE Approach, we implemented several steps to strengthen the SBAAS's content validity: empirical framework of advocacy practice in schools (Ball, 2020; Ball, 2022; Bliss, 2015; Elswick et al., 2018; Gherardi & Warshawer, 2024; Masset & Essex, 2022; Rogers et al., 2020) theoretical blueprint, and pilot testing. The research team worked together to create a theoretical blueprint to guide the development of items based on the empirical framework. Theoretical blueprints typically include both content areas (subject-aspects of the intended construct of measurement) and domain areas (application-based dimensions for the intended construct of measurement; Kalkbrenner, 2021).

The blueprint consisted of creating a matrix table of the following content areas targeted at promoting a positive school climate, institutional social justice, access to resources and education, policy impacts and limitation, and promoting the profession of SSW (Bates, 2022; Iachine & Childs, 2022; Joseph et al., 2010; Mestler, 2024; Massatt & Essex, 2022, Sabatino et al., 2013, SSWAA, 2024). With the SWAPM in mind, item content was created, in part, with a focus on understanding the problem, the target audience and stakeholders, the intended outcome, and strategies and tactics (Bliss, 2015). The domains were identified as the micro-, mezzo-, and macro-advocacy efforts in the micro-system directly with students and family, the mezzo-system in schools and communities, and the macro-system to address policy and the profession of SSW. The inclusion of the systems was adapted from the SCAA (Haskins & Singh, 2016) and the National professional standards of NASW (National Association of Social Workers, 2025).

In alignment with the MEASURE Approach, each member of the research team used the blueprint as a reference to first independently draft a list of potential items for the SBAAS. The team then held a series of four meetings to reach a consensus on an initial set of 95 items for expert review. During each meeting, the team refined the SBAAS items. After reviewing several scaling options (see Vagias, 2006), we selected the following Likert-type scale anchors that best matched the construct being measured: 1 = *Never*, 2 = *Rarely*, 3 = *Sometimes*, 4 = *Often*, 5 = *Almost Always*. These anchors were chosen to capture the extent to which participants endorsed declarative statements regarding school social work advocacy.

Expert review plays a critical role in evidencing content validity (Kalkbrenner, 2021). Two types of experts are typically involved in scale development: survey experts, who are psychometricians skilled in crafting clear, simple, and interpretable items, and content experts who have specialized knowledge in the content area. Standard practice is to involve three to five experts, including at least one survey expert (Kalkbrenner, 2021). The preliminary set of 95 SBAAS items was sent to three experts that had over 62 years of combined experience in professional and educational social work. The first expert reviewer has a Master's degree and PhD in both Social Work and Sociology as well as a post-doctoral degree in Public Health. They have 25 years of professional social work experience as a program evaluator, integrated behavioral health and social work research. The second expert reviewer has 18 years of professional social work experience and has earned an MSW and an Ed.D. in Curriculum Leadership with a specialty in Applied Behavior Analysis. Their expertise focuses on community mental health, school-based programming, and has supported schools in developing effective school-based trauma responsive programs. The final expert reviewer has 19 years of professional social work experience and has a Bachelor of Social Work (BSW), MSW and a Ph.D. in Education Policy Studies. Additionally, they have professional experience as a school social worker and teacher. Their area of focus is school social worker roles, interdisciplinary collaboration, equity-centered and trauma-informed schools.

Taking survey expert suggestions, the research team made numerous revisions to item wording and advised the removal of items that were unclear, redundant, or not at an approximate 8th-grade reading level. As just a few examples, the expert reviewers recommended removing the following item, as it was too vague to be an observed variable: "I prepare convincing data on the benefits of trauma informed schools." Specifically, the meaning of the terms "convincing data" and "benefits of trauma informed" could be interpreted in very different ways by different test takers, which would invite error variance into the model. Another example, the expert reviewers pointed out that the following item was not realistic in practice: "I Identify what resources are needed to support all students." Specifically, they commented that it is unlikely that any resource(s) would not realistically meet the needs of "all" students. Accordingly, that item was removed. Following the expert review phase, a final set of 48 items remained, with a Flesch–Kincaid reading level of 9.8.

Following IRB approval, the SBAAS was pilot tested with a sample of 43 SSWs. Once the items were entered into Qualtrics (2025), along with the informed consent, participants were recruited by posting a flyer on three social media sites for social workers and school social workers in one geographical area. Pilot study participants did not suggest any edits to the SBAAS items. In addition, no technology or data

imputation errors were present. Initial item-level descriptive statistics were computed on the pilot data. All data analyses were conducted in IBM SPSS AMOS version 29. All skewness and kurtosis values were in the acceptable range for supporting a normal distribution of scores (skewness < +− 2 and kurtosis < +− 7).

Internal Structure Validity

After providing evidence of content validity (empirical framework, blueprint, expert review, and pilot testing), the next step in developing an instrument and validating scores is to test for internal structure validity (Kalkbrenner, 2021). Internal structure validity refers to how well the observed variables (or test items) group together to represent underlying latent factors or subscales (AERA, 2014). Factor analysis, a type of multivariate statistical method, is commonly used to assess internal structure validity. There are two main types of factor analysis: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). EFA helps reveal the potential dimensions of scores on a new test by analyzing how the items cluster to form factors. Multiple factor solutions can result from an EFA, meaning several potential structures might fit the same set of items. To solidify these findings, it is essential for test developers to conduct a CFA with a second independent sample, which confirms the structure identified by EFA with a different participant sample (Mvududu & Sink, 2013).

CFA provides a more rigorous test of internal structure validity than EFA, as it validates the identified factor structure on an established model using a new sample. Accordingly, we conducted EFA and then CFA with two independent samples of SSWs. Bi-factor CFA models build on single-order CFA by providing additional insights into the dimensional structure of scores (Reise et al., 2010). These models allow for the simultaneous assessment of a general factor alongside specific group factors, making them particularly suited for analyzing the multidimensional nature of latent variables commonly studied in psychological research. Put simply, bi-factor CFA results can clarify whether subscales are appropriate for separate scoring and/or could be scored collectively as part of a broader measure. Accordingly, we computed a bi-factor CFA on the SBAAS.

Method: Exploratory Factor Analysis

The two independent samples of participants for the exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) and recruitment efforts were focused on posting flyers on social media nationally in state associations of school social work, and national and state organizations for social work. Additionally, participants were recruited by posting in member boards of NASW and in the SSWAA newsletter. The surveys were closed once the sample size was at a minimum ratio of subjects to variable ratio of 10:1 Data collection for the EFA yielded a raw sample of $N = 674$. A total of 157 responses with > 20% missing data were removed. Zero percent of data were missing for the remaining 517 cases. Cases were transformed to standardized z-scores to check for univariate outliers ($z < +- 3.29$). Twenty-one univariate outliers were removed from the data set. Finally, 57 cases were removed for failing one or more attention checks, yielding a robust EFA sample of $N = 439$. A review of skewness and kurtosis values revealed that all of the SBAAS were consistent with a normal distribution of scores (skewness < +− 2 and kurtosis < +− 7).

Participants in the EFA sample ($N = 439$) ranged in age between 20 and 74 years old ($M = 36.82$, $SD = 11.62$). In terms of gender identity, the majority of participants 77% ($n = 341$) self-identified as female, 21.6% ($n = 95$) male, 0.5% ($n = 2$) non-binary, and 0.2% ($n = 1$) transgender. For ethnoracial identity, 1.4% ($n = 6$) American Indian or Alaska Native, 4.1% ($n = 18$) Asian or Asian American, 4.8% ($n = 21$) Black or African American, 3.6% ($n = 16$) Hispanic, Latinx, or Spanish origin, 0.2% ($n = 1$) multiethnic, 0.2% ($n = 1$) Native Hawaiian or Other Pacific Islander, 84.7% ($n = 372$) White or European American, and 0.9% ($n = 4$) preferred not to specify their ethnoracial identity. The demographic profile of the sample in terms of the majority of participants self-identifying as White and female reflect the national demographic profile of social workers. According to the Bureau of Labor Statistics (2024), 88.1% of child, family, and school social workers who were employed in 2023 identified as women, 65.8% White, 26.3% Black or African American, 3.9 Asian, and 14.2 Hispanic or Latino.

Results: Exploratory Factor Analysis

The following preliminary tests for EFA were computed based on the recommendations of Mvududu and Sink (2013): Inter-item correlation matrix, Bartlett's test of sphericity, and the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy to determine if the data set was appropriate for EFA. The SBAAS items were entered into an inter-item correlation matrix. Items should inter-correlate between $r = .20$ and $r = .85$ with three or more other items (Kalkbrenner, 2021; Mvududu & Sink, 2013). All SBAAS items displayed inter-correlations within this range. The results of Bartlett's test of sphericity ($B\,[1128] = 11{,}177.954$, $p < .001$) revealed that the inter-item correlation matrix was not an identity matrix. Lastly, the KMO (.945) revealed a marvelous amount of shared variance in the model.

The SBAAS items were entered into an EFA with principal axis factoring (PAF). We applied factor retention guidelines from Mvududu and Sink (2013), including communalities (h^2) ≥ .30, factor loadings ≥ .40,

cross-loadings ≥ .35, and at least three items per factor. Items that failed to meet these criteria were removed one at a time and the EFA was computed after each removal. The initial factor extraction based on the Kaiser criterion revealed an initial 7-factor solution, which accounted for 57.93% of the variance in the model. The following factor retention criteria suggested three different possible factor solutions: Scree plot (3 factors), meaningful variance accounted for (> 5%; 2 factors), and parallel analysis (4 factors). All three potential factor solutions for the EFA were examined separately, as EFA typically identifies multiple plausible factor structures. Each solution was analyzed using an oblique rotation (direct oblimin), given that latent advocacy constructs tend to inter-correlate (Wong et al., 2021).

A four-factor solution was tested based on the results of a parallel analysis. Three items were removed for failing to display commonality values > .30. The EFA was recomputed after each individual item was removed. Eighteen items were removed for cross-loading on multiple factors or for failing to load > .40 on any factor. The four-factor solution failed to reach minimization, as only two items loaded on the fourth factor.

The three-factor solution was tested per the Scree plot. Four items were removed for failing to display commonality values > .30. Eleven items were removed for cross-loading on multiple factors or for failing to load > .40 on any factor. The three-factor solution reached minimization (see Table 1). We referred to the following cutoff scores for interpreting internal consistency reliability of scores, (α) > .70 (Tavakol & Dennick, 2011) and (ω) > .65 (Nájera Catalán, 2019). Thirteen items loaded on factor 1 ($\Lambda = 9.68$, S2 = 29.32%). Tests of internal consistency revealed strong reliability evidence of scores for factor 1 ($\alpha = .90$, $\omega = .90$). All of the items that loaded on the first factor were related to SSW's advocacy for student health and wellness. Accordingly, the research team named factor 1 Advocacy for Student Wellness. A total of 12 items loaded on the second factor ($\Lambda = 5.64$, S2 = 17.08%). Tests of internal consistency revealed strong reliability evidence of scores for factor 2 ($\alpha = .91$, $\omega = .91$). Factor 2 was named Advocacy for Laws and Policies, as the items that clustered on factor 2 were related to advocacy in terms of policy and law. Factor 3 was comprised of eight items ($\Lambda = 1.67$, $S^2 = 5.01\%$), which showed acceptable internal consistency reliability of scores ($\alpha = .87$, $\omega = .86$). Factor three was named Confronting Discrimination and Bias.

A two-factor solution was tested based on the meaningful variance accounted for factor retention criteria (> 5%). Seven items were removed for failing to display commonality values > .30. The EFA was recomputed after each individual item was removed. Two items were removed for cross-loading on multiple factors or for failing to load > .40 on any factor. The two-factor solution reached minimization; however, too many items (27) loaded on the first factor. In addition, the meaning of the items on two-factor solution was too general for the construct of measurement. The research team proceeded with data collection for the three-factor solution, as it was the only solution that reached minimization and revealed logically meaningful factors (i.e., the three-factor solution was the only one that made sense both statistically and logically).

Method: Confirmatory Factor Analysis

Data collection for the CFA yielded a raw sample of $N = 675$. The data collection procedures used for the EFA sample (see above) were replicated to collect data from a second independent sample of SSWs. A total of 166 responses with > 20% missing data were removed. Zero percent of data were missing for the remaining 509 cases. A total of 149 cases were removed for failing one or more attention checks. Cases were transformed to standardized z-scores to check for univariate outliers ($z < +-3.29$). One univariate outlier and 11 multivariate outliers were removed from the data set, yielding a robust CFA sample of $N = 348$. A review of skewness and kurtosis values revealed that all of the SBAAS were consistent with a normal distribution of scores (skewness $< +-2$ and kurtosis $< +-7$).

Participants in the CFA sample ($N = 348$) ranged in age between 19 and 70 years old ($M = 43.10$, $SD = 7.89$). In terms of gender identity, the majority of participants 67.8% ($n = 236$) self-identified as female, 31.3% ($n = 109$) male, 0.6% ($n = 2$) non-binary, and 0.3% ($n = 1$) transgender. For ethnoracial identity, 3.2% ($n = 11$) American Indian or Alaska Native, 1.4% ($n = 5$) Asian or Asian American, 5.7% ($n = 20$) Black or African American, 4.9% ($n = 17$) Hispanic, Latinx, or Spanish origin, 0.3% ($n = 1$) Middle Eastern or North African, 0.3% ($n = 1$) multiethnic, 0.6% ($n = 2$) Native Hawaiian or Other Pacific Islander, 81.6% ($n = 284$) White or European American, 0.3% ($n = 1$) German, 0.3% ($n = 1$) Mexican American, and 1.4% ($n = 5$) preferred not to specify their ethnoracial identity.

Results: Confirmatory Factor Analysis

A CFA was conducted to address the second research question. The three-factor solution was tested (see Fig. 1). To assess the model fit, we applied the following criteria: The chi-square absolute fit index (*CMIN*), with a non-significant p value or a X^2/df ratio below 3.0; the comparative fit index (*CFI*), interpreted with values between 0.90 and 0.95 as acceptable and above 0.95 as strong; the standardized root-mean-square residual (*SRMR*), where values under 0.08 suggest an acceptable fit and those below 0.06 indicate a strong fit; and the root-mean-square error of approximation

Table 1 Exploratory factor analysis results: pattern matrix with an oblique rotation ($N = 439$)

Item content	Factor 1 Advocacy for student wellness	Factor 2 Advocacy for laws and policies	Factor 3 Confronting discrimination and bias
	Loadings		
14. I talk to educators about how trauma can impact students' classroom behavior	**.81**		
15. I talk to educators about how trauma can impact student learning	**.75**		
48. I let teachers know that school social workers can provide mental health services to kids	**.64**		
50. I tell administrators about the mental health training I have to support students	**.63**	.13	− .14
27. I tell educators the individual strengths of students	**.60**		
3. I talk to educators about the importance of creating a place in school where students feel safe	**.60**		
8. I talk to educators about the benefits of learning about childhood trauma	**.58**		
13. I meet with educators to provide awareness on the impacts of poverty on students	**.57**		
46. I notify students on how school social workers can support them	**.56**		
5. I meet with teachers to provide them with positive behavior support for students	**.56**		
31. I talk to administrators when I have an idea for a new resource (academic, social, mental health)	**.51**		
12. I spread awareness to teachers about different ways of learning	**.48**		
18. I create a plan, so students have equal access to academic, social, or community resources	**.46**		
42. I share suggestions to improve school policy on equality with the school board	− .12	**.80**	− .11
39. I talk to educators about anti-discrimination laws		**.78**	
21. I speak out at school board meetings about students not having equal access to academic resources	− .26	**.76**	
45. I check the Public Education Department website monthly for updates that impact academic support at my school		**.73**	
38. I educate teachers about anti-discrimination policies		**.71**	
35. I tell families about court decisions in my state that protect student rights		**.71**	
36. I stay informed about educational corrective action plans in my state		**.68**	
22. I encourage administrators to hire more teachers with diverse identities		**.67**	
34. I share survey data about school climate with administrators	.23	**.57**	− .10
33. I keep data for how many students are benefiting from having basic resources (food, clothing, hygiene products) available at my school	.10	**.52**	.12
43. I move up the chain of command in my school district if a student is being discriminated against		**.46**	.24
37. I talk about how school social workers are qualified as a related service provider under the Individuals with Disabilities Act	.27	.45	
19. I recognize when students do not have access to academic resources in schools			**.72**
20. I recognize when students with disabilities are treated differently than students without disabilities		− .12	**.72**
11. I confront people who harass students based on their color, race, or sexual orientation			**.71**
4. I recognize when students of color are unfairly put into lower-performing classes than their White peers		.25	**.58**
2. I speak up when one student is treated differently than other students	.19		**.57**
10. I speak out when a student is being disciplined differently than other students for the same behavior	.18	.14	**.53**
7. I speak up when others make assumptions about people based on how they look	.24		**.52**
44. I understand that students may not be able to stand up for themselves	.33	− .27	**.44**

Factor loadings over .40 appear in bold and mark the particular factor. Blank cells indicate factor loadings < 0.10

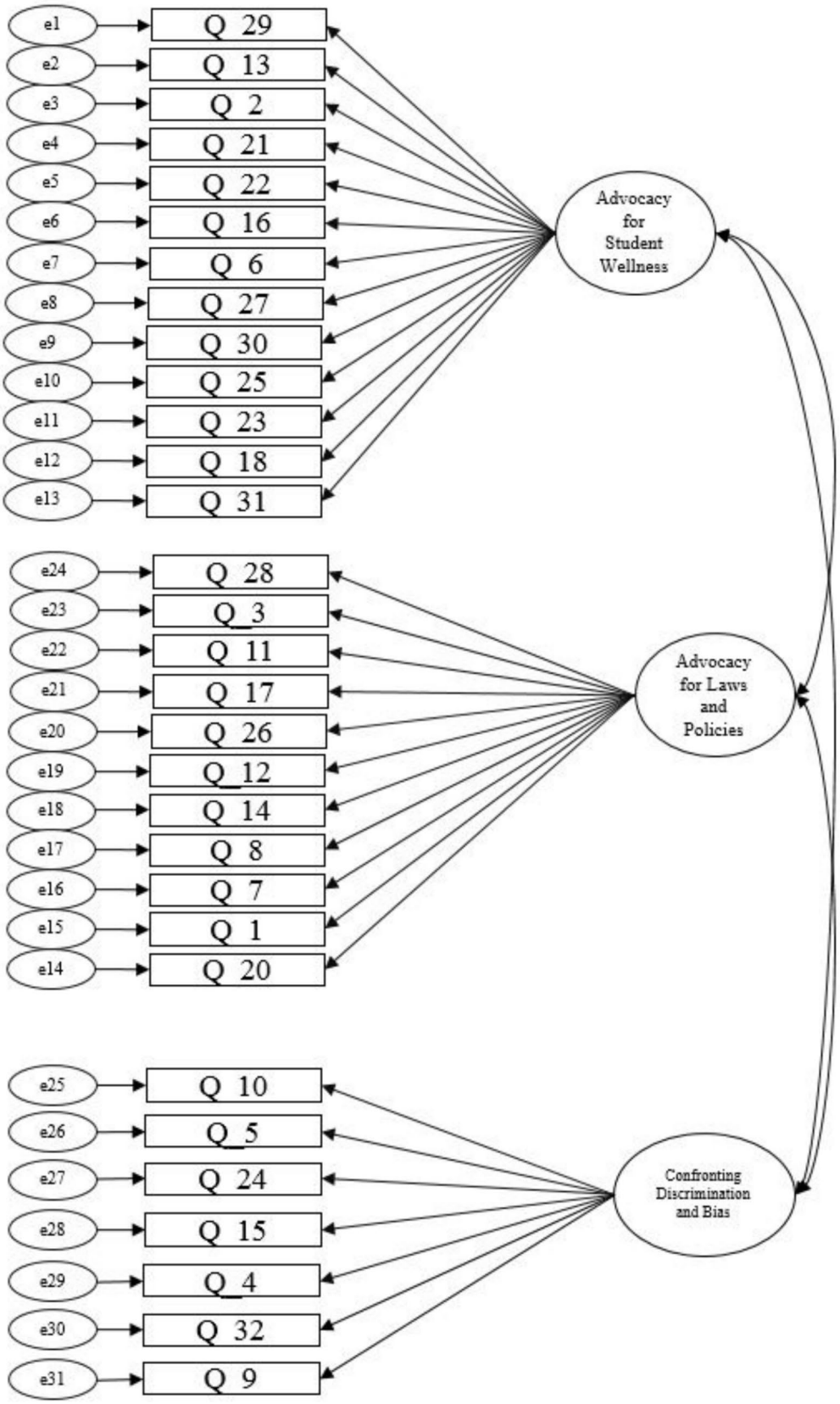

Fig. 1 Single-order CFA model: SBAAS

(*RMSEA*), also considered acceptable below 0.08 and strong below 0.06 (Dimitrov, 2012; Schreiber et al., 2006).

The SBAAS items were entered into a CFA with a maximum likelihood estimation method in IBM SPSS AMOS (version 29; see Fig. 1). The following fit statistics emerged: *CMIN*, $\chi 2(431) = 1156.11$, $p < .001$, $X^2/df = 2.68$, *CFI* = .843; *RMSEA* = .070, 90% CI (.065, .074); and *SRMR* = .079. With the exception of the *CFI*, all fit statistics supported a satisfactory model fit. In other words, the overall package of fit statistics (*CMIN*, *RMSEA*, and *SRMR*) supported internal structure validity of SBAAS scores. In addition, it was not necessarily surprising that the CFI showed poor model fit, which will be expanded on in the Discussion section. The SBAAS items were also entered into a bi-factor CFA (see Fig. 2) to test if the SBAAS scales can be estimated via a simultaneous general factor along with three single-order factors (i.e., if the three subscales can be used independently and/or holistically). The collective results of the bi-factor CFA supported acceptable fit: *CMIN*, $\chi 2(406) = 1011.66$, $p < .001$, $X^2/df = 2.49$, *CFI* = .87; *RMSEA* = .066, 90% CI (.061, .071); and *SRMR* = .07. The three SBAAS factors demonstrated acceptable-to-strong internal consistency reliability evidence of scores, including Factor 1: Advocacy for Student Wellness ($\alpha = .910$ [95% CI = .892, .923], $\omega = .908$, [95% CI = .893, .923]), Factor 2: Advocacy for Laws and Policies ($\alpha = .885$ [95% CI = .863, .901], $\omega = .886$, [95% CI = .864, .905]), and Factor 3: Confronting Discrimination and Bias ($\alpha = .701$ [95% CI = .650, .743], $\omega = .671$, [95% CI = .586, .727]).

Validity Evidence Based on Relations with Other Variables

The AERA (2014) and RUST (Lenz et al., 2022) recommend that test developers adopt a multifaceted strategy for establishing the validity of test scores. This strategy may involve assessing content validity, internal structure validity, and validity based on relationships with other variables. Convergent validity is a popular form of validity evidence based on relations with other variables. Convergent validity evidence of scores is demonstrated when there is a strong correlation between related constructs, indicating that they measure similar concepts.

Social Justice Attitudes Scale

In addition to the SBAAS items, participants in the CFA sample ($N = 348$) completed the Social Justice Scale (SJS) as a convergent validity measure. The SJS measures test takers' attitudes toward social justice, and the perceived ability to engage in social justice support, actions, and efforts (Torres-Harding et al., 2012). The SJS consists of 24 questions that comprise the four following subscales: (1) Social Justice Attitudes (SJA), (2) Social Justice Perceived Behavioral Control (SJPBC), (3) Social Justice Subjective (SJS), and (4) Social Justice Behavioral Intentions (SJBI). For the SJAS, the higher the respondent scores on all subscales the more likely they are to be aware of inequalities that exist in society and acknowledge systemic oppression of marginalized groups. Additionally, the SJAS can be linked to social justice related attitudes and behaviors.

Torres-Harding et al. (2012) used factor analysis to establish internal structure validity evidence of SJS scores. In addition, validity testing revealed convergent and discriminant validity evidence of SJS scores with several established measures. Torres-Harding et al. (2012) found acceptable-to-strong internal consistency reliability evidence of SJS scores, with Cronbach's coefficient alpha estimates ranging from .82 to .95. Tests of internal consistency revealed acceptable-to-strong reliability evidence of scores on the Social Justice Attitudes Scale among the SSWs in the present sample, including SJA ($\alpha = .929$ [95% CI = .916, .941], $\omega = .930$, [95% CI = .917, .940]), PBCJ ($\alpha = .858$ [95% CI = .831, .881], $\omega = .858$, [95% CI = .829, .882]), SNSJ ($\alpha = .821$ [95% CI = .787, .850], $\omega = .822$, [95% CI = .787, .851]), and IESJ ($\alpha = .864$ [95% CI = .838, .888], $\omega = .865$, [95% CI = .840, .887]).

Pearson Product Moment Correlations were computed between the SBAAS and Social Justice Attitudes Scale to test for convergent validity evidence of SBAAS scores (see Table 2). Convergent validity is evidenced when strong correlations (approximately $< +- .50$) emerge between scales (i.e., scores converge). The SBAAS was correlated with the SJS and a strong correlation emerged to support the SBAAS measuring a similar construct, engaging in social justice. All three subscales of the SBAAS were compared with the 4 subscales of the SJS for convergent validity. All scores showed a strong correlation between the subscales ($< +- .50$) except for the correlation between Confronting Discrimination and Bias and the Social Justice Perceived Behavioral Control Subscale ($r = .45$), which still shows a moderate-to-strong relationship between variables. Thus, the strong correlations between the SSWAA and the SJS depicted in Table 2 supported convergent validity evidence of SBAAS scores with an established measure (the SJS).

Discussion

The primary aim of the present study was to develop and initially validate scores on the SBAAS for measuring SSWs' utilization of advocacy skills on an ecological systems level (across the micro-, mezzo-, and macro-systems) in schools. CFA was employed both as a rigorous test of internal structure validity and to confirm the dimensions of a theoretical

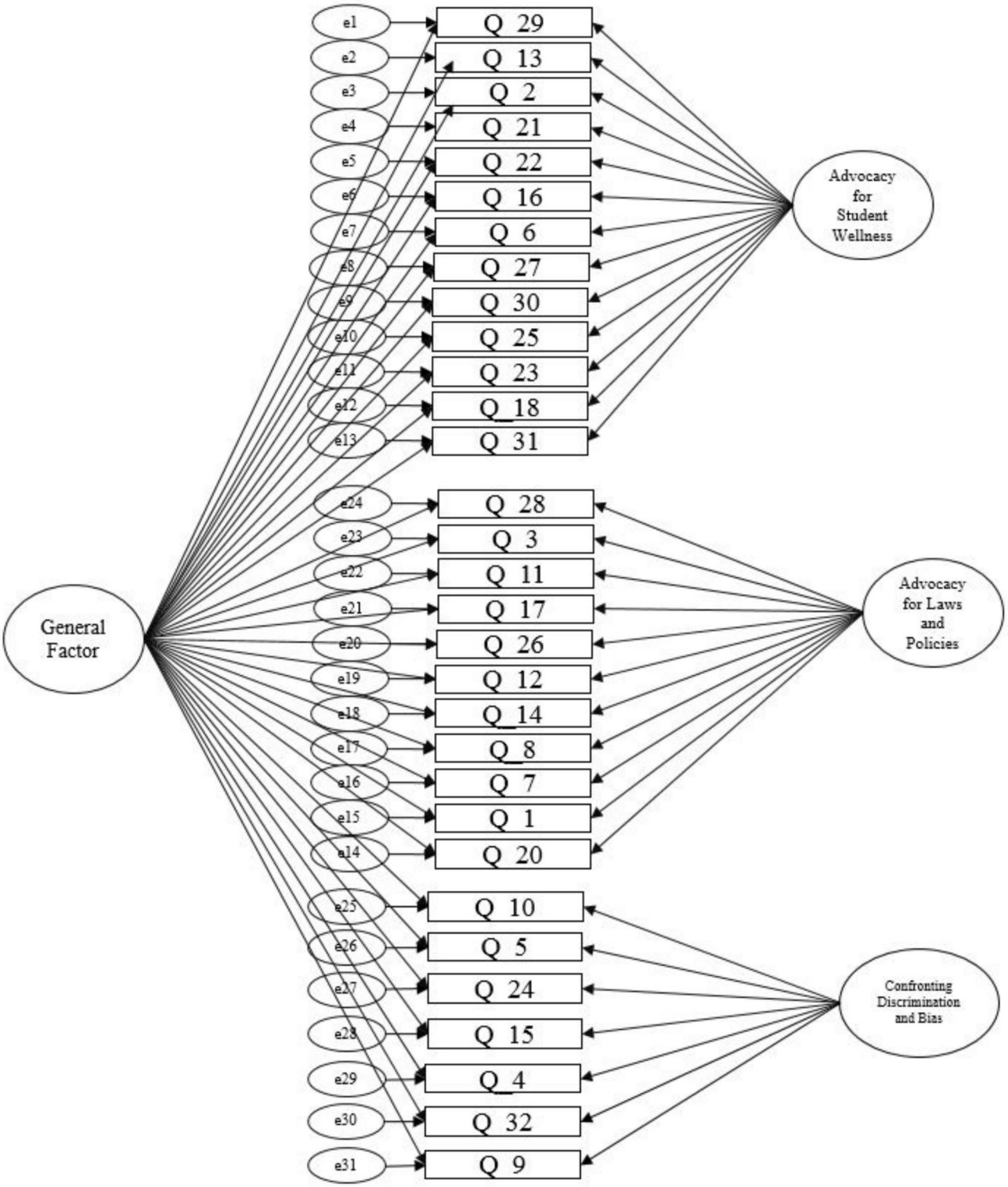

Fig. 2 Bi-factor CFA model: SBAAS

model. The EFA revealed and the single-order CFA confirmed a tridimensional model of SSWs' utilization of advocacy skills, confirming three SBAAS subscales: Advocacy for Student Wellness, Advocacy for Laws and Policies, and Confronting Discrimination and Bias. Building on these findings, the bi-factor CFA provided deeper insights

Table 2 School Social Work Advocacy Scale/Social Justice Scale (SBAAS/SJS): validity evidence based on relations with other variables

	Social justice: attitudes	Social justice: perceived behavioral control	Social justice: subjective norms	Social justice: behavioral interventions
Advocacy for student wellness	.75	.74	.68	.74
Advocacy for laws and policies	.52	.57	.65	.53
Confronting discrimination and bias	.62	.85	.45	.58

Coefficients represent Pearson Product Moment correlations (2-tailed). All correlations are statistically significant at the $p < .010$ level

by showing that the SBAAS's internal structure included dimensions that are both interconnected and distinct. This suggests that the SBAAS subscales can be used and scored either independently or as part of a total score.

In terms of the single-order CFA (see Fig. 1), the *SRMR*, *RMSEA*, and *CMIN* all supported an acceptable model fit based on the guidelines provided by Dimitrov (2012) and Schreiber et al. (2006). However, the *CFI* showed poor fit for the single-order CFA model (i.e., correlated factor model). The results of simulation studies (Rigdon, 1996) demonstrated that the *RMSEA* tends to be more appropriate than the *CFI* in confirmatory contexts and *CFI* was more appropriate in exploratory contexts. The purpose of the single-order CFA in the present study was to confirm the dimensionality of SBAAS scores. In addition, the degree of fit in CFA and structural equation models in general should be based on a combination of fit statistics (i.e., the collective package rather than any one single index; Dimitrov, 2012). To this end, the combined *SRMR*, *RMSEA*, and *CMIN* estimates demonstrated adequate support for the single-order CFA model.

For the bi-factor CFA (see Fig. 2), all fit statistics except for the *CFI* including the *SRMR*, *RMSEA*, and *CMIN* supported acceptable model fit. The sample size of the CFA data might have contributed to the lower fit statistics. The *CFI* can show a downward bias, potentially rejecting well-fitting models even when the true population *CFI* is high when the sample is < 500 (Shi et al., 2019). However, model fit in CFA should be interpreted holistically (based on the combined fit statistics). The *CMIN*, *RMSEA*, and *SRMR* estimates were all in the acceptable range. Accordingly, the bi-factor CFA results add to the practical utility of the SBAAS, as it revealed that the dimensionality of the SBAAS was comprised of both distinct and related dimensions. In other words, bi-factor CFA demonstrated that the SBAAS can be scored holistically as one advocacy scale as well as scored individually across the three different subscales.

Internal structure validity is a crucial consideration in instrument development and score validation studies, as results reveal how and in what ways test items group together to form latent factors. The standards of the AERA (2014) and (RUST-4E) encourage test developers to test for more than one form of validity evidence of scores. Validity based on associations with related variables (e.g., convergent validity) can add rigor to the results of internal structure validity by supporting the precision of meaning for the latent constructs. In the present study, we found strong convergent validity evidence of SBAAS scores with another established measure (SJS). With one exception ($r = .45$), all of the correlations between the SBAAS and SJS were in the strong range ($r > .50$; see Table 2). The SBAAS and SJS appraise similar constructs. Thus, the strong correlations between scales supported that scores converged.

The particularly strong correlations between the Advocacy for Student Wellness subscale of the SBAAS with the SJS scales were noteworthy in terms of convergent validity of scores (see Table 2). The content of the Advocacy for Student Wellness subscale of the SBAAS was more similar to the SJS than the two other SBAAS subscales, as all four scales measure specific advocacy efforts for supporting students. Accordingly, one would expect stronger correlations between these scales if SBAAS scores are valid.

Reliability evidence of scores is a crucial consideration in psychometric research, as test scores cannot be valid without being reliable. All three SBAAS scores exceeded the minimum thresholds for acceptable internal consistency reliability evidence of scores for lower stakes tests ($\alpha > .70$ [Tavakol & Dennick, 2011] and $\omega > .65$ [Nájera Catalán, 2019]). The Confronting Discrimination and Bias subscale showed lower reliability ($\alpha = .70$, $\omega = .67$) relative to other scales in the CFA sample. However, in the EFA sample, the reliability estimates for scores on The Confronting Discrimination and Bias subscale were stronger ($\alpha = .87$, $\omega = .86$). Internal consistency reliability estimates tend to be stronger in an initial score development sample (EFA), as those scores were used to derive the latent variables. While the SBAAS was not designed to be a higher-stakes test, the collective internal consistency reliability estimates of scores for the Advocacy for Student Wellness and Advocacy for Laws and Policies subscales were approaching or exceeding the following recommended thresholds for higher-stakes testing, $\alpha \geq .90$,

$\omega \geq .90$ (Kalkbrenner, 2024). The reliability estimates of scores for The Confronting Discrimination and Bias subscale met the thresholds for lower stakes tests. Users of the SBAAS should pay careful attention to the reliability estimates of scores on The Confronting Discrimination and Bias subscale before interpreting the results.

Implications for Advocacy Practice School-Based Mental Health Providers

SSWs play a vital role in schools, typically as the key liaison that interacts with students, families, administrators, and the community. As such, they are on the frontlines to observe barriers to student success and recognize the need for access to services and resources. Importantly, SSWs are trained to understand systemic oppression issues that require advocacy and attention (Daftry, 2020). Since SSWs typically work in host environments, meaning they practice in the complex and unique structures of schools that are already established; they may be the only social worker and feel a sense of isolation and lack of belonging (Knox et al., 2020), the SBAAS provides a tool that SSW can administer to understand advocacy-based strengths and challenges to facilitating change in their school.

SSW advocacy is broadly defined in the National School Social Work Professional Standards (National Association of Social Workers, 2025) and the SSWAA National Evaluation Framework for School Social Work Practice (Sabatino et al., 2013). As a result, the SBAAS was designed, in part, to assess how and in what ways SSWs undertake advocacy efforts in school wellness, laws and policies, and confront discrimination and bias on all systematic levels in schools. For instance, suppose an SSW scores higher on the Advocacy for School Wellness scale and scores lower on the Confronting Discrimination and Bias scale. These results might help them reflect on how they can spend more time educating teachers or administrators on childhood trauma or equal access to resources. Results might also provide opportunities for self-reflection and growth, especially if the SSW identifies an area of need for advocacy where they had previously been unaware.

Although the scale was sampled with SSWers, the scale could be broadened to use for all SBMHPs who are involved in advocacy, equity, and well-being in schools. While different SBMHPs may argue that each profession requires their own scale based on training, roles and responsibilities. Each SBMHP has a responsibility to equity and promoting well-being in schools for students, educational professions, schools, and in the broader community. As such, the scale can be used for those professionals who are committed to understanding their current advocacy efforts in promoting advocacy for student wellness, advocacy for laws and policies, and confronting discrimination and bias.

Once the SSW administers the SBAAS, they can use the results as one way to guide areas of need and make a plan to improve advocacy efforts. For instance, SBAAS might reveal that they do not collect data on the extent to which students are benefiting from having basic resources. These results can serve as a data point for advocating for such efforts. SSWs can identify steps that are outlined SWAPM to understand the problem, what outcome is needed, the target audience, identify the tactics, and evaluate efforts. SSWs can engage in several efforts including collecting data and communicating to stakeholders the needs of families and students in schools (Masset & Essex, 2022). Additionally, SBAAS might uncover key issues SSWs can advocate for in schools and to support students and their families (Ball, 2022; Bliss, 2015; Rogers et al., 2020). Finally, the broader use of the scale among SBMHPs may uncover key similarities, differences, and skills of SBMHPs that support and foster advocacy efforts.

Limitations and Future Research Directions

Readers are advised to consider the limitations of the present study when contemplating the implications of the results. Using a multifaceted approach to validity testing, we initially validated SSW's scores on the SBAAS through three tests of internal structure validity coupled with convergent validity. Future researchers can expand on this line of inquiry by testing for factorial invariance of SSW's SBAAS scores across extant grouping variables. For example, the meaning of advocacy efforts might vary between SSWs working with different groups of students (Ball & Skrzypek, 2020). Thus, future investigators might test the extent to which SSW's SBAAS scores are invariant (i.e., have the same meaning) between SSWs in elementary, middle, and high schools. Future investigators can also test the SBAAS for criterion validity evidence of scores. Criterion validity is a type of validity evidence based on associations with related variables that involves associations between test scores and a non-test criterion. For example, the authors of future studies might test the extent to which SSW's SBAAS scores predict SSW's involvement in advocacy efforts.

Response process validity involves how and in what ways test takers interpret the meaning of test items (AERA, 2014). Cognitive interviews are a common method for demonstrating response process validity. In the current study, cognitive interviews were not feasible due to time and resource constraints (Peterson et al., 2017). Accordingly, we recommended that future researchers conduct cognitive interviews as one way to evidence response process validity evidence for the SBAAS. Future researchers can develop an interview protocol to uncover deeper insights on how and in what ways test takers understand the meaning of test items. Cognitive interviews can be conducted before or after psychometric

analyses. EFA and CFA have utility for identifying poorly performing items; however, the statistical results do not yield information regarding why an item(s) performed poorly (Peterson et al., 2017). Cognitive interviews have utility for revealing more specific data on why particular items might be weak or strong.

The cross-sectional research design used in the present study did not allow us to test how and in what ways SBAAS scores might change over time. Accordingly, future longitudinal SBAAS studies are recommended. In addition, the majority of participants in the EFA and CFA samples self-identified as White and/or female. While this is consistent with the national demographic profile of SSWs (Bureau of Labor Statistics, 2024), the findings of this study might not generalize to SSWs with ethnoracial or gender identities beyond White and/or female. To this end, future researchers should test the psychometric properties of the SBAAS with more diverse samples of SSWs. This can be achieved by partnering with Minority Serving Institutions that have school social work programs and contacts and collaborating with state and national minority social work professional organizations to improve sampling diversity.

The results of the present study suggest that the dimensionality of SBAAS was satisfactorily estimated with two independent samples of SSWs. Further, convergent validity testing supported validity evidence based on associated variables for SSW's SBAAS scores. Future research is needed; however, at this stage of development, SSW's and their constituents can use the SBAAS as one way to measure utilization of advocacy skills on an ecological systems level.

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