

**This Thesis, “Development, Implementation, and Assessment of a Brief Behavioral Interventions Curriculum for Pediatric Residents: A Pilot to Promote Positive Parenting,” presented by Kelly Wills, and Submitted to the Faculty of The Harvard Medical School in Partial Fulfillment of the Requirements for the Master of Medical Sciences in Medical Education has been read and approved by:**



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Development, Implementation, and Assessment of a Brief Behavioral Interventions Curriculum:  
A Pilot to Promote Positive Parenting

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A Thesis Submitted to the Faculty of

The Harvard Medical School

in Partial Fulfillment of the Requirements

for the Degree of Master of Medical Sciences in Medical Education

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Development, Implementation, and Assessment of a Brief Behavioral Interventions Curriculum:  
A Pilot to Promote Positive Parenting

Abstract

**Background:** All pediatric trainees must know how to address common childhood behavior problems (BP). Previous educational interventions demonstrated improved knowledge and self-efficacy as well as decreased problem behaviors in children, but were limited by implementation barriers. We developed and implemented an online spaced education curriculum for the assessment and management of common BP in children.

**Aims:** Our aims were to determine if the curriculum is associated with (1) improved confidence in assessment and management of common BP; (2) increased knowledge acquisition, and (3) self-reported behavior change.

**Methods:** We delivered the pilot curriculum to first year pediatric residents in a large tertiary care program during a required 12-week longitudinal rotation with development, adolescent, and advocacy experiences. During the initial workshop, residents were introduced to the AAP's "Brief Behavioral Interventions" materials and were enrolled in a team-based individualized adaptive "spaced education" game. To assess knowledge, an expert working group identified 20 validated questions mapped to learning objectives from ABP board content specifications and AAP behavioral mental health competencies. Residents completed surveys before and after the intervention, as well as semi-structured interviews.

**Results:** 11 pediatric interns participated in the pilot intervention. Confidence was initially low across all behavioral health competencies with the exception of eliciting parent/patient concerns about BP. Confidence in managing all targeted BP addressed as well as recommending evidence based behavioral management strategies significantly improved. There were statistically significant improvements in self-reported behavioral assessment practices including inquiring about hearing/vision concerns, sleep quality, child's temperament traits, parent-infant attachment patterns, situational/environmental changes, and parental mental health issues. 100% of participants were satisfied with the quality of the overall curriculum content, amount of time required, and quality of provided resources. Many noted the curriculum motivated them to learn about behavioral/ mental health problems and filled a curricular gap. Key instructional design features highlighted by residents included gamification, social learning, retrieval practice, immediate feedback, flexibility and mobile accessibility, and inclusion of parent education materials and resources for use in clinical practice.

**Conclusions:** An online self-directed adaptive learning curriculum can be an effective, time-efficient, and well-received instructional method to teach behavioral health competencies to pediatric residents.



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## Introduction

The American Board of Pediatrics recently published “A Call to Action” to improve education during pediatric residency training to better address a growing “Behavioral and Mental Health Crisis”.<sup>1</sup> Approximately 30% of problems encountered in a primary pediatric practice are related to development or behavior and an average of 8 out of 10 children with mental health disorders do not receive mental health care.<sup>2-4</sup> Pediatric primary care providers have been called upon by the American Academy of Pediatrics and the American Academy of Child and Adolescent Psychiatry as being essential in the effort to improve early identification of mental health issues and to prevent treatment delays by initiating brief interventions in practice.<sup>5-7</sup> However, graduating pediatricians frequently cite behavior and mental health competencies as an area in which they do not feel adequately prepared for clinical practice, with 65% of recently surveyed primary care and subspecialty pediatricians reporting inadequate training in behavioral-mental health problems.<sup>8-11</sup> Although the AAP has established core mental health competencies for pediatric residents, barriers such as restrictive duty hour changes, competing clinical and regulatory demands, lack of faculty comfort for role modeling, and inconsistent access to specialists have limited improvements in behavioral-mental health training during residency.<sup>12-16</sup>

Teaching a core set of knowledge and skills for common emotional and behavioral problems has been proposed as an ACGME requirement to provide more effective training for pediatric primary care providers than traditional focus on diagnosis-centered treatment alone.<sup>17-18</sup>

Currently, the Accreditation Council of Graduate Medical Education requires one month of developmental-behavioral pediatrics and formal training in common behavior problems is inconsistently emphasized.<sup>19</sup> Previous parenting educational interventions with pediatric residents have demonstrated that providing education through a standardized training program can result in improved knowledge, satisfaction, and behaviors during routine well child care as well as decreased problem behaviors in children, but have been limited by resource constraints including time and costs.<sup>20</sup> Given these constraints, there is a need for innovative instructional methods that are grounded in evidence based learning theory and are effective, efficient, and engaging to motivate resident participation.

With increasing resource constraints, traditional knowledge acquisition is being shifted outside of the “classroom” with more focus on individualized, adult-centered learning and utilization of technological advances. Although self-directed learning is encouraged during residency training to foster lifelong learning skills, there is substantial variation in residents’ abilities to identify learning gaps and engage in effective learning processes. “Shared guidance” has been proposed as an instructional model to find balance between educational activities that are fully externally guided by teachers and unregulated self-directed learning.<sup>21</sup> One possible solution to the behavioral-mental health training gap using shared guidance is an individualized adaptive “spaced education” game, which is an evidence-based online educational tool based on the cognitive psychology learning principles of retrieval practice and spaced repetition learning. The tool offers shared learning guidance through provision of clear learning objectives, evidence based resources, informed self-assessment, and effective learning methods.<sup>22-24</sup> Adaptive spaced education has been demonstrated to be efficient and effective in numerous studies, predominantly amongst urology residents and more recently primary care pediatricians, and results in improved knowledge acquisition of core content, high levels of satisfaction and

engagement, and behavior change.<sup>25-29</sup> To our knowledge, there have not been any studies evaluating the use of online adaptive spaced education with pediatric residents to teach core behavioral-mental health competencies.

The goal of this project was to develop an online adaptive learning curriculum for common behavioral problems in children, nested within a required longitudinal developmental behavioral medicine rotation for pediatric residents. The Master Adaptive Learner model served as the framework for the intervention, which is a conceptual model influenced by self-determination learning theory and practice based learning improvement to guide the simultaneous development of self-regulated learning skills through four stages including planning, learning, assessing, and adjusting.<sup>30</sup>

## **Methods**

A mixed methods explanatory sequential design was utilized for this pilot study. The study was approved by the Boston Children's Hospital Office of Clinical Investigation.

### *Study Setting:*

The study was conducted in a large academic tertiary care pediatric residency program during a twelve-week longitudinal rotation that includes developmental behavioral pediatrics, adolescent medicine, and advocacy experiences. The rotation is a required rotation for all first year pediatric residents.

### *Participants*

Prior to curriculum introduction, surveys were electronically distributed to 46 graduating pediatric interns who received the traditional developmental behavioral curriculum in July 2017 at the end of the 2016-2017 academic year to serve as the historical control group. Eligible subjects for the pilot intervention group included all pediatric interns participating in the first Keystone block during the 2017-2018 academic year (n=11). All residents were required to participate in the curriculum but study participation was optional. Residents were chosen based upon the timing of their twelve-week required longitudinal Keystone rotation. The PI introduced the project to eligible residents during rotation orientation. Eligible residents were provided with written consent forms and invited to enroll. Incentives were offered for completion of surveys and interviews (Figure 1).

**Figure 1: Participants Flow through Curriculum**

Cluster (HC Group) July 2016- June 2017	Post-Survey (HC Group) June 2017	Cluster (Intervention Group)		Period 1 (July-Sep 2017)		Period 2 (Oct-Dec 2017)		Period 3 (Jan-Mar 2018)		Period 4 (April-June 2018)		Retention Follow-Up Test (June 2018)
Q1 (n=11)	N=42	Q1 (n=11)	Q1 Pretest	*	Q1 Posttest							Post-Test
Q2 (n=12)		Q2 (n=12)			Q2 Pretest	*	Q2 Posttest					Post-Test
Q3 (n=12)		Q3 (n=11)						Q3 Pretest	*	Q3 Posttest		Post-Test
Q4 (n=11)		Q4 (n=12)								Q4 Pretest	*	Q4 Posttest

*Intervention: Master Adaptive Learning Curriculum*

Kern’s six steps of curriculum design were utilized in the initial planning stages of the pilot curriculum. The Master Adaptive Learner model served as the framework for the curricular intervention, which is a conceptual model influenced by self-determination learning theory and practice based learning improvement to guide the simultaneous development of self-regulated learning skills through four stages including planning, learning, assessing, and adjusting.<sup>30</sup> Although self-directed learning is encouraged during residency training to foster lifelong learning skills, there is substantial variation in residents’ abilities to identify learning gaps and engage in effective learning processes.

1. Brief Behavioral Interventions Workshop (*Planning*):

An initial one-hour workshop was designed, utilizing publically available AAP “Brief Behavioral Interventions” educational materials. During the workshop, residents were introduced to the specific curricular goals and objectives and educational materials. Background statistics, role play, and patient stories were used to enhance perceived importance and outcome expectations. Residents were divided into teams of 3-4 participants each in order to enhance the social learning aspect of gamification.

2. Q-Stream Longitudinal Curriculum (*Learning and Assessing*):

An individualized adaptive “spaced education” game was utilized for the learning and assessing stages. Q-stream is an evidence-based online educational software program that is based on the cognitive psychology learning principles of retrieval practice and spaced repetition learning, and offers shared learning guidance through provision of clear learning objectives, evidence based resources, informed self-assessment, and effective learning methods.<sup>22-24</sup> This platform enables formative assessment through the use of immediate feedback and anonymous peer performance comparisons with the use of a leaderboard and gamification elements. Principles of mastery learning are incorporated by requiring spaced repetition of questions based upon initial accuracy with the goal of “retiring” all 20 questions after answering them correctly on two consecutive occasions.<sup>25-29</sup> In order to augment opportunities for self-directed learning, supplementary materials were provided for each question in addition to traditional text-based answer explanations, including links to pertinent patient education materials, evidence based resources,

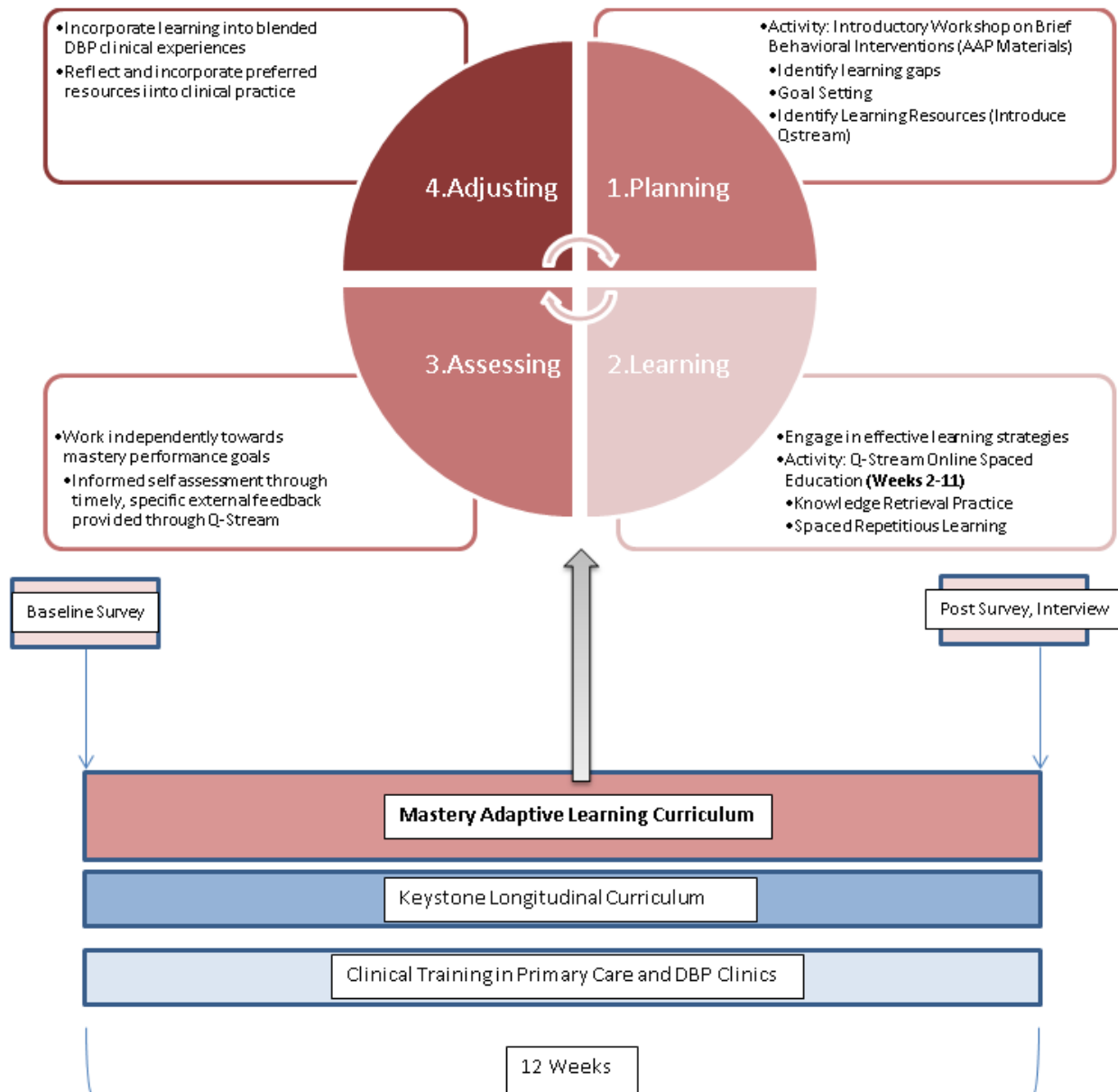
custom infographics and animated videos when applicable, and publically accessible videos such as “super nanny” discipline demonstrations.

A curricular blueprint was designed to map board preparatory multiple choice questions to ABP board content specifications and AAP behavioral mental health competencies relating to assessing and managing common behavioral and emotional problems. Permission for use of previously validated board prep questions was granted by the AAP. The most pertinent objectives and matched questions were then narrowed down by an expert working group to a final selection of twenty questions.

### 3. Clinical Experiences (*Adjusting:*)

During the final adjusting phase, participants had the opportunity to apply newly acquired knowledge and approaches as well as to utilize provided resources during applicable clinical experiences. By situating the curriculum in a previously established longitudinal developmental behavioral rotation, participants were able to iteratively apply their learning into clinical practice routines and to adjust their approaches as needed.

**Figure 2: Master Adaptive Learning Brief Behavioral Interventions Curriculum, adapted from Master Adaptive Learner Model<sup>10</sup>**



*Measures:*

The Primary outcome measure was resident physician confidence in the assessment and management of common behavior problems in young children. Secondary outcome measures included knowledge acquisition, self-reported practice behaviors, resident satisfaction with the curriculum, and engagement with self-directed learning.

An electronic survey was developed that utilized Likert scale responses to assess confidence in assessment and management of common behavior problems, self-reported adherence to recommended practice behaviors, and demographic information. A 10 point Likert scale was used to assess confidence, where 0 represented no confidence and 10 represented being very

confident. Previously published self-efficacy scales partially informed the survey design. Identical questions were asked prior to and following the intervention in order to assess interval change. Prior to implementation, survey validity was assessed using cognitive interviewing and pilot tested using a similar population of resident physicians who were not included in the final sample. Surveys were distributed electronically utilizing Qualtrics software.

Qualitative data was collected through individual semi-structured interviews that were conducted following the curricular intervention. An interview guide was developed and adapted through expert consensus. Following participation in the Brief Behavioral Interventions curriculum, pilot group subjects were invited to participate in individualized semi-structured interviews. An independent interviewer with training in conducting qualitative interviews and without involvement in the study performed the interviews over a 2-week period in September 2017.

#### *Data Analysis:*

Given that the sample distributions were non-normal, all statistical comparisons between pre- and post-surveys for the pilot intervention group were made using the signed rank test for matched samples. Statistical comparisons between the post survey for the pilot intervention group and post survey for the historical cohort after receiving the traditional curriculum were made using the Wilcoxon rank sum test for independent samples.

Quantitative survey data guided the thematic frame for qualitative analysis. We used a modified grounded theory approach, referred to as “Coding Consensus, Co-occurrence, and Comparison,” in which analyses are derived both from extant literature (a priori) and the data (emergent) and then illustrated by characteristic examples.<sup>31,32</sup> One investigator (KW) independently read all 11 interviews to first identify emergent themes. Responses generally fell into one or more of four interrelated domains – perceptions of curriculum content, reactions to various elements of content delivery, examples of behavior change through clinical application, and learner specific factors affecting participation and engagement.

Codes were created based on this conceptual framework. A final set of code definitions were then discussed and delineated by an interdisciplinary team of investigators, including a general pediatrician (KW), adolescent medicine physician (HG), and developmental behavioral pediatrician (LL). Two team members (KW, HG) then read through and coded each of the 11 interviews independently before reconciling any differences and applying a final thematic code. Throughout this process, we employed intensive group discussion as our goal was consensual agreement rather than employment of quantitative measures of inter-rater agreement.<sup>31,32</sup> Dominant themes are summarized in the main text, with direct quotations chosen to represent heterogeneity of perspectives presented in the tables.

## **Results**

Of the 46 graduating interns surveyed representing the historical control group, 42 responded yielding a 91% response rate. For the pilot study, of the 11 interns who received the intervention, 11 responded to both pre and post surveys yielding a 100% response rate. The historical control and pilot intervention groups were similarly distributed in terms of age, gender, previous behavioral/mental health training, parenting experience, and outpatient primary care career interests (Table 1).

**Table 1: Demographics**

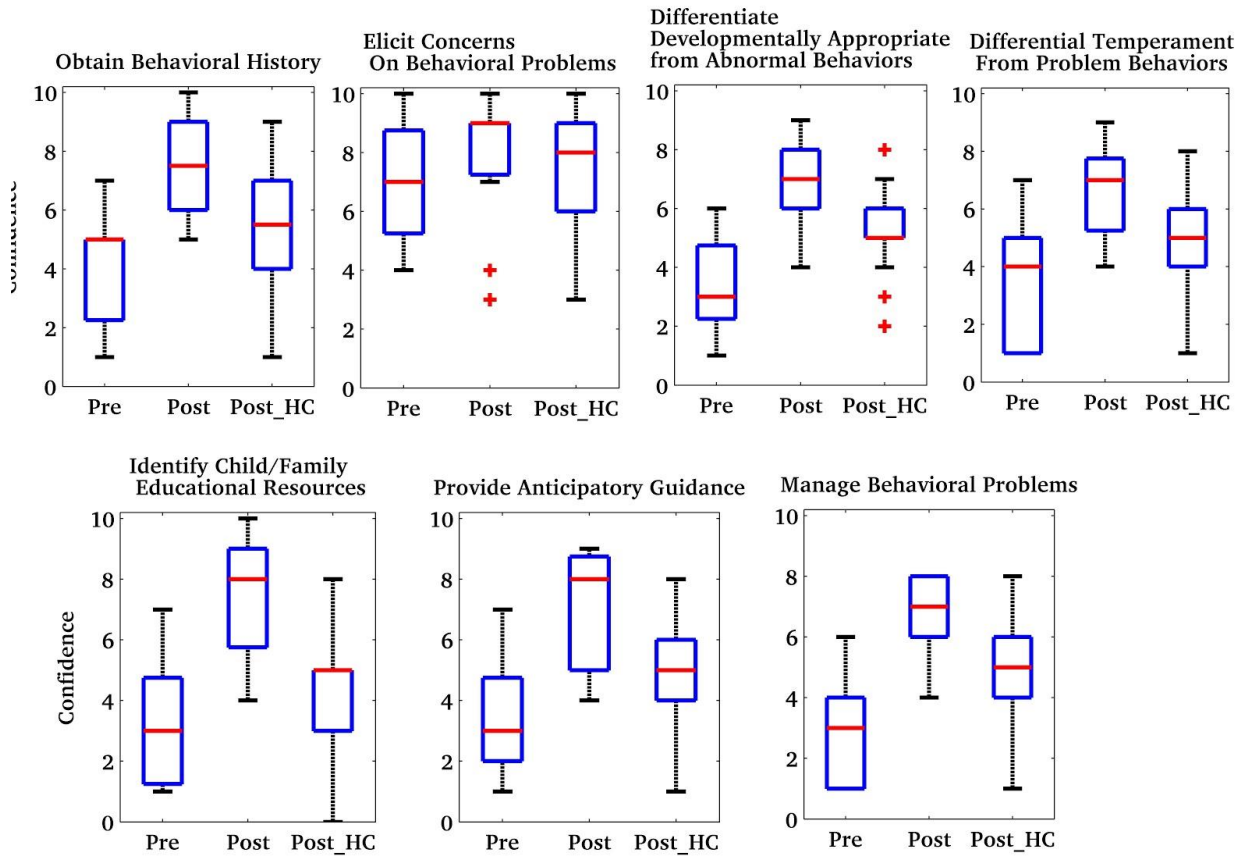
Category	Measure	Pilot (n=11)	Control (n=42)
<b>Gender</b>	% Female	73	74
<b>Age</b>	Median, IQR	28 [27.5-30.5]	29 [27-31]
<b>Previous Behavioral/ Mental Health Training</b>	% prior exposure or training in development, psychology, or behavioral-mental health	54	40
<b>Parent</b>	% self-report	0	12
<b>Outpatient Specialty</b>	% self reported plans after residency	18	17

*Confidence in Behavioral Health Competencies:*

Confidence was initially low across all behavioral health competencies in the assessment and management of common behavior problems with the exception of eliciting parent/patient concerns about behavioral problems, for which there was a mean confidence of 8.0 (6.0, 9.0) in the historical control group (HC) and 7.0 (6.0, 8.0) in the pre intervention group (IG).

Confidence significantly improved in the remaining behavioral health competencies, both from pre to post in the IG ( $p < 0.01$ ). There were also significant differences in confidence in the post IG group compared to the HC group ( $p < 0.01$ ) (Figure 3 and Appendix A).

**Figure 3: Confidence in Behavioral Health Competencies**

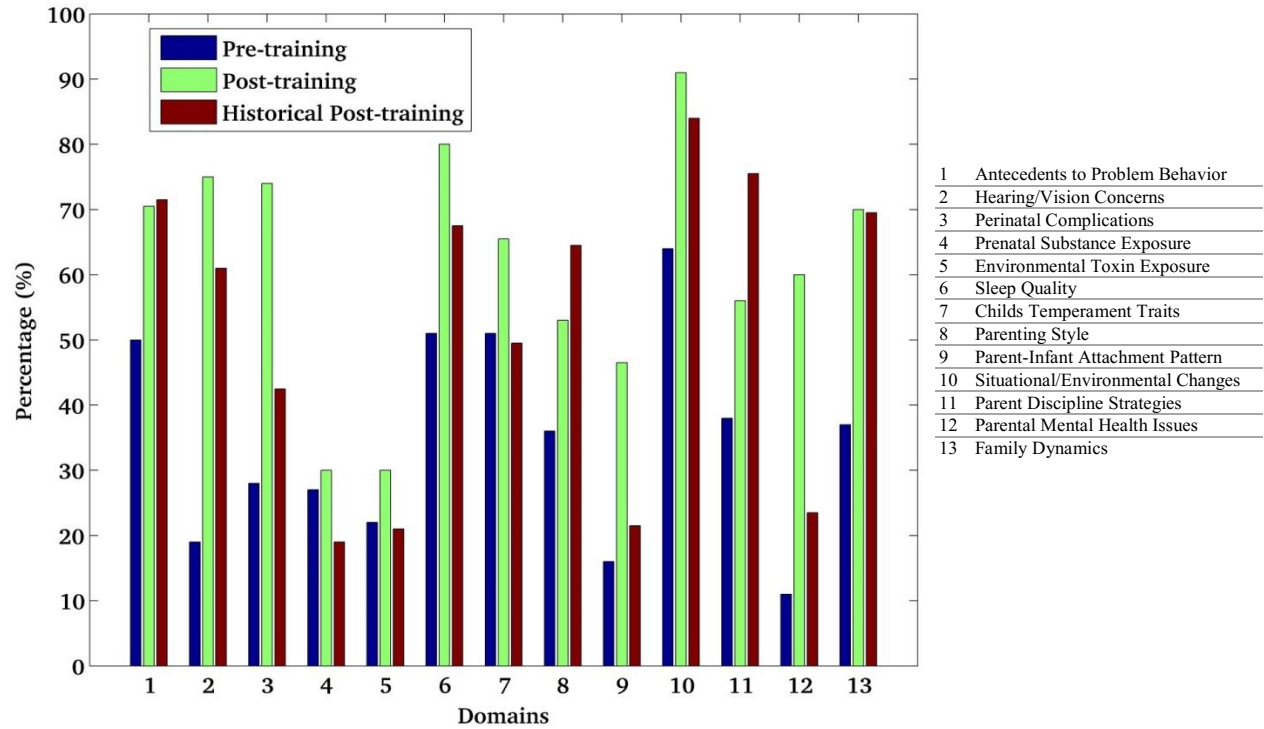


*Self-Reported Practice Patterns in Assessment of Common Behavior Problems*

Less than half of graduating interns in the HC group reported inquiring about important components including perinatal complications (42%), prenatal substance exposure (19%), environmental toxin exposure (21%), child’s temperament traits (49.5%), parent-infant attachment pattern (21%), or parental mental health issues (23%) while assessing behavioral concerns in clinical practice. The most commonly reported components of behavioral assessments in both the pre IG and HC group were inquiring about antecedents to the problem behavior (50% and 71.5% respectively), sleep quality (51% and 67.5%), and situational/environmental changes (64% and 84%). There were statistically significant improvements following the intervention in assessing hearing/vision concerns ( $p=0.02$ ), sleep quality ( $p=0.01$ ), child’s temperament traits ( $p=0.01$ ), situational/environmental changes ( $p=0.01$ ), and parental mental health issues ( $p<0.01$ ). Following curricular participation, the IG interns more commonly reported inquiring about perinatal complications ( $p<0.01$ ), parent-infant attachment pattern ( $p<0.01$ ), and parental mental health issues ( $p<0.01$ ) as compared to the HC group (Figure 4 and Appendix B).



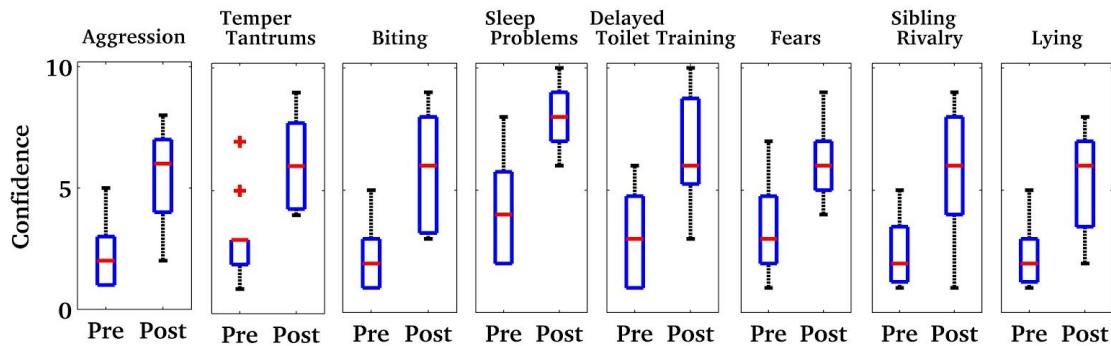
**Figure 4: Self-Reported Practice Patterns in Assessment of Common Behavior Problems**



*Confidence in Management of Common Behavior Problems*

Confidence was overall low in the HC group with the majority of respondents less than somewhat confident in managing common behaviors, with the highest confidence reported in managing temper tantrums (6.0 [5.0,7.0]) and sleep problems (6.0 [5.0,8.0]). Initial confidence in managing behavior problems was very low in the pre IG, with the highest reported confidence in sleep problems (4.0 [2.0,5.8]) and the lowest confidence in managing aggression (2.0 [1.0,3.0]), biting (2.0 [1.0,3.0]), sibling rivalry (2.0 [ 1.3, 3.5]), lying (2.0 [1.3, 3.0]), and a child with difficult temperament (2.0 [1.0, 3.0]). Confidence significantly improved following the intervention in managing all of the targeted common behavior problems addressed ( $p < 0.01$  across all domains). Perceived confidence in the post IG was significantly higher than the HC group in managing aggression, biting, sleep problems, fears, sibling rivalry, and lying ( $p < 0.01$ ) despite the pre IG being at an earlier stage of training (Figure 5 and Appendix C).

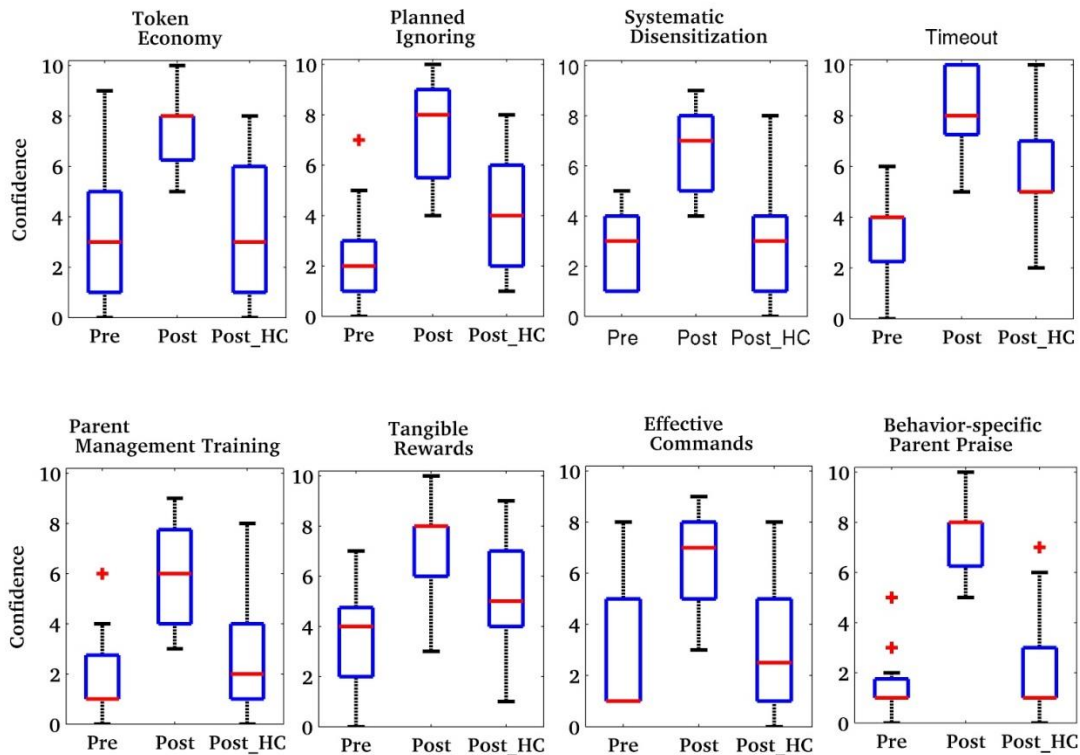
**Figure 5: Confidence in Management of Common Behavior Problems**



*Confidence in Recommending Evidence-Based Behavioral Management Strategies*

Respondents did not feel confident in the use of evidence based behavioral management strategies in the HC or in the pre IG. In both the HC and pre IG, confidence was highest in the use of time-out (5.0 [5.0,7.0] in HC group and 4.0 [2.3,4.0] in pre IG) and tangible rewards (5.0 [4.0,7.0] in HC group and 4.0 [2.0,4.8] in pre IG). Confidence significantly improved in all evidence based behavioral management strategies following the intervention ( $p < 0.01$ ) and was significantly higher in all strategies in the post IG as compared to the HC group ( $p < 0.01$ ) (Figure 6 and Appendix D).

**Figure 6: Confidence in Recommending Evidence-Based Behavioral Management Strategies**



### *Knowledge Acquisition*

Knowledge around common behavior problems as measured by percentage correct of multiple choice questions in the Qstream curriculum improved from a baseline score of 75% to 91% in the intervention group. Knowledge questions were not assessed in the historical control group. 100% of the participants remained “very active” throughout the curriculum and completed all required questions.

### *Satisfaction:*

100% of participants were either satisfied or very satisfied with the quality of the overall curriculum content, amount of time required to participate, quality of the provided resources, usefulness of the information presented, and curriculum as a motivational experience for learning about behavioral/ mental health problems.

### **Learner Perspectives**

100 % of the 11 IG interns participated in the semi-structured interviews following curriculum completion. Content analysis of interview responses revealed fourteen sub-themes related to participants’ perceptions towards the curriculum and behavioral health topics in general. Appendix E illustrates these themes and subthemes with illustrative quotations that were most representative.

Three sub-themes were related to curricular content, specifically pertaining to common childhood behavioral problems: *awareness of knowledge gaps, training deficits, and perceived content importance.*

### *Awareness of Knowledge Gaps:*

Participants reported low confidence overall in approaching behavioral problems in practice and were aware of associated knowledge gaps. There was a common sentiment of “*feel(ing) like I should know this*”. At times, this motivated participants to want to learn more but prior to curricular participation many others felt that “*this is my least favorite part of pediatrics*”, commonly attributed to discomfort with their knowledge gaps.

### *Training Deficits:*

When asked about their satisfaction with previous training in behavioral mental health, most participants reported very little emphasis on these topics, particularly around behavior problems related to normal development or the promotion of positive parenting.

### *Perceived Content Importance:*

Most participants reported a heightened sense of perceived content importance following curricular participation. Although many felt that behavioral concerns were prevalent in practice and important to parents, they often reported discomfort in managing them due to being unaware of an evidence based approach in combination with not being parents themselves. One participant described this as “*the behavioral stuff I do think it feels a little bit more completely out of my realm and a little bit phony for me to be giving parenting advice to someone*”.

Eight sub-themes were identified by participants as impactful elements of the curriculum delivery: *time efficiency, mobile accessibility, social learning, mastery learning opportunities, immediate feedback, gamification, situated learning, and technological constraints.*

#### *Time Efficiency, Mobile Accessibility, and Technological Constraints:*

Participants emphasized and appreciated the importance of the curriculum being easily integrated into their busy residency schedules in order to be successful. Mobile accessibility enabled participation and many commented on how feasible it was to complete the curriculum during their commutes to and from work. Given that most participants engaged with the curriculum while commuting, immediately upon waking in the morning, or during unexpected free time at work, audio-based resources such as videos were not as well utilized due to connectivity issues as well as the additional requirement for headphones to be readily available. All participants felt that requiring completion of only two questions every other day required minimal time and enabled more individualized learning, which many compared preferentially to traditional restrictive/inflexible workshops and lectures.

#### *Social Learning and Gamification*

Participants overall enjoyed gaming elements including individual and team leaderboards which allowed for comparison to peers' performance and described increased engagement secondary to accountability to others. Many expressed the importance of being extrinsically motivated to engage in a topic that they were not otherwise as motivated to learn, citing that these curricular components "*motivated people to keep going in a way that I don't know without the incentive and the game aspect I think more people would have fallen further behind*". However, a minority described being more intrinsically motivated and cautioned that "*somebody else may find it very motivating to have a leaderboard and so how do you reconcile that with the people that find leaderboards stressful because it's a competition?*". An added benefit to an otherwise self-directed, individualized curriculum was the social learning aspect. Participants expressed enjoying the "nice camaraderie" from being on a team and frequently described discussing the questions together following individual participation as being an impactful learning experience to better reinforce right and wrong answers and explanations.

#### *Immediate Feedback and Mastery Learning Opportunities*

Participants enjoyed immediate feedback and explanations and expressed a sense of familiarity with this learning style. Several expressed improved self-assessment awareness and were motivated to more thoroughly read the explanations when they were immediately notified of answering incorrectly. Participants appreciated the ability to repeat questions spaced over time until consecutively answering them correctly in order to demonstrate mastery, expressing that this "*solidified the information*" and "*made it stick*". However, a small number of individuals felt that repeating questions would be more effective if a different question was provided for the same learning objective in order to prevent reliance upon memorization alone.

#### *Situated Learning*

All participants noted the benefits of situating the curriculum in proximity to clinical experiences in which they would be able to apply their newly acquired knowledge. This not only enabled better retention and reinforcement, but also resulted in opportunities to better reflect upon role modeling with the foundation that the curriculum provided. One participant noted that "*I have a*

*foundation now and my preceptors are modeling conversations with families. I have a foundation so I'm more primed to identify with what components they're modeling and what they're talking about rather than just like, 'Oh, that was a great conversation.'*” They cited examples in which almost daily curricular participation enabled more rich discussions both amongst peers as well as with preceptors prompted by the recency of learning tasks within the curriculum.

### *Self-Regulated Learning*

Participants reflected upon their learning preferences and strategies in relation to the curriculum and elaborated upon curricular elements that fostered self-directed learning. Although all recognized the effectiveness of retrieval practice and testing, many admitted to needing shared guidance and structure in order to consistently engage and felt that this component largely contributed to their learning. One participant described how self-directed learning “*can sometimes feel overwhelming or you don't actually end up doing it because you get pulled in a million different directions but there was enough guidance and there was enough scaffolding that I think it was really helpful*”. The majority expressed a desire for more similar self-directed learning opportunities.

Three sub-themes were related to clinical application: *awareness of evidence, patient education materials availability, and patient stories.*

### *Awareness of Evidence and Patient Education Materials Availability*

Participants frequently attributed increased confidence in assessment and management of common behavior problems following the curriculum to awareness of and access to evidence based resources. There was a common sentiment of previously declining from addressing these problems in practice due to assuming that management advice was based solely on anecdotal experience rather than supported by evidence. Another commonly cited barrier was lack of time during visits to adequately address these problems with families, which participants felt was ameliorated by the pertinent downloadable patient education handouts that were made accessible as a part of the explanations in the curriculum. The effectiveness of written materials was reinforced for one individual who relayed that “*I did have a patient come back to me and say that that was helpful material, referencing the thing that I had given her, which was really nice*”.

### *Patient Stories*

Throughout interviews, participants relayed specific patient stories and instances in which they recalled applying knowledge or materials from the curriculum in clinical practice. Opportunities for application varied from educating families about common behavioral problems such as temper tantrums and head banging to more specific management strategies for ADHD such as tangible reward systems. On several occasions, participants contrasted their previous tendencies - “*I counseled a patient on [biting] in my primary care clinic as a result of QStream, which is really good because, before that, I would've probably said something along the lines of, 'Oh, yeah. That's really bad, like, let's figure out a way to, like, let's talk to the daycare and see.' I mean, I don't know*”.

## **Discussion:**

Interns felt more confident in management of common behavior problems and reported including more important components of behavioral assessments in clinical practice following introduction of a supplemental online curriculum situated within their required longitudinal developmental behavioral rotation. Importantly, many of these curricular gains outpaced those of interns at the end of their first year of training. Participants were able to fully participate in a 12-week curriculum while fulfilling clinical obligations and rotation requirements with minimal burden reported, highlighting the feasibility of supplementing clinical rotations with mobile accessible individualized curricula.

Application of the Master Adaptive Learning Model differentiates our curriculum from previously published behavioral mental health curricula. Our curriculum utilized principles of learning theory to develop master learners, which is becoming increasingly important in competency-based education.<sup>30,33</sup> For the Planning Stage, by situating an introductory workshop in the beginning of the interns' longitudinal developmental behavioral clinical rotation, patient stories and role play activities increased participants' outcome expectations and motivation to learn. During this stage, training deficits and learning gaps were highlighted in order to produce a feeling of cognitive dissonance and readiness to learn.<sup>34</sup> Goals and objectives were clearly delineated as an important component of self-regulated learning.<sup>35</sup> Learners described the ways in which this stage increased awareness of their knowledge gaps, oriented them to the curriculum, and altered their perceptions towards learning about behavior problems.

In the Learning stage, in order to promote self-efficacy, mastery learning opportunities were utilized by "retiring" questions that were mapped to required learning objectives and environmental barriers were addressed by increasing access to evidence based resources and patient education materials. In order to encourage more effective self-directed learning during this stage, our curriculum utilized evidence based learning strategies including knowledge retrieval practice, spaced repetition, concept interleaving, and calibration.<sup>36</sup> During the Assessing Phase, participants were able to develop more informed self-assessment through immediate feedback and peer comparisons with the use of a leaderboard. Exemplifying the learning and assessing stages, we found that participants gained knowledge and became significantly more confident in assessing and managing behavioral problems. Many participants reflected upon how they learned most effectively and felt that this curriculum encouraged self-directed learning, often expressing a desire to have access to more individualized curricula.

Finally, during the Adjusting phase, learners were given the opportunity to immediately apply their learning in clinical practice, which is an important component of adult learning theory. Participants shared many examples of patient stories and ways in which they adjusted their practice behaviors as a result of our curriculum.

Previous educational interventions have demonstrated improved resident self-efficacy in the assessment and management of common behavior problems and promotion of positive parenting, but have required significant time investment, financial resources, and in-person facilitation.<sup>20</sup> Behavioral mental health education needs assessments have demonstrated that such limitations are prohibitive for successful implementation. As residency educational demands continue to

grow, there is an increasing need for curricula that are time-efficient, cost effective, and facilitate the development of self-directed “master learners”. Unlike previously published educational interventions, our novel curriculum is self-directed which not only requires less resources, but also enables longitudinal exposure and spaced repetition resulting in more effective learning. Our curriculum could be easily standardized and does not require in person facilitation or local content experts, which are commonly cited educational barriers, and could allow for generalizability to other training programs. Notably, there were a number of curricular components highlighted by residents that should be considered in planning future curricula or disseminating this curriculum to other institutions. Key instructional design features highlighted by residents included gamification, social learning, retrieval practice, immediate feedback, flexibility and mobile accessibility, and inclusion of parent education materials and resources for use in clinical practice

There were several study limitations. We assessed self-reported behavior and confidence and did not include objective measures of clinical performance or observed behaviors in practice. An additional limitation is limited sample size and implementation within a single institution. Due to resident schedule constraints and the small sample size, we chose to offer the pilot curriculum to all interns on the behavioral medicine rotation, instead of utilizing a randomized design. In order to strengthen the single group pre-posttest design, we included a HC group of graduating interns. However, only a small fraction (n=12) of the HC group recently completed the traditional behavioral-mental health curriculum immediately prior to being surveyed, and thus lower confidence scores in the HC group could also be due to knowledge decay. Finally, the Qstream learning platform utilized is a commercial platform whose use may limit generalizability. However, there is increasing availability of similarly capable learning platforms that would be able to be employed for delivering this curriculum within other training programs in pediatrics as well as with practicing pediatricians who are otherwise unable to access learning resources.

Our next steps are to conduct a longitudinal study with a larger sample size within our institution to better assess the effectiveness of our curriculum, including follow up testing to account for learning decay over time. Given that our curriculum has proven to be easily integrated into clinical rotations and well received by residents, we plan to expand to include other behavioral-mental health topics such as anxiety and depression, with the ultimate goal of creating a longitudinal curriculum over the course of all three years of residency.

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## Appendices

### Appendix A: Confidence in Behavioral Health Competencies

		Pre Confidence [Median and (25 <sup>th</sup> , 75 <sup>th</sup> ) quartiles] N = 11	Post Confidence [Median and (25 <sup>th</sup> , 75 <sup>th</sup> ) quartiles] N = 11	HC Confidence [Median and (25 <sup>th</sup> , 75 <sup>th</sup> ) quartiles] N = 42
1	Obtain pertinent behavioral history	5.0 (2.3, 5.0)	7.5 (6.0, 9.0)** n = 1 missing	5.5 (4.0, 7.0)***
2	Elicit parent/patient concerns on behavioral problems	7.0 (5.3, 8.8)	9.0 (7.3, 9.0)	8.0 (6.0, 9.0)
3	Differentiate developmentally appropriate from abnormal behaviors	3.0 (2.3, 4.8)	7.0 (6.0, 8.0)**	5.0 (5.0, 6.0)***
4	Differentiate variations in infant /child temperament from problem behaviors	4.0 (1.0, 5.0)	7.0 (5.3, 7.8)**	5.0 (4.0, 6.0)***
5	Identify available child/family education resources	3.0 (1.3, 4.8)	8.0 (5.8, 9.0)**	5.0 (3.0, 5.0)***
6	Interpret current evidence related to safety/efficacy of interventions	-	7.0 (5.3, 8.0)	-
7	Provide anticipatory guidance	3.0 (2.0, 4.8)	8.0 (5.0, 8.8)**	5.0 (4.0, 6.0)***
8	Manage behavioral problems	3.0 (1.0, 4.0)	7.0 (6.0, 8.0)**	5.0 (4.0, 6.0)***

### Appendix B: Self-Reported Practice Patterns in Assessment of Common Behavior Problems

#		PRE [Median and (25 <sup>th</sup> , 75 <sup>th</sup> ) quartiles] N = 11	POST [Median and (25 <sup>th</sup> , 75 <sup>th</sup> ) quartiles] N = 11	Historical controls [Median and (25 <sup>th</sup> , 75 <sup>th</sup> ) quartiles] N = 42
1	Antecedents to the problem behavior	50.0 (16.0, 73.3)	70.5 (50.0, 83.0) n = 1 missing	71.5 (51.0, 80.0)
2	Hearing/Vision concerns	19.0 (11.0, 50.8)	75.0 (50.3, 94.8)**	61.0 (48.0, 90.0)
3	Perinatal complications	28.0 (12.8, 67.3)	74.0 (50.0, 82.5)	42.5 (20.0, 53.0)***
4	Prenatal substance exposure	27.0 (10.0, 65.8)	30.0 (4.8, 76.8)	19.0 (4.0, 27.0)
5	Environmental Toxin Exposure	22.0 (10.8, 41.3)	30.0 (11.0, 60.5)	21.0 (11.0, 40.0)
6	Sleep quality	51.0 (14.3, 76.5)	80.0 (76.5, 84.5)**	67.5 (50.0, 83.0)
7	Child's temperament traits	51.0 (11.0, 52.5)	65.6 (33.0, 82.0)** n = 1 missing	49.5 (27.0, 73.0)
8	Parenting style	36.0 (30.0, 77.5)	53.0 (36.8, 66.3)	64.5 (28.0, 86.0)
9	Parent-infant attachment pattern	16.0 (5.5, 46.5)	46.5 (32.0, 78.0) n = 1 missing	21.5 (4.0, 44.0)***
10	Situational/environmental changes	64.0 (27.0, 84.5)	91.0 (73.0, 97.0)** n = 1 missing	84.0 (65.0, 100.0)
11	Parental discipline strategies	38.0 (13.3, 81.0)	56.0 (50.5, 84.0)	75.5 (57.0, 99.0)
12	Parental Mental Health Issues	11.0 (7.0, 20.0)	60.0 (40.8, 76.8)**	23.5 (10.0, 50.0)***
13	Family Dynamics	37.0 (29.5, 62.5)	70.0 (47.0, 76.5)	69.5 (46.0, 85.0)

### Appendix C: Confidence in Management of Common Behavior Problems

#		Pre Confidence [Median and (25 <sup>th</sup> , 75 <sup>th</sup> ) quartiles] N = 11	Post Confidence [Median and (25 <sup>th</sup> , 75 <sup>th</sup> ) quartiles] N = 11	HC Confidence [Median and (25 <sup>th</sup> , 75 <sup>th</sup> ) quartiles] N = 42
1	Aggression	2.0 (1.0, 3.0)	6.0 (4.0, 7.0)**	4.0 (2.0, 5.0)***
2	Temper Tantrums	3.0 (2.0, 3.0)	6.0 (4.3, 7.8)**	6.0 (5.0, 7.0)
3	Biting	2.0 (1.0, 3.0)	6.0 (3.3, 8.0)**	4.0 (3.0, 5.0)***
4	Sleep problems	4.0 (2.0, 5.8)	8.0 (7.0, 9.0)**	6.0 (5.0, 8.0)***
5	Delayed Toilet Training	3.0 (1.0, 4.8)	6.0 (5.3, 8.8)**	5.0 (4.0, 7.0)
6	Fears	3.0 (2.0, 4.8)	6.0 (5.0, 7.0)**	4.0 (3.0, 6.0)***
7	Sibling Rivalry	2.0 (1.3, 3.5)	6.0 (4.0, 8.0)**	4.0 (2.0, 5.0)***
8	Lying	2.0 (1.3, 3.0)	6.0 (3.5, 7.0)**	3.0 (2.0, 5.0)***
9	Child with difficult Temperament	2.0 (1.0, 3.0)	-	3.0 (2.0, 5.0)

### Appendix D: Confidence in Recommending Evidence-Based Behavioral Management Strategies

#		Pre Confidence [Median and (25 <sup>th</sup> , 75 <sup>th</sup> ) quartiles] N = 11	Post Confidence [Median and (25 <sup>th</sup> , 75 <sup>th</sup> ) quartiles] N = 11	HC Confidence [Median and (25 <sup>th</sup> , 75 <sup>th</sup> ) quartiles] N = 42
1	Token Economy	3.0 (1.0, 5.0)	8.0 (6.0, 8.0)**	3.0 (1.0, 6.0)***
2	Planned Ignoring	2.0 (1.0, 3.0)	8.0 (5.5, 9.0)**	4.0 (2.0, 6.0)***
3	Systematic Desensitization	3.0 (1.0, 4.0)	7.0 (5.0, 8.0)**	3.0 (1.0, 4.0)***
4	Time-out	4.0 (2.3, 4.0)	8.0 (7.3, 10.0)**	5.0 (5.0, 7.0)***
5	Parent Management Training	1.0 (1.0, 2.8)	6.0 (4.0, 7.8)**	2.0 (1.0, 4.0)***
6	Tangible rewards	4.0 (2.0, 4.8)	8.0 (6.0, 8.0)**	5.0 (4.0, 7.0)***
7	Effective commands	1.0 (1.0, 5.0)	7.0 (5.0, 8.0)**	2.5 (1.0, 5.0)***
8	Behavior-specific praise	1.0 (1.0, 1.8)	8.0 (6.3, 8.0)**	1.0 (1.0, 3.0)***

## Appendix E: Codebook

Code Name	Elaboration	Illustration
<b>Content Awareness of Knowledge Gaps</b>	Participants describe their feelings and baseline confidence around approaching behavioral mental health topics with families	<p>"... there are always questions that arise in clinic where I'm like "I feel like I should know this. This is a parenting question but I just don't. But you can ask me how your child's blood pumps through the heart and different cardiac conditions and I could talk to you about that all day." Int 2</p> <p>"[In] the beginning I was like, "Oh this is my least favorite part of pediatrics." It was like parenting, not medicine, and then I think actually in going through it I was like, okay, maybe it was just because I didn't know anything about these topics so I didn't feel comfortable with it. Int 7</p>
<b>Content Training Deficits</b>	Participants describe their current and previous training in behavioral mental health topics	"... in terms of the developmental curriculum, I think there's probably too little emphasis placed on normal childhood development, normal primary care problems, like behavioral problems... whereas like the other problems we hear about more often in medical school are ADHD or autism, those sorts of things" Int 10
<b>Content Perceived Content Importance</b>	Participants reflect upon previous experiences with BMH topics as well as with this curriculum and their impact on perceived importance	"I have a lot of nieces and nephews and I think a lot of these questions are like the main questions that parents have, and they don't necessarily feel comfortable bringing them up to pediatricians because its like they feel like bad parents or there's guilt around it. So I think it's really empowering for me to feel like I can kind of broach the subject and not only screen my patients for it but also do something with that information too." Int 1
<b>Content Anchoring Activity</b>	Participants describe characteristics of the introductory workshop that enhanced their experience, including an enthusiastic presenter and role play	<p>"[Role playing] was good. In terms of the utility of it, I think it was good to, kind of, see how difficult it can be to manage some of these behavioral issues that might come up in clinic. At that point in time I, again, had very little knowledge and so, I think from a perspective viewpoint, it's good to kind of see that..." "... "It made me realize that I don't know how to [laughs] do these things. And I'm about to start my primary care clinic and I could be asked these questions and I don't know what to say." Int 2</p> <p>"Role play was fun. So I think the example that we had was like a five-year-old with ADHD, who were in the exam room and had to get a history while the kid was bouncing off the walls and help reinforce good parenting strategies. And I don't know figure out an assessment and a plan for the patient. And that is a situation that I hadn't found myself in yet and was helpful to have it role-played because the distractions are real. That's something that you walk into every day in an outpatient setting. And learning strategies of how to deal with that along the way was helpful." Int 4</p>
<b>Delivery Time Efficiency</b>	Participants describe specific curricular components that enhanced their ability to participate	<p>"It was also really nicely done because it was like two questions so it wasn't overwhelming. You could feel like you could do it on a bus or on a train coming here, and it wasn't like you had to read a long paper or do a presentation or anything.. so it was really doable." Int 1</p> <p><b>Barriers</b></p> <p>"I usually just answered the questions on the T coming into BMC in the mornings. But sometimes I ride my bike, so I would do it after I put my bike up, coming up the elevator. And then I would always make it a point to go back I guess later that day or sometime throughout the week to read through the explanations to make sure I understood why I put an answer as right or wrong. I would say to remember that we do a week of nights so it can be difficult to answer the questions during that week because you get off nights and you just want to get home and you may look at Qstream or you may not..." Int 2</p>
<b>Delivery Mobile Accessibility</b>	Participants describe specific curricular components that enhanced their ability to participate	"I really liked how it was on an app because I think if I, like, don't have my computer today. I've been trying not to carry my computer because it's so heavy so I really liked that it was on a mobile app that you would kind of have satellite when you were like, on the T, coming to work or whatever and you could kind of do it in downtime." Int 1
<b>Delivery Social Learning</b>	Participants describe the benefits of learning in a social environment as an enjoyable deviation from typical independent learning activities for trainees	<p>"I like how we were in small groups as well... [Participant X], like, during the last week was like "We can do it guys, like, answer all of your questions." And so it was kind of nice camaraderie as well" Int1</p> <p>"... it was kind of a fun game to be able to, like, see where you were in comparison to all of your other coresidents." Int1</p> <p>"I think this is probably, like, an unintentional consequence of the curriculum, but I really liked how the Qstream questions were discussed within our group, which I don't think is the point. But because there was this competitive aspect, questions that were more difficult and fewer people got correct, were often discussed in our seminar sessions kind of impromptu together which made things even more... I remember things best like if I get them wrong, if somebody else got them right and I feel like I actually should have gotten that correct, and then if there's, like, some sort of discussion afterwards and I think that discussion piece was, like, kind of an accidental consequence of the competitive nature of it. But I think, like, kind of that format together was helpful." Int 4</p>
<b>Delivery Mastery Learning Opportunities</b>	Participants describe the positive effect of mastery learning opportunities on	"I really like the Qstream curriculum. I liked the questions. It was frustrating in the sense that I didn't know a lot of the information. But that's the point of the Qstream curriculum is to teach you a lot of this stuff and I really enjoyed the answer explanations. I'm a very evidence based guy so I read all of the explanations and tried to write little tidbits to help integrate it into my brain and integrate that into my clinical practices. After doing that, especially after doing it twice to make sure that I've mastered the

	their confidence and knowledge acquisition	<p>questions, it really helps me to gain more knowledge in the field ....” Int 2</p> <p>“...having the questions come back to you and having them again, I thought that was really helpful because some of them were like “I can guess but I really have no idea”. So after going through an explanation and then having a second time I feel like really solidified the information.” Int 1</p> <p>Interviewee: No. No. It was good. I think one of the cool things of Qstream that I also forgot to mention was that you can like retire questions. So I liked the design where a question comes back, sort of reiterate the same point. That like really made it stick on that second time and the sort of miniature accomplishments of like retiring questions along the way made you feel like, “Oh, I’m getting it. Oh, now I like see it twice and I got it.” So I liked that structural component.” Int 8</p>
<b>Delivery Immediate Feedback</b>	Participants explore the impact of immediate feedback on their knowledge and confidence	<p>“It was kind of like tutor mode of eWorld. It’s like you answer the question and then it gave you like the immediate response of why you were wrong or why you were right, which I really liked.” Int 1</p> <p>“When you saw the questions, you got the answer right away, which is good. It’s not like other forms where you get a certain group of questions and you have to wait until the next set... If you had to wait a day or two to get the answers, then I would have already forgotten the questions. So, having the answer right away after you answer the questions was helpful.” Int 5</p>
<b>Delivery Gamification</b>	Participants describe their perspectives on various gamification elements and the effects on their engagement in the curriculum	<p>“I get motivated by competition and I was motivated to do them three times a week because I liked watching the leaderboard. And our team was in the lead and then we lost in the last second. It was disappointing. But I liked the game aspect and I think we all did. Sometimes at drinks we would be like, “Oh my gosh I can’t believe your team pulled ahead.” Or it would come up and then get... it motivated people to keep going in a way that I don’t know without the incentive and the game aspect I think maybe more people would have fallen further behind.” Int 3</p> <p><u>Contrary Perspective on Gamification:</u></p> <p>“I would have approached it the same way whether or not there was a leaderboard. I’m not big into competition. It’s just one of those things, like, cool. I’ve never really needed a leaderboard or a Starbucks gift card to entice me. It’s great because, you know, it’s a new roll out of a new curriculum and you want to motivate people in some way. And so, it’s a great idea, but does it matter to me? No, it doesn’t. But that’s just my personality. Somebody else may find it very motivating to have a leaderboard and so how do you reconcile that with the people that find leaderboards very stressful because it’s a competition? I’m not sure.” Int 2</p>
<b>Delivery Situated Learning</b>	Participants reflect upon the timing of the curriculum and proximity of learning to clinical activities	<p>“I think it’s also very helpful to have this at the same time as our DBP clinics because I felt that it gave me, like, it prompted more questions, that I was then able to go to my DBP attending and ask her about and see what her experience has been with some of the topics that came up. I think most of us, like with seeing ADHD in clinic, have then been asking her what her experience has been with advising parents about behaviors and it prompted some good discussions with her that I don’t think would have happened if I wasn’t thinking about it outside of the clinic setting.” Int 9</p> <p>“So on Qstream we have these three blocks of ambulatory medicine, and probably most in my primary care setting, opposed to the development clinic that I’m in. I’ve had a lot of parents with parenting questions instead of being, “You know what? I’ll take a history and then I’ll go outside, and I’ll talk to my preceptor who has many more years of experience and has her own kids. And then we’ll come back in and I’ll watch her do it.” I’m, like, actually able to give what I think is solid advice to parents about...specifically, like, discipline strategies, screening stuff for ADHD and management techniques for that. And then toilet training I think are probably, like, my stronger three areas and that might just be from repetition in that patient setting. But those are, like, things that I was not comfortable with before and then now I’m comfortable with.” Int 4</p> <p>“Like step one stuff you study for and then you, like, hope somebody asks you that bizarre question again. And this is, like, real, helpful things that are applicable to, like, everyday, general pediatrics, and developmental medicine. And so this has been even more helpful because it’s a learning style that I know I can answer questions right based on later, but it’s also something that I’m getting reinforced every week in primary care clinic and development. So that’s like...it’s been great.” Int 4</p>
<b>Delivery Technological Considerations</b>	Participants describe elements of technology that inhibited curricular participation	<p>“I think that the videos were helpful but sometimes in terms of the time... well, like I was doing it in public places, right? So I had to remember to have headphones which I don’t normally have. So that was a barrier to watching the videos and then I’d have to like remember to do it when I was in a private place, or when I was at home, which sometimes happened and sometimes didn’t.” Int 1</p> <p>“I think the things you could have read were easier to access on the go. Because sometimes I found I didn’t have headphones on me. And so I couldn’t watch the videos at the time where they were a little bit long and they would require sitting down and going back to it later. So I think things that were easily accessible as I was scrolling through the answer where I use those the most. So the algorithms and quick explanation of why the other answers were wrong, I liked that.” Int 3</p>
<b>Delivery Self-Regulated Learning</b>	Participants use metacognition to reflect on learning strategies and learning preferences in relation to those utilized within the curriculum	<p>“I honestly wish that more curriculum was inputted like this because I think it’s really nice to just say “Go home and read the textbook”, or “Go home and do X number of questions on your own.” But like, this was just a really motivating way to actually... like I think if you would have given me the same number of questions and told me to get them done in the same amount of time, I don’t know If I would have done it... and so I think that it’s just nice that we had those delivered” Int 1</p> <p>“I was never big on going to class. I always enjoyed just reading a book and doing it that way. And then, if I have questions I will ask but I very much enjoy learning at my own pace and on my own time.” Int2</p> <p>“I do think that I think it was a really good example of self-directed learning and how it can work really well. I think I liked that like we were saying I could go back and do things at my own pace or read more when I felt like I needed to read more when I didn’t feel as confident in why the right answer was the right answer. And so I think it just showed me that it can be a real like self-directed. But it was self-directed but not fully self-directed. But I think it was a really good mixture of the two, because it wasn’t just like, “Go</p>



		<p><i>read about all of these topics." Because then that can sometimes feel overwhelming or you don't actually end up doing it because you get pulled in a million different directions but there was enough guidance that there was like enough scaffolding that I think it was really helpful." Int 3</i></p> <p><i>I wish there were more things like this. I mean I know people hate QAing and stuff but I love being challenged in that way.. like if Im reading something I think Ill falsely think that Im absorbing everything and it's just not true. But if I have a question, I'm more accountable for what my answer is. So I wish that there were questions that were easily accessible to us not only on DBP but on like the vaccine schedule or other screening tools and when to administer them, etc. I think that questions are a great way to learn." Int 9</i></p>
<b>Application Patient Stories</b>	Participants reflect upon how the curriculum improved specific clinical encounters	<p><i>"There was a mom who came in with a kid who had been diagnosed with ADHD but was very concerned about behavior. So I was able to ask her a little bit more about what it was specifically she was concerned about. And I assessed out more about school versus home life and then got into this whole story... I think being able to ask those questions, I wouldn't have necessarily known how to do before this curriculum. And knowing what to look for and then I was able to advise her more on what the process was going to be like in relation to outcomes. And you know, there's some behavior things we can try. So I talked to her about expectations of him and using rewards and sticker charts and things like that... It was great." Int 9</i></p>
<b>Application Awareness of Evidence</b>	Participants reflect upon the importance of awareness of evidence based resources	<p><i>"I would normally just shy away from asking them how they would discipline their kids... But now I feel at least a little bit more... or at least I know now where to get the information, which I think is a big step in feeling comfortable... my first interaction with this sort of thing was just this gray haired, white male pediatrician, who I thought was just this grandfather of pediatrics, that just had all this knowledge and I didn't actually know where he was getting it from, and I just thought it came from time and practice. But I think being able to see that it's actually evidence-based, and there's places where I can even go to look and find out that information and share it with my patients, I think was really empowering for me and helpful." Int 1</i></p>
<b>Application Patient Education Materials Accessibility</b>	Participants describe the utility of patient education materials incorporated in the curriculum	<p><i>"I find that there's a lot of medical things that people have questions about in their physical... but there's also a lot of like behavioral stuff and things that they're working through... so I've actually given a few families handouts because I think that they're really, or at least for me even, learning the information ... People can talk to me for hours and I won't necessarily... I'll be like "Oh okay" but if you're able to give me a handout to take with me that I can process on my own time and have the next time my 3 year old is having a fit, I think that's really helpful... I did have a patient come back to me and say that that was helpful material, like, referencing the thing that I had given her which was really nice." Int 1</i></p>