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Faculty and Resident Physician Knowledge, Skills and Comfort Related to Mental Health Competencies for Pediatric Practice

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Abstract

Objectives: This study assessed pediatric faculty and resident baseline knowledge, skills, and comfort for the mental health competencies outlined by the American Academy of Pediatrics (AAP).

Methods: Pediatric faculty and residents at a single institution completed surveys regarding knowledge, skills, and comfort with the four domains of the AAP Mental Health Competencies: 1. Promotion and Primary Prevention (Prevention), 2. Secondary Prevention, 3. Assessment, and 4. Treatment. Independent t-test or Mann-Whitney U test assessed difference between faculty and resident responses.

Results: Forty faculty (response rate: 79% paid faculty; 17% volunteer faculty) and 24 residents (response rate: 71%) responded. Most faculty had practiced more than 10 years (69%) and reported the highest composite score for Prevention. Residents scored highest for Assessment. Treatment was the lowest reported competency for both groups. Significant differences between faculty and residents were observed for only two subcompetencies (n=2/30), one each within the domains of Prevention and Assessment. In terms of training, compared to faculty, residents reported receiving didactic (26 vs 19; p=0.014), direct patient (26 vs 17; p=0.004), and simulation training (15 vs 8; p=0.011) on significantly more of the subcompetencies measured.

Conclusions: Findings show a lack of significant differences between faculty and resident competency in the provision of pediatric mental health care. To meet the needs of the pediatric population in mental and behavioral health, residency programs must equip trainees with a solid foundation in all aspects of mental health care. This research exposes educational gaps for both residents and faculty that should be addressed.

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Background

The number of children and adolescents (youth) diagnosed with psychiatric disorders has risen over the past decade [1] yet the number of Child and Adolescent Psychiatrists (CAPs) and other youth Mental Health Professionals (MHPs) has not kept pace [2]. It can take years from symptom onset for a youth to receive an actual diagnosis [3]. Once diagnosed, accessing treatment can also be challenging. A metanalysis involving 40 studies and over 300,000 youth found only 38% with psychiatric disorders received treatment [4]. Since at least half of psychiatric illnesses are diagnosed during childhood and adolescence, accessible mental health care is crucial and more youth MHPs are urgently needed [5].

The shortage of youth MHPs is particularly felt in rural states since rural youth are more likely to struggle with psychiatric illness, less likely to receive treatment, and more likely to die by suicide [9,10]. As of September 2022, Kansas' behavioral health system met only 26% of needs [6], and ranked last in overall mental health in the country [7]. This is unsurprising given that Kansas has fewer than 100 CAPs and needs at least 400 to care for youth most severely impacted by psychiatric illnesses [8]. Relocating CAPs to rural communities may help with care access but would not solve the overall shortage of these highly trained specialists. Furthermore, it takes many years to train CAPs [11] and the need for care is immediate.

Primary Care Physicians (PCPs) are increasingly called upon to screen, diagnose, and treat psychiatric illnesses [12-16], but data shows they often lack comfort, knowledge, and resources to manage psychiatric illness [15-18]. A national cross-sectional study reported more than 85% of practices had difficulty obtaining evidence-based support for pediatric behavioral health [19]. In a Kansas-specific study, PCPs indicated needs in psychopharmacotherapy, diagnostic evaluation, psychotherapy, and other resources when caring for youth with psychiatric concerns. This study also noted that PCPs were not only managing straightforward psychiatric illnesses but also identifying and managing complex cases [20]. For youth in rural states, like Kansas, to receive adequate and necessary mental health care, PCPs must act.

Historically, pediatric primary care training has included little on psychiatry [21] however, the tide is turning with increasing calls to action and proposed competencies in mental health care. The University of Kansas School of Medicine-Wichita (KUSM-W) Pediatric Residency Program, Kansas' only pediatric residency, recognized the need for enhanced training to ensure future PCPs can support youth with psychiatric illnesses. The 2009 American Academy of Pediatrics policy statement on "Mental Health Competencies for Pediatric Practice" outlines four key areas: (1) Promotion and Primary Prevention, (2) Secondary Prevention, (3) Assessment and (4) Treatment. KUSM-W utilized this framework to develop and enhance education infrastructure to better prepare residents in psychiatric care [22]. The purpose of this study was to assess baseline knowledge, skills, and comfort of pediatrics residents and faculty regarding these competencies [13] to develop curriculum enhancements.

Abbreviations: CAPs: Child and Adolescent Psychiatrists; MHPs: Mental Health Professionals; PCPs: Primary Care Physicians; KUSM-W: The University of Kansas School of Medicine-Wichita; REDCap: Research Electronic Data Capture.

Methods

Research design and participants

This prospective observational cohort study included current KUSM-W pediatric residents, internal medicine/pediatric (Med/Peds) residents, and faculty. Paid faculty were the priority for this study, but volunteer faculty were also invited to respond. Exclusion criteria included non-clinical faculty (e.g., research faculty), and those who completed less than 50% of the survey.

Instrument

The research team developed survey questions based on the Mental Health Competencies for Pediatric Practice [13] addressing competencies in four domain areas: *Promotion and Primary Prevention* (n=2), *Secondary Prevention* (n=1), *Assessment* (n=8) and *Treatment* (n=19). For each individual competency and diagnosis within these domains, Likert-type questions assessed knowledge, skill and comfort (10-point scale), trainings received (e.g., didactic, patient-based; 5-point scale) and satisfaction with trainings (4-point scale). Open-ended questions regarding additional desired trainings to address competencies were included. Faculty demographic questions included employment status, years in practice, primary practice location, degree, gender, race, and ethnicity. Residents were asked limited demographic questions to preserve anonymity due to the small sample size and included program type (pediatrics, med/peds), post-graduate year and whether they had worked in or had exposure to mental health care prior to residency. The survey tool was reviewed by an expert panel for readability, face validity and fidelity to the Mental Health Competencies for Pediatric Practice [13]. Program data obtained from KUSM-W residency administration included: degree, gender, race, ethnicity, age.

Procedures

The KUSM-W Department of Pediatrics hosted a luncheon to explain the research study and invite participation. At the luncheon start, faculty and residents received an email invitation from the Department Chair containing a personalized survey link and principal investigator contact information. Participants completed surveys during or following the luncheon. Non-respondents received two follow-up emails at one-week intervals. Estimated survey completion time was 20 to 30 minutes; those who completed received a $25 incentive. Data were collected and managed using Research Electronic Data Capture (REDCap) a secure, web-based data capture application hosted at the University of Kansas Medical Center [23,24].

Demographic data were summarized using descriptive statistics (e.g., central tendency and frequencies). Means and standard deviations (or medians and interquartile ranges) are reported. For each competency domain a composite score was created based on the average for knowledge, comfort, and skill scores. Total scores within the domain were also computed using the average combined scores of knowledges, comfort and skill. Comparisons between faculty and resident responses were assessed using independent t-test or the Mann-Whitney U test depending on normality of the data. Statistical significance was defined as $p<0.05$ and 95% confidence intervals (CI) were reported. Statistical analyses were performed using SPSS for Windows, version 29.0 (IBM, Corp., Armonk, NY).

Results

Paid faculty, the priority faculty group, had a response rate of 79% (n=27/34. In addition, 13 volunteer faculty (n=13/75) responded, for a total of 40 faculty responses. Most respondents were female (n=28; 70%) and non-Hispanic white (n=26; 67%). Respondents reported primary practice location as hospital (n=21; 53%), ambulatory clinic (n=13, 33%) and specialty clinic (n=6; 15%). Respondents had been in practice >20 years (n=14; 36%), 11-15 years (n=10; 26%), and <6 years (n=8; 21%) (see Table 1).

Resident respondents (n=24/34; 71%), included categorical pediatric residents (n=15/19; 79%) and Med/Peds residents (n=9/15; 60%) (Table 1). Most respondents were early in training (1st or 2nd year; n=18; 75%) and reported no prior mental health care experience or exposure (n=15; 63%).

Competencies: Regarding mental health competencies, faculty reported the highest composite score for *Promotion and Primary Prevention* (m=6.6; SD=1.6), followed by *Assessment* (m=6.0; SD=1.7), *Secondary Prevention* (m=5.7; SD=2.3), and *Treatment* (m=4.7; SD=1.9) (Table 2). Similarly, residents reported the highest composite score for *Assessment* (m=6.0; SD=1.6), then *Promotion and Primary Prevention* (m=5.8; SD=1.4), *Secondary Prevention* (m=5.6; SD=1.7), and *Treatment* (m=4.7; SD=1.7). Faculty scores were significantly higher than resident scores for *Promotion and Primary Prevention* composite score (p=0.032; CI: 0.17-1.67). Within this domain faculty reported significantly higher knowledge (6.8 vs. 6.0; p=0.026; CI: 0.00-1.50) and comfort (6.6 vs 5.8; p=0.033; CI: 0.00-1.50) than residents. Skill did not cross significance (6.4 vs 5.6; p=0.050; CI: 0.00-1.50).

For individual competencies, average scores for all competencies fell in the moderate range with faculty scores from 3.6 to 6.9 and residents scores from 3.8 to 6.8 (see Appendix A). Faculty reported higher average knowledge (6.8 vs 5.5; p=0.002; CI: 1.00-2.00), comfort (6.6 vs 5.3; p=0.004; CI: 0.00-2.00) and skill (6.3 vs 5.0; p=0.011; CI: 0.00-2.00) than residents regarding ability to "Promote healthy emotional development by providing anticipatory guidance on healthy lifestyle and stress management." Faculty also reported higher levels of knowledge (6.8 vs 5.8; p=0.026; CI: 0.00-2.00) and comfort (6.5 vs 5.5; p=0.046; CI: 0.00-2.00) regarding ability to "Recognize mental health emergencies such as severe functional impairment".

Training exposure: Residents reported receiving didactic (26 vs 19; p=0.014; CI: -12.00-0.00), direct patient (26 vs 17; p=0.004; CI: -15.00-1.00), and simulation training (15 vs 8; p=0.011; -14.00-0.00) on significantly more of the 30 competencies than faculty (Table 3). Two faculty reported they had received no training of any type on any of the competencies.

Table 3: Average number of competencies in which training was received by training type.

Training	Total N=64	Faculty n=40 (63%)	Residents n=24 (37%)	p-value --	95% Confidence Intervals --
Didactics	21.6 (9.8)	19.0 (10.3)	25.8 (7.4)	0.014*	-12.00 - 0.00
Direct Patient Care	20.2 (10.7)	16.9 (11.5)	25.8 (6.0)	0.004*	-15.00 - 1.00
Simulation/Case Study	10.9 (12.4)	8.3 (11.8)	15.2 (12.4)	0.011*	-14.00 - 0.00
Independent Learning	14.2 (12.3)	15.3 (12.2)	12.4 (12.6)	0.399	-2.00 - 8.00
Other	5.0 (9.5)	3.6 (8.4)	7.5 (10.9)	0.070	-2.00 - 0.00

Reported as mean (standard deviation). Note: 30 total competencies were assessed. *Mann-Whitney U p-value <0.05.

Table 1: Demographics.

Faculty Demographics (n=40)*	n (%)	Resident Demographics (n=24)	n (%)
Faculty Status		Residency program	
Paid	27 (68)	Pediatrics	15 (63)
Volunteer	13 (33)	Med/Peds	9 (37)
Years in Practice		Highest year of residency completed	
<6	8 (21)	0 (entering year 1)	6 (25)
6-10	4 (10)	1	6 (25)
11-15	10 (26)	2	5 (21)
16-20	3 (8)	3	5 (21)
>20	14 (36)	4	2 (8)
Primary practice location		Mental health care work/ exposure prior to residency	
Hospital	21 (53)	No	15 (63)
Ambulatory clinic	13 (33)	Yes	9 (37)
Specialty clinic	6 (15)		
Degree			
MD	34 (94)		
DO	2 (6)		
Gender			
Female	28 (70)		
Male	12 (30)		
Race			
White	31 (79)		
Asian	4 (10)		
Multi-racial	2 (5)		
American Indian/Alaska Native	1 (3)		
Other	1 (3)		

*Faculty missing data: years in practice (n=1); degree (n=4); race (n=1).

Table 2: Average composite self-report scores for knowledge, comfort and skill regarding pediatric mental health competencies.

Competency	Total N=64	Faculty n=40 (63%)	Residents n=24 (37%)	p-value --	95% Confidence Intervals --
Promotion and Primary Prevention					
Knowledge	6.5 (1.5)	6.8 (1.6)	6.0 (1.3)	0.026*	0.00 - 1.50
Comfort	6.3 (1.7)	6.6 (1.7)	5.8 (1.5)	0.033*	0.00 - 1.50
Skill	6.1 (1.7)	6.4 (1.6)	5.6 (1.6)	0.050	0.00 - 1.50
Total	6.3 (1.6)	6.6 (1.6)	5.8 (1.4)	0.032*	0.17- 1.67
Secondary Prevention					
Knowledge	5.8 (2.1)	5.7 (2.4)	5.8 (1.6)	0.988	-1.00 - 1.00
Comfort	5.6 (2.2)	5.7 (2.4)	5.5 (1.8)	0.665	-1.00 - 1.00
Skill	5.5 (2.2)	5.6 (2.4)	5.4 (1.9)	0.862	-1.00 - 1.00
Total	5.6 (2.1)	5.7 (2.3)	5.6 (1.7)	0.802	-1.00 - 1.00
Assessment					
Knowledge	6.3 (1.6)	6.3 (1.7)	6.2 (1.4)	0.574	-0.63 - 1.00
Comfort	5.9 (1.7)	5.9 (1.8)	5.9 (1.7)	0.879	-0.75 - 1.00
Skill	5.8 (1.7)	5.8 (1.8)	5.8 (1.7)	0.917	-0.88 - 0.88
Total	6.0 (1.7)	6.0 (1.7)	6.0 (1.6)	0.750	-0.75 - 0.96
Treatment					
Knowledge	5.0 (1.8)	5.0 (2.0)	5.0 (1.5)	0.967	-0.90 - 1.05
Comfort	4.6 (1.8)	4.6 (1.9)	4.6 (1.6)	0.787	-1.16 - 0.90
Skill	4.6 (1.8)	4.5 (1.9)	4.6 (1.7)	0.814	-1.16 - 0.95
Total	4.7 (1.8)	4.7 (1.9)	4.7 (1.7)	0.857	-1.02 - 0.95

Reported as mean (standard deviation).
*Mann-Whitney U p-value <0.05.

Discussion

Results indicate similar levels of reported knowledge, skills, and comfort between faculty and residents across most mental and behavioral health domains. While existing literature has highlighted the overall deficit of PCPs in mental health care provision, to our knowledge, no studies have directly compared faculty knowledge, skills, and comfort with those of the residents they are responsible for teaching. Given that faculty responding to this survey have completed pediatric residency training and more than half had over 10 years of professional experience, expected results would have shown higher knowledge, skills, and comfort as compared to trainees. It is both unexpected and concerning that faculty charged with educating residents on this topic differ little from the residents in their reports. And while self-report of knowledge, skills, and comfort may not translate to actual ability, it is still worth noting that the current findings highlight a deficiency in both faculty and resident proficiency. Two exceptions withstand where faculty indicated significantly higher knowledge and comfort than residents: 1) *Promotion of healthy emotional development through anticipatory guidance* and 2) *Recognizing mental health emergencies*. Skill was also significantly higher for faculty in *Promotion of healthy emotional development through anticipatory guidance*.

Many of the competencies assessed in this study fall within the historical scope of practice for a PCP. This was reflected in the high composite scores on competencies of *Promotion and Primary Prevention* and *Assessment*. *Secondary Prevention* and *Treatment* received lower scores, with the overall composite score for *Treatment* being the lowest score for both residents and faculty.

The finding that faculty feel ill-equipped to treat mental illness in pediatric care is not unexpected. Historically, pediatricians have identified and referred psychiatric cases rather than managing them [25]. With the increasing demand for psychiatric care and the growing responsibilities of PCPs, faculty are now expected to evaluate and manage mental health conditions and to train future pediatricians to do the same. This may indicate that pediatricians both in practice and in training need more support as their management of pediatric mental illness increases.

The workforce shortage of proficient MHPs will not be quickly corrected as the time required to achieve board eligibility in PCP specialties is at least seven years and for CAP specialists it is nine to ten years [11]. In the meantime, faculty physicians need support through continuing education and access to resources to help build competency in mental health care and related resident teaching. The lack of difference between faculty and residents' results speaks to this need. Especially concerning was faculty reporting no direct patient care training. The faculty represented in this survey were mostly mid-career level and had achieved board certification in pediatrics, suggesting a deficiency in formal foundational training in mental and behavioral health not a lack of educational attainment. Additionally, while generalizability is usually limited by a single-site study, faculty responding to the survey represent over a dozen training programs, all with different curriculums in mental health. Therefore, findings reflecting faculty competencies should not be disregarded due to the single-site nature of this study.

These survey results should be generalizable to other institutions given the multiple training sites at which responding faculty trained and consistency with existing literature that shows pediatricians feel ill-prepared to care for youth with mental illnesses [15-18]. While results from the resident survey are limited in generalizability, it is concerning that there was lack of significant difference in several competencies between faculty and residents. These results are especially relevant as pediatric residency programs design mental health curriculums to follow new ACGME pediatric residency requirements slated to begin in July 2025, which mandate a four-week mental health rotation for all pediatric residents. This information should be used to inform not only residency curricula, but also continuing education trainings for pediatric faculty members. For our institution, results have informed our future actions, identifying gaps in faculty and resident knowledge in all domains of mental and behavioral health care for pediatric patients. These findings prompted us to increase collaborative efforts with CAP colleagues to develop immersive training that utilized multi-modal teaching methods, including simulated patients. This training was offered to all faculty and residents and focused on the assessment and treatment of psychiatric disorders including anxiety, depression, attention deficit/hyperactivity. Additionally, increased offerings of didactics addressing all domains of pediatric mental and behavioral health care are being provided for resident education and faculty development. Future research will assess the impact of these trainings of faculty and resident pediatricians.

Limitations

While limited to a single institution in a rural state, study findings reflect broader trends regarding the paucity of mental health training in pediatric residency programs. In addition, all data was self-reported and recall bias may have impacted results, especially in terms of training experience. Despite these limitations, the findings provide a better understanding of training needs regarding mental and behavioral health competencies for pediatric practice. Further research is needed to determine if the current findings reflect the broader population of pediatric residents and/or faculty.

Conclusion

In conclusion, this study provides useful information regarding the educational gaps that exist for both pediatric residents and faculty physicians in a single academic institution in a rural state facing a striking lack of access to pediatric mental health care. Addressing these gaps in pediatric graduate medical education and the larger environment of academic pediatrics will enhance the overall health care available across Kansas and beyond by providing high quality mental health care within patients' primary medical homes.

Author declarations

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Appendix A

Table A: Average self-report scores for knowledge, comfort and skill regarding pediatric mental health competencies.

Competency	Total n=64	Faculty n=40 (63%)	Residents n=24 (37%)	p-value --	95% Confidence Intervals --
1a. Promote healthy emotional development by providing anticipatory guidance on healthy lifestyles and stress management					
Knowledge	6.3 (1.6)	6.8 (1.6)	5.5 (1.4)	0.002*	1.00 - 2.00
Comfort	6.1 (1.8)	6.6 (1.8)	5.3 (1.5)	0.004*	0.00 - 2.00
Skill	5.8 (1.8)	6.3 (1.7)	5.0 (1.7)	0.011*	0.00 - 2.00
1b. Routinely gather an age-appropriate psychosocial history, applying appropriate tools to assist with data gathering					
Knowledge	6.6 (1.7)	6.7 (1.8)	6.4 (1.6)	0.262	0.00 – 1.00
Comfort	6.5 (1.9)	6.7 (1.9)	6.3 (1.8)	0.266	0.00 - 2.00
Skill	6.4 (1.9)	6.6 (1.9)	6.1 (1.9)	0.237	0.00 – 1.00
2a. Identify and evaluate risk factors to healthy emotional development and emerging symptoms that could cause impairment or suggest future mental health problems, applying appropriate tools to assist with screening and refer to community resources when appropriate (ie, parenting programs)					
Knowledge	5.8 (2.1)	5.7 (2.4)	5.8 (1.6)	0.988	-1.00 – 1.00
Comfort	5.6 (2.2)	5.7 (2.4)	5.5 (1.9)	0.665	-1.00 – 1.00
Skill	5.5 (2.2)	5.6 (2.4)	5.4 (1.9)	0.862	-1.00 – 1.00
3a.1. Recognize mental health emergencies such as suicide risk					
Knowledge	6.8 (1.8)	6.9 (1.9)	6.6 (1.8)	0.506	-1.00 – 1.00
Comfort	6.3 (2.0)	6.4 (2.1)	6.1 (1.9)	0.475	-1.00 – 1.00
Skill	6.3 (2.0)	6.5 (2.0)	6.1 (2.0)	0.491	-1.00 – 1.00
3a.2. Recognize mental health emergencies such as severe functional impairment					
Knowledge	6.4 (2.0)	6.8 (1.9)	5.8 (1.9)	0.026*	0.00 - 2.00
Comfort	6.2 (2.1)	6.5 (2.0)	5.5 (2.3)	0.046*	0.00 - 2.00
Skill	6.1 (2.1)	5.3 (2.0)	5.6 (2.2)	0.168	0.00 - 2.00
3a.3. Recognize mental health emergencies such as complex mental health symptoms that require urgent mental health specialty care					
Knowledge	6.4 (1.9)	6.6 (1.9)	6.0 (1.8)	0.192	0.00 - 2.00
Comfort	5.9 (2.0)	6.1 (2.1)	5.5 (2.0)	0.247	0.00 - 2.00
Skill	5.9 (2.0)	6.0 (2.0)	5.8 (1.9)	0.606	-1.00 – 1.00
3b. Analyze and interpret results from mental health screening, history, physical examination, and observations to determine what brief interventions may be useful and whether a full diagnostic assessment is needed					
Knowledge	6.0 (2.0)	5.9 (2.2)	6.0 (1.6)	0.876	-1.00 – 1.00
Comfort	5.6 (2.0)	5.5 (2.1)	5.7 (1.7)	0.698	-1.00 – 1.00
Skill	5.5 (2.0)	5.5 (2.2)	5.6 (1.8)	0.784	-1.00 – 1.00
3c.1. Diagnose school-aged children and adolescents with ADHD					
Knowledge	6.2 (2.3)	6.2 (2.6)	6.2 (1.5)	0.492	-1.00 – 1.00
Comfort	6.0 (2.4)	6.1 (2.7)	6.0 (1.8)	0.590	-1.00 – 1.00
Skill	5.9 (2.4)	6.0 (2.7)	5.8 (1.8)	0.615	-1.00 – 1.00
3c.2. Diagnose school-aged children and adolescents with common anxiety disorders (separation anxiety disorder, social phobia, generalized anxiety disorder)					
Knowledge	6.0 (2.0)	6.0 (2.1)	6.1 (1.8)	0.773	-1.00 – 1.00
Comfort	5.8 (2.1)	5.7 (2.2)	5.9 (1.9)	0.683	-1.00 – 1.00
Skill	5.7 (2.1)	5.7 (2.2)	5.7 (1.9)	0.988	-1.00 – 1.00
3c.3. Diagnose school-aged children and adolescents with depression					
Knowledge	6.7 (1.7)	6.5 (1.8)	6.8 (1.6)	0.560	-1.00 – 1.00
Comfort	6.3 (2.0)	6.2 (2.0)	6.4 (1.9)	0.604	-1.00 – 1.00
Skill	6.2 (2.0)	6.1 (2.0)	6.4 (2.0)	0.491	-1.00 – 1.00
3c.4. Diagnose school-aged children and adolescents with substance use					
Knowledge	5.8 (2.2)	5.7 (2.2)	5.9 (2.1)	0.869	-1.00 – 1.00
Comfort	5.4 (2.4)	5.3 (2.3)	5.6 (2.5)	0.626	-2.00 – 1.00
Skill	5.4 (2.3)	5.3 (2.2)	5.5 (2.4)	0.661	-2.00 – 1.00
4a. Apply fundamental (common factors, motivational interviewing) communications skills to engage youth and families and overcome barriers to their help seeking for identified social and mental health problems					
Knowledge	5.6 (2.1)	5.7 (2.2)	5.4 (1.9)	0.533	-1.00 – 1.00
Comfort	5.3 (2.1)	5.4 (2.2)	5.0 (2.1)	0.433	-1.00 – 2.00
Skill	5.2 (2.2)	5.3 (2.2)	5.0 (2.1)	0.551	-1.00 – 1.00
4b.1. Apply common-factors skills and common elements of evidence-based psychosocial treatments to initiate the care of children and youth with medical and developmental conditions who manifest comorbid mental health symptoms					
Knowledge	4.6 (2.2)	4.4 (2.3)	5.0 (1.8)	0.340	-2.00 – 1.00
Comfort	4.2 (2.2)	4.0 (2.2)	4.5 (2.1)	0.276	-2.00 – 1.00

Skill	4.2 (2.2)	4.0 (2.2)	4.6 (2.1)	0.266	-2.00 – 0.00
4b.2. Apply common-factors skills and common elements of evidence-based psychosocial treatments to initiate the care of depressed mothers and their children					
Knowledge	5.1 (2.3)	5.0 (2.5)	5.3 (1.8)	0.624	-2.00 – 1.00
Comfort	4.8 (2.4)	4.6 (2.5)	5.0 (2.1)	0.494	-2.00 – 1.00
Skill	4.6 (2.3)	4.5 (2.4)	4.8 (2.1)	0.489	-2.00 – 1.00
4b.3. Apply common-factors skills and common elements of evidence-based psychosocial treatments to initiate the care of infants and young children manifesting difficulties with communication and/or attachment or other signs and symptoms of emotional distress (e.g., problematic sleep, eating behaviors)					
Knowledge	5.1 (2.4)	5.2 (2.6)	5.0 (2.0)	0.811	-1.00 – 1.00
Comfort	4.8 (2.3)	4.9 (2.5)	4.6 (2.1)	0.850	-1.00 – 1.00
Skill	4.7 (2.3)	4.8 (2.4)	4.5 (2.1)	0.705	-1.00 – 1.00
4b.4a. Apply common-factors skills and common elements of evidence-based psychosocial treatments to initiate the care of children and adolescents presenting with anxious or avoidant behaviors					
Knowledge	4.9 (2.1)	4.9 (2.3)	4.8 (1.8)	0.784	-1.00 – 1.00
Comfort	4.4 (2.1)	4.4 (2.2)	4.5 (1.9)	0.694	-1.00 – 1.00
Skill	4.5 (2.1)	4.4 (2.2)	4.5 (1.9)	0.938	-1.00 – 1.00
4b.4b. Apply common-factors skills and common elements of evidence-based psychosocial treatments to initiate the care of children and adolescents presenting with exposure to trauma or loss					
Knowledge	4.6 (2.0)	4.7 (2.2)	4.3 (1.8)	0.579	-1.00 – 1.00
Comfort	4.2 (2.1)	4.3 (2.3)	3.9 (2.0)	0.528	-1.00 – 1.00
Skill	4.2 (2.1)	4.3 (2.2)	4.0 (1.9)	0.731	-1.00 – 1.00
4b.4c. Apply common-factors skills and common elements of evidence-based psychosocial treatments to initiate the care of children and adolescents presenting with impulsivity and inattention, with or without hyperactivity					
Knowledge	5.5 (2.4)	5.3 (2.7)	5.7 (2.0)	0.525	-2.00 – 1.00
Comfort	5.1 (2.4)	5.0 (2.6)	5.3 (2.1)	0.525	-2.00 – 1.00
Skill	5.0 (2.5)	4.9 (2.7)	5.3 (2.2)	0.402	-2.00 – 1.00
4b.4d. Apply common-factors skills and common elements of evidence-based psychosocial treatments to initiate the care of children and adolescents presenting with low mood or withdrawn behaviors					
Knowledge	4.9 (1.9)	4.7 (2.1)	5.2 (1.5)	0.361	-1.00 – 1.000
Comfort	4.6 (1.9)	4.3 (2.2)	5.0 (1.5)	0.177	-2.00 – 1.000
Skill	4.4 (2.0)	4.3 (2.1)	4.8 (1.6)	0.303	-2.00 – 1.000
4b.4e. Apply common-factors skills and common elements of evidence-based psychosocial treatments to initiate the care of children and adolescents presenting with disruptive or aggressive behaviors					
Knowledge	4.3 (2.0)	4.2 (2.2)	4.4 (1.7)	0.575	-1.00 – 1.00
Comfort	4.0 (2.1)	3.7 (2.2)	4.0 (1.9)	0.424	-2.00 – 1.00
Skill	4.0 (2.0)	3.7 (2.2)	4.1 (1.8)	0.277	-2.00 – 1.00
4b.4f. Apply common-factors skills and common elements of evidence-based psychosocial treatments to initiate the care of children and adolescents presenting with substance use					
Knowledge	4.3 (2.1)	4.2 (2.1)	4.7 (1.9)	0.265	-2.00 – 0.00
Comfort	4.0 (2.1)	3.6 (2.2)	4.2 (1.9)	0.242	-2.00 – 0.00
Skill	4.0 (2.1)	3.7 (2.2)	4.3 (1.9)	0.215	-2.00 – 0.00
4b.4g. Apply common-factors skills and common elements of evidence-based psychosocial treatments to initiate the care of children and adolescents presenting with learning difficulties					
Knowledge	4.9 (2.4)	5.0 (2.7)	4.9 (1.8)	0.983	-1.00 – 1.00
Comfort	4.7 (2.4)	4.8 (2.6)	4.6 (2.0)	0.911	-1.00 – 1.00
Skill	4.6 (2.4)	4.6 (2.6)	4.5 (2.1)	0.920	-1.00 – 1.00
4c. When a higher level of care is needed for symptoms listed above, integrate patient and/or family strengths, needs, and preferences, the clinician's own skills, and available resources into development of a care plan for children and adolescents with mental health problem(s), alone, with the practice care team, or in collaboration with mental health specialists					
Knowledge	5.0 (2.3)	5.1 (2.5)	4.8 (1.8)	0.552	-1.00 – 2.00
Comfort	4.5 (2.2)	4.5 (2.5)	4.4 (1.8)	0.978	-1.00 – 1.00
Skill	4.4 (2.3)	4.5 (2.4)	4.3 (2.0)	0.774	-1.00 – 1.00
4d. Demonstrate proficiency in selecting, prescribing, and monitoring (for response and adverse effects) ADHD medications and selective serotonin reuptake inhibitors that have a safety and efficacy profile appropriate to use in pediatric care					
Knowledge	5.2 (2.4)	5.1 (2.6)	5.3 (2.1)	0.881	-1.00 – 1.00
Comfort	4.7 (2.4)	4.5 (2.6)	4.9 (2.2)	0.511	-2.00 – 1.00
Skill	4.6 (2.4)	4.4 (2.6)	4.9 (2.2)	0.474	-2.00 – 1.00
4e. Develop a contingency or crisis plan for a child or adolescent					
Knowledge	4.7 (2.3)	5.0 (2.5)	4.3 (2.1)	0.224	-1.00 – 2.00
Comfort	4.2 (2.3)	4.4 (2.5)	3.8 (2.1)	0.385	-1.00 – 2.00

Skill	4.3 (2.3)	4.6 (2.4)	3.8 (2.1)	0.254	-1.00 – 2.00
4f. Develop a safety plan with patients and parents for children and adolescents who are suicidal and/or depressed					
Knowledge	5.2 (2.3)	5.5 (2.3)	4.7 (2.3)	0.243	-1.00 – 2.00
Comfort	4.6 (2.3)	4.9 (2.4)	4.3 (2.3)	0.374	-1.00 – 2.00
Skill	4.7 (2.3)	4.9 (2.3)	4.3 (2.4)	0.304	-1.00 – 2.00
4g. Apply strategies to actively monitor adverse and positive effects of nonpharmacologic and pharmacologic therapy					
Knowledge	5.1 (2.3)	4.9 (2.6)	5.3 (1.8)	0.566	-2.00 – 1.00
Comfort	4.7 (2.2)	4.4 (2.4)	5.0 (1.8)	0.358	-2.00 – 1.00
Skill	4.7 (2.2)	4.5 (2.4)	4.9 (2.0)	0.561	-2.00 – 1.00
4h. Facilitate a family's and patient's engagement with and transfer of trust (i.e., "warm handoff") to a mental health professional					
Knowledge	5.0 (2.6)	4.9 (2.6)	5.0 (2.5)	0.892	-1.00 – 1.00
Comfort	4.7 (2.6)	4.7 (2.7)	4.7 (2.4)	0.869	-2.00 – 2.00
Skill	4.7 (2.5)	4.7 (2.6)	4.5 (2.4)	0.721	-1.00 – 2.00
4i. Demonstrate an accurate understanding of privacy regulations					
Knowledge	6.1 (2.2)	6.4 (2.3)	5.5 (2.0)	0.066	0.00 – 2.00
Comfort	5.8 (2.3)	6.1 (2.5)	5.4 (2.0)	0.230	0.00 – 2.00
Skill	5.8 (2.2)	6.1 (2.3)	5.3 (2.2)	0.160	0.00 – 2.00
4j. Refer, collaborate, comanage, and participate as a team member in coordinating mental health care with specialists and in transitioning adolescents with mental health needs to adult primary care and mental health specialty providers					
Knowledge	4.8 (2.4)	4.7 (2.5)	5.1 (2.3)	0.538	-2.00 – 1.00
Comfort	4.5 (2.4)	4.3 (2.4)	4.9 (2.6)	0.287	-2.00 – 1.00
Skill	4.5 (2.4)	4.3 (2.4)	4.7 (2.4)	0.484	-2.00 – 1.00