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Service-Learning Programs Impact on Dental Students' Confidence in Treating Pediatric Population

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SERVICE-LEARNING PROGRAM'S IMPACT ON DENTAL STUDENTS' CONFIDENCE IN TREATING PEDIATRIC POPULATION

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in Dentistry at Virginia Commonwealth University.

by

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Table of Contents

List of Tables

List of Figures

Abstract

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Purpose: In 2011, Clinical Service-Learning (DENS 762) became a formal university-designated course required to all senior dental students at VCU School of Dentistry. The interest of this study was to measure students' experience in treating pediatric patients and to determine the effect the course had on students' self-perceived confidence in treating the pediatric population.

Methods: This was an observational study of the VCU class of 2012 who were enrolled in the clinical service-learning class. Following their service-learning rotations, fourth-year dental students were surveyed about their experiences on their service-learning rotation. Out of 105 students, 76 completed the survey.

Results: The majority of students (55%) who completed the survey felt more confident in treating the pediatric dental population. Increase in confidence was not associated with demographic factors of the students. Placement of sealants (p-value = 0.0022) and experience in local anesthesia (p-value = 0.0008) were the two factors most strongly associated with students' increase in confidence. Compared to their school-based pediatric rotation, students received more experience in pulp therapy, extractions and treating children 0-3 years old during service-learning rotation.

Conclusion: This study concludes that greater exposure to pediatric dental experiences during a service-learning rotation increased students' confidence in treating the pediatric population at VCU School of Dentistry. Service-learning rotation can be a good supplement for the school's pediatric dental rotation and has the potential to increase dental students' willingness to treat the pediatric population once they graduate.

INTRODUCTION

Though the beginnings are difficult to trace, the current concept of service-learning is considered an extension of a belief that has been around for 100s of years. Several antecedents can be found throughout history. John Dewey (1859-1952) believed that experience alone was not adequate for meaningful learning. He believed that education should be concerned with developing students' long-term commitment and ability to contribute to society. According to Dewey, effective learning experiences must 1) capture interest, 2) be intrinsically worthwhile, 3) present problems that generate curiosity and need for more knowledge, and 4) lead to development of learners over a sufficiently long period of time.[1] In the early to mid-1900's, William Kilpatrick advocated the "project method" as an educational tool. This educational method advocated social reform, education outside of a school setting, and real-life problem solving. In the 1970's, the movement gained momentum and educational reform became a concern on the state and federal level. In the 1980s, many Boards of education on local and state levels across the US began service-learning programs or required community service.[2]

Definition of Service-Learning

The current concept of service-learning is based on a mutual relationship between an educational institution and the community it is serving. It integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities.[3] It is the balance of the relationship which differentiates service-learning from other types of experiential learning. For example,

volunteering emphasizes service without a formally, structured learning component. Community-based education, however, involves learning in the community, but does not involve a service component. According to Commission on National and Community Services, "a service-learning program provides educational experiences:

I. Under which students learn and develop through active participation in thought-fully organized service experiences that meet actual community needs and that are coordinated in collaboration with school and community;

II. That are integrated into the students' academic curriculum or provides structured time for a student to think, talk, or write about what the student did and saw during the actually service activity;

III. That provide a student with opportunities to use newly-acquired skills and knowledge in real-life situations in their own communities; and

IV. That enhance what is taught in school by extending student learning beyond the classroom and into the community and helps to foster the development of a sense of caring for others" [2]

Hood et al. also described the three core goals of service-learning that include improving education, promoting civic engagement, and addressing societal needs. This equal partnership between the learner and the community is the distinguishing difference between service-learning and other experiential learning. [2] Many definitions of service-learning also include a component of psychosocial reflection, further differentiating it from other forms of volunteerism.[1,2,4] This psychosocial reflection is a fundamental component that allows deeper assessment of the effects of service-learning.[4]

Impact of Service-Learning

Service-learning has dramatically increased its impact on the American educational scene during the past few years, and new practitioners are quickly adopting the methods of integrating traditional classroom based instruction and community service.[5] A study by Nelson in 2011 found that service-learning can be a powerful educational tool when working with youth, especially at-risk adolescents. In Nelson's study, seventy-five percent of students who participated in service-learning courses reported that these classes were more interesting than other classes. [6] In a summary article of service-learning research, Eyler et al. found that service-learning positively affects a student's personal development, interpersonal and leadership skills, and communication skills. Furthermore, service-learning has a positive effect on students' sense of social responsibility and commitment to service. [7]

There has been limited research on the impact of service-learning on dental education and even fewer studies that have evaluated the effect on service-learning and pediatric dentistry. In general, quantifying the impact of service-learning has on students has historically been a difficult task. However, student reflections on service-learning can provide significant information in understanding not only the effect service-learning can have, but also how service-learning programs can be modified to better meet the needs of the students as well as community members. A study in 1998 found that many students struggle with aspects of service-learning, including adjusting to their placements, finding and balancing their roles amongst the community members they are engaged with, and bringing their service-learning experience to an end.[4] A study at Portland State University addressed the inconsistencies and difficulties involved in assessing service-learning outcomes and determined variables, indicators and measurements necessary to better understand the effect service-learning has on students, faculty, community

and the institution. [8] One study from 1999 addressed community service and service-learning perceptions, in order to determine students' attitudes towards service learning. Self-efficacy was assessed through two types of questions: those relating to the student's sense of ease/apprehension toward a service-learning project and those relating to the student's belief in his or her ability to do the project. Questions dealing with feelings about helping others and perceptions of community needs were used to assess the affective and cognitive influences of helping behavior, respectively. Questions about specific potential costs to and benefits of community service were used to gauge the student's perceptions of cost/benefit. The findings of the study provide a framework for assessment of students' response to service-learning, including in-person assessment, independent reflection measures, and review of existing documentation. [9]

Service-Learning in Dental Education

Research showing the effectiveness on service-learning has created a movement to institutionalize service-learning in all higher education, including dental education.[10] The rationale is that community-based dental education will positively affect the values and behaviors of future dentists in terms of treating the underserved population and giving back to an at-need community.[11] A recent review of learning strategies for dental education by Davis et al. found that though dental education is perceived as fulfilling its public purpose in promoting oral health, providing access to care, and conducting relevant research, areas needing improvement include graduating a more socially aware, culturally sensitive, and community-oriented dental practitioner and being a committed partner with other community leaders in improving access to care for all citizens. The article recommends the use of community-based and service-learning programs in dental schools starting early in the educational process. [12] A survey of North

American dental school curricula from 2005 found that though the majority of dental schools incorporated some type of community-based rotation, most of these programs focused on education of the students in terms of clinical experience, with little or no emphasis on engagement of the community being served.[13] A study of the University of Colorado Denver School of Dental Medicine, which has operated a community-based dental education programs since 1985, found that students' self-assessment of their clinical competency increased after completing a clinical rotation in a community-based program and that 16% of graduates reported planning to practice in the public sector after completing dental school.[14] Service-learning has the potential to positively affect dental students' sense of social responsibility and commitment to service.[7]

Service-learning and Pediatric Dentistry

For the first time since the introduction of community water fluoridation, tooth decay among children between the ages of 2 to 5 is increasing and access to care remains a barrier to appropriate oral healthcare. [15] Further exacerbating the problem is a collapsing pediatric pre- and postdoctoral education system. There are fewer teachers and fewer pediatric dentists which creates a potential for a lowered quality of education for dental students. [16] A study by Seale et al, also determined that the educational system has a shortage of faculty trained in the care of children and increasingly relies on general dentists to teach pediatric dentistry. The result is that dental students only receive experience with manageable children who have a low level of complexity.[17] Similarly, a study by Seale et al. in 2003 found that general practitioners who had hands-on and lecture educational experiences in dental school with infant oral examination and examination of children aged 1 to 3 years in dental school were significantly more likely to very often or often treat these children, compared with those who had lecture/laboratory-only or no

education in these preventive procedures. They concluded that very young children, children with high levels of caries and Medicaid-covered children have difficulty finding dental care in the general practice community. [18] This is especially significant when considering that dentists' willingness to treat children and special populations depends on the intensity of their educational experience.[16] A diminished pediatric dental infrastructure would contribute to even less care for preschool and special needs children, already at dangerously low levels. With fewer pediatric dentists, dental care of children with systemic diseases would be difficult if not impossible.

Service-learning has the potential to alleviate some of these issues in the predoctoral pediatric dental education. A pilot study performed in the UK to determine the effect of a community dental service outreach teaching program on undergraduates' confidence to undertake a range of pediatric dental procedures found that students were more confident to carry out procedures on pediatric patients following participation in an outreach teaching program. Eighty-nine percent of students indicated that they were, overall, more confident following their placement than previously.[19] Similarly, a study of dental students at The Ohio State University College of Dentistry found that community-based dental clinical education provided students with a statistically significant increase in the number of procedures completed on the pediatric population, as well as an increase in the percentage of minority children treated. Researchers concluded that community-based dental clinical education enhanced pediatric predoctoral student clinical experiences in both quantity and diversity.[20] Thus, the incorporation of service-learning into dental school curriculum has the potential to not only positively affect dental students' perspectives on community engagement, but also increase their willingness to treat the pediatric population, for which there is an epidemic need. A community-based experience in pediatric dentistry, however, has the potential to supplement dental students' education

experience. [16] Through service-learning, dental students can increase access of care and preventive services to children, while gaining more pediatric dental experience.

Service-learning at VCU School of Dentistry

In 2011, Clinical Service-Learning (DENS 762) became a formal university-designated course that is required to all senior dental students at VCU School of Dentistry. Objectives of the course include 1) preparing graduates to be competent entry-level practitioners who are able to provide quality oral care to the public and the community, and 2) sensitize students to the oral health needs of underserved populations and increase access to oral care to those in need. With 16 clinical sites, students have the opportunity to develop their skills in a real-world environment, while also providing services to a community in need. [21] The sites consist of community health centers and free clinics, located in underserved areas and providing services to at-need communities.

The interest of this study is to determine the effect the Clinical Service-Learning (DENS 762) course at the School of Dentistry at Virginia Commonwealth University has on the participating students. The purpose is to:

- Measure students' experience in treating pediatric patients during service-learning rotations at VCU School of Dentistry,
- Determine effect the course had on students' self-perceived confidence in treating the pediatric population, and
- Compare dental students' pediatric dental experiences during their service-learning rotation to their experiences during their school-based pediatric dental rotation

METHODS

This study was an observational study of the VCU class of 2012 who were enrolled in the clinical service-learning class. The total class size was 105 including five students in the international dentists program. Fifty-six students were Virginia residents. This study was approved by the VCU Office of Research Subjects Protection. The data were collected during the months of March and April 2012, immediately following the completion of the rotations.

Research Questions

- Is experience during service-learning associated with dental students' confidence in treating the pediatric dental population?
- What factors are associated with dental students' self-perceived confidence toward treating the pediatric population?
    - Demographics of student
    - Number of children (0-13) treated during the rotation
    - Extent of decay present in children treated
    - Type of procedures students gained experience in during the service-learning rotation

Hypothesis

The hypothesis of this study is service-learning rotations increased dental student's self-perceived confidence in treating the pediatric dental population and that greater exposure to children as well as greater exposure to procedures completed on children increased students' confidence in treating the pediatric population when compared to those who had less exposure.

Variables

Questions eliciting information concerning students' exposure to the pediatric population during their rotation were included in the survey. The pediatric related questions as well as student demographic information were analyzed for this study.

Independent variables were all self-reported through survey questions and include:

- Student demographics
    - Gender (Male or Female, based on self-reported response)
    - Race/Ethnicity (White, Black, Hispanic, American Indian, Asian, based on self-reported response)
    - Age (<25, 26-29, >30 – in years, based on self-reported response)
- Number of children (0-13) treated during the rotation (None, 1-5, 6-10, 11-15, 16+)
- Number of children that were 0-3 years old (None, 1-5, 6-10, 11-15, 16+)
- Extent of decay present in the children treated (No caries, Mild caries (1-2 teeth), Moderate caries (3-6 teeth), Severe caries (>6 teeth)), and
- Types of procedures students gained experience in during the service-learning rotation (Exam, prophylaxis and fluoride treatment, sealants, local anesthesia, simple restorative, stainless steel crowns, pulp therapy, extractions)

The dependent variable was self-perceived confidence measured by student response to the following survey question:

- Has your service-learning experience made you feel more confident treating the pediatric population? (Y/N)

Study Design and Survey Implementation

Following their service-learning rotation, fourth-year dental students (class of 2012) at the Virginia Commonwealth University School of Dentistry were surveyed about their experiences on their service-learning rotation. The survey was sent through the REDCap service. Although not a required part of the course, the invitations to the survey were sent out by the instructor, encouraging the students to respond, ensuring them of anonymity and restating that their responses are not part of the course grade. Out of 105 students, 76 completed the survey. Survey questions relevant to this study can be found in Appendix I.

For comparison, data quantifying the procedures completed by the class of 2012 during their two-week rotation through the pediatric dental clinic at VCU were obtained through the course director, Dr. William Piscitelli. A de-identified data set was provided which included date of procedure, code and description of procedures completed, as well as age of patient treated for each individual student. Data were analyzed to determine percentage of students who gained experience in the certain treatments during their pediatric dental rotation compared to the experience gained during their service-learning rotation. Data were also used to determine the percentage of students who treated patient 0-3 years old during their pediatric dental rotation versus their service-learning rotation.

That statistical analysis began with collecting descriptive data. Then all independent variables were tested for association with the dependent variable (self-perceived increase in confidence in treating the pediatric population) using bivariate analysis. Multiple logistic regression was then completed in order to consider all independent variables at the same time.

RESULTS

There were 76 senior dental students who responded to the survey, out of 105 students in the class of 2012 who received the survey (response rate: 72%). The demographic characteristics of the respondents are summarized in

. Out of 76 respondents, 33 (43%) were female and 43 (57%) were male. The average age of respondents was 28.1 years and the age ranged from 25 to 38. Self-identified ethnicity was predominantly White (70%). Five students identified themselves to belong to the international dentist program. This distribution of age and gender were similar to that of the class as a whole.

There were three questions regarding the child patients seen during the service learning rotations and their responses are summarized in Table 2. Ninety-two percent of students treated at least one child in the 0-13 year age group, with the majority (58%) seeing at least 6 patients. Fifty-one percent treated at least one child in the 0-3 age group and the majority of students treated children with mild (29%) to moderate (55%) decay.

The type of activities relating to pediatric patients that the dental students experienced is summarized in Table 3. Note that the dependent variable, increased confidence in treating the pediatric population, was reported as "Yes" in 55% of the dental students.

Bivariate Analysis

In order to test for associations with "… more confident treating the pediatric population = Yes", we first tested for relationships with student demographics and then with the variables that measure experience with the pediatric population during service-learning rotations. There was no difference in increased confidence for males and females (60%=Yes, 26/43 for males; and 47%=Yes, 15/32 for females; chi-square p-value = 0.2423). There was no difference in

increased confidence for the various race/ethnicity groups (57%=Yes, 13/23 for non-white; and 54%=Yes, 28/52 for females; chi-square p-value = 0.8299). There was no trend with age (logistic regression chi-square p-value = 0.5075).The lack of sufficient evidence for a relationship with demographics removed further need to adjust for these for the multiple regression analysis.

There was a clear relationship between the number of patients treated that were 0-13 years old and increased confidence (chi-square p-value = 0.0015. See Table 4). Dental students with 0-5 patients experience felt confident 37.5% of the time and those who treated at least 6 pediatric patients felt confident 67% of the time. There was no evidence for a relationship with the amount of caries seen (p-value = 0.0618) but there was a relationship with the number of young children seen (p-value = 0.0027).

The other aspect of experience is the number of treatments performed on pediatric patients. Types of procedures measured include: exam, prophy and fluoride, sealants, simple restoration, local anesthesia, extractions, pulp therapy and stainless steel crowns. In every case, those reporting experiences in a particular procedure expressed increasing confidence. See Table 5.

Multiple Regression Analysis

All of the above are one-variable-at-a-time analyses that do not take into account the combined effect of all of the possible predictors of increased confidence. To do this, it is necessary to collapse categories with small sample sizes and/or similar response proportions. The number of pediatric patients variable was collapsed to two levels: none to 5 patients, and 6 or more. The number of young children variable was collapsed to two levels: none, and at least 1. A multiple logistic regression model including all of the significant effects above (using collapsed values) indicated that after adjusting for all other factors, only putting on sealants (p-value =

0.0022) and local anesthesia remained significant (p-value = 0.0008). The results are summarized in Table 6.

Data were also collected from to determine the amount of experience dental students gained during their pediatric dental rotation at the Virginia Commonwealth University's Pediatric Dental Clinic. According to this data, the vast majority of students received experience in exam, sealants and simple restorative during both experiences. However, a larger percentage of students gained experience in pulp therapy (12% vs. 3.9%) and extractions (47% vs. 21%) during their service-learning rotation, than during their pediatric dental rotation. In addition, 51% of students gained experience in treating children 0-3 years old during their service learning rotation, compared to 17% during the pediatric dental rotation. See Figure 1.

DISCUSSION

Main Findings

The majority of students (55%) who completed the administered survey felt more confident in treating the pediatric dental population. The increase in confidence was not associated with any demographic factors of the students, which makes the finding more generalizable amongst dental students. Based on bivariate analysis, students' level of experience gained during the service-learning rotation was positively related to an increase in confidence, Furthermore, multiple logistic regression identified placement of sealants ($p = 0.0022$) and local anesthesia administration ($p = 0.0008$) as the two most important factors associated with increased confidence in treating the pediatric population.

Support from previous research

A study by Davis et al found that students' self-assessment of their clinical competency increased after completing a clinical rotation in a community-based program.[12] In a pilot study similar to the present research, Hunter et al found that 16 of the 18 students indicated that they were, overall, more confident undertaking a range of pediatric dental procedures following their placement in a community dental service program than previously.[19] A study from The Ohio State University College of Dentistry also found that community-based dental clinical education presents an opportunity to enhance pediatric predoctoral student clinical experiences in both quantity and diversity.[20] .For VCU students, the enhancement was through an increase in the number of younger children treated, as well as an increase in more complex restorative during service-learning. Therefore, this study supports those findings from previous research which

conclude that service-learning can positively affect a student's self-perceived personal development, as well enhance education through an increase in diversity of clinical experiences.

New insight from this study

This study adds to previous research in several ways. First, this study assessed students' expectations and the actual experience of their service-learning rotation. The majority of students expressed expectations to gain experience in diagnosis and treatment planning, sealants, restorative care and behavior management and the majority did experience on the areas above mentioned. Though behavior management could not be quantified, since the majority of students reported that they treated children 0-3 years old (51%), it can be assumed that a degree of behavior management was required to treat those patients. Therefore, it can be concluded that the expectations of students were met by service-learning rotation in terms of experience in treating pediatric dental population

In addition to providing data supporting an increase in student confidence following a service-learning experience, this study also identified specific factors associated with this self-perceived increase in confidence in treating the pediatric population. Factors related to increased confidence were: treating more children, treating children 0-3 years old, performing sealants and administering local anesthesia. Furthermore, student demographics were not related to increased confidence. Therefore, all students, given the opportunity to treat more children and treat more younger children, have the potential to increase their self-perceived confidence in treating the pediatric population. Increased confidence in treating children may correlate to an increase in willingness to treatment the pediatric population upon graduating.

Finally, by comparing students' self-reported experience during their service-learning experience to data quantifying their dental experiences during their pediatric dental rotation

within the dental school, this study provides data that suggests that service-learning can provide an excellent supplement for the school's pediatric dental rotation. The school-based pediatric dental rotation provides a curriculum-based experience where students are required to complete certain competencies and gain experience in pediatric dental education. However, students have potential to receive more diverse experience with younger children and more complex restorative procedures during service-learning. Both of these factors were found to be related to students feeling more confident in treating the pediatric population. Therefore, the increased exposure to pediatric population during service-learning has the potential to further increase students' confidence in treating this population

Limitations of current study

The main limitation of the current study is that all data were derived from students' self-report during their service-learning rotation and not documented. Since every student's rotation schedule is different, some students' service-learning experience was more recent than others at the time of the survey administration. Students who had just recently finished their rotation may have been able to respond more accurately to questions asking them to quantify their experiences. Another limitation is that of the students who completed the service-learning rotation, only seventy-two percent responded to the survey. A greater response rate would have strengthened the conclusions of the study and may have identified further variables associated with an increase in student confidence.

Clinical Implications

Since only 4% of students reported no plans to treat the pediatric population in the future, the goal is to matriculate dental students who are not only competent, but also confident in treating the pediatric population. Now that specific factors related to increase confidence in treating the

pediatric population have been identified, the VCU School of Dentistry can work towards adopting a better way of quantifying amount of exposure students receive to pediatric dental population. The standardization between sites so that all students are gaining experience in treating children will be instrumental. This could involve:

- Site requirements to ensure students rotating see pediatric patients
- Enforcing requirements for students to complete a certain number and type of procedures during their rotations
- Identifying which sites provide students with an opportunity to treat the pediatric population and ensuring that all students rotate through at least one such site

Future research can include determining if an increase in confidence gained during the service-learning rotation is correlated to an increase in dentists' willingness to treat children upon graduating.

CONCLUSIONS

In conclusion, a statistically significant number of students who completed the service-learning rotation are more confident treating the pediatric population. Factors related to increased confidence were: treating more children, treating children 0-3 years old, performing sealants and administering local anesthesia. Experience in treating pediatric dental population through service-learning rotations met students' expectations and were more diverse compared to that of in-school pediatric rotations. This study concludes that service-learning can be a good supplement for the school's pediatric dental rotation and has the potential to increase the number of dental students willing to treat the pediatric population once they graduate.

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APPENDICES

TABLES AND FIGURES

Table 1: Demographics

Characteristic	n	%
Gender		
Female	33	43
Male	43	57
Race/Ethnicity*		
White	53	70
Black	2	3
Hispanic	1	1
Am. Indian	0	0
Asian	20	26
Age		
≤ 25	10	13
26-29	46	61
≥ 30	19	25

* The race/ethnicity question was "check all that apply" and so the percentages may not total to 100%

Table 2: Number and percentage of children seen in the rotations

Characteristics	total N	%
Number of patients treated that were 0-13 years old		
None	6	8
1-5	26	34
6-10	21	28
11-15	18	24
16+	5	7
Amount of caries in children 0-13 years old		
No caries	3	4
Mild caries (1-2 teeth)	21	29
Moderate caries (3-6 teeth)	40	55
Severe caries (>6 teeth)	9	12
Number of children that were 0-3 years old		
None	37	49
1-5	36	48
6-10	1	1
11-15	1	1
16+	0	0

Table 3: Self-report of pediatric services completed

Characteristic	n	%
During your service-learning rotations, I gained experience in performing the following treatments on pediatric patients*		
Exam, prophylaxis and fluoride treatment	67	88
Sealants	54	71
Local anesthesia	50	66
Simple restorative	60	79
Stainless steel crowns	5	7
Pulp therapy	9	12
Extractions	36	47
Has your service-learning experience made you feel more confident treating the pediatric population?		
Yes	41	55
What are your expectations for the level of experience you should gain in treating children (0-13 years) during your service-learning rotations?*		
Diagnosis and treatment planning	66	87
Sealants	59	78
Restorative care	67	88
Behavior management	64	84
I do not plan to treat children in my practice	3	4

* These two questions were "check all that apply" and so the percentages will not total 100%.

Table 4: Relationship between increased confidence and experience

	More Confident (n)			
Experience	No	Yes	% Yes	p-value
Number of patients treated that were 0-13 years old				
None	6	0	0	
1-5	14	12	46	
6-10	8	12	60	
11-15	6	12	67	
16+	0	5	100	
total	34	41	55	0.0015
Amount of caries in children 0-13 years old				
No caries	3	0	0	
Mild caries (1-2 teeth)	10	11	52	
Moderate caries (3-6 teeth)	13	26	67	
Severe caries (>6 teeth)	5	4	44	
total	31	41	57	0.0618
Number of children that were 0-3 years old				
None	23	13	36	
1-5	9	27	75	
6-10	0	1	100	
11-15	1	0	0	
16+	0	0	0	
total	33	41	55	0.0027

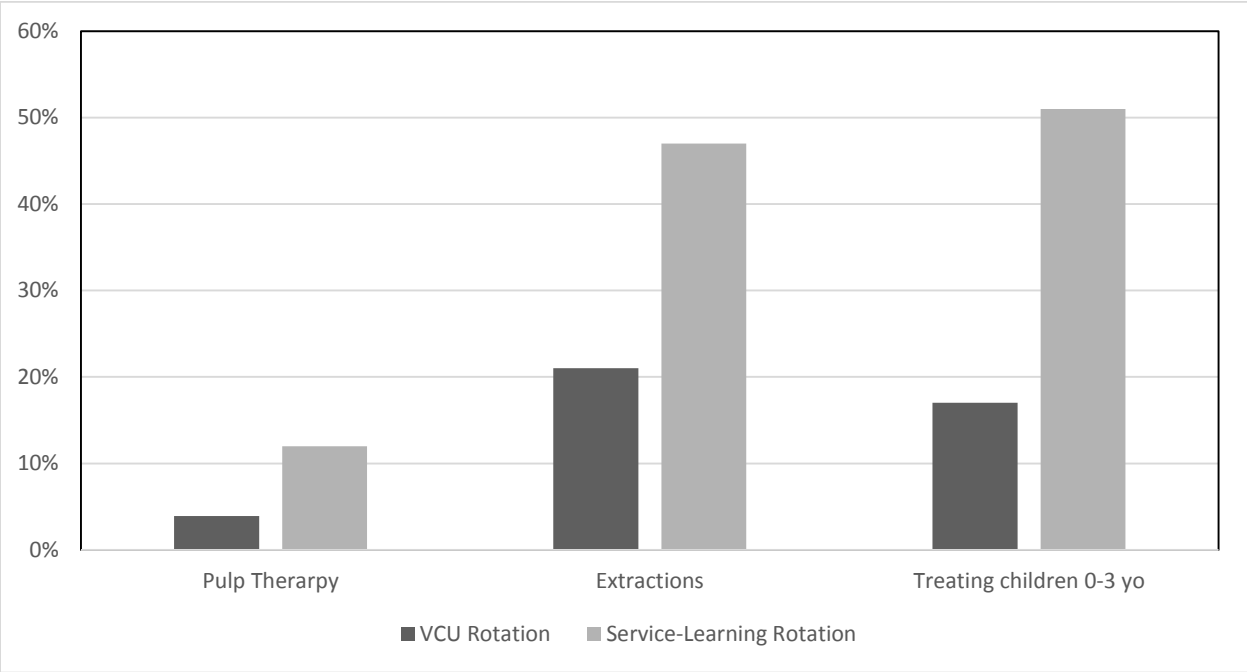
Table 5: Relationship between increased confidence and procedures performed.

	More Confident (n)			
Procedures	No	Yes	% Yes	p-value
Exam, prophylaxis and fluoride treatment				
No	8	1	11	
Yes	26	40	61	0.0035
Sealants				
No	20	2	9	
Yes	14	39	74	<.0001
Local anesthesia				
No	23	3	12	
Yes	11	38	78	<.0001
Simple restorative				
No	16	0	0	
Yes	18	41	69	<.0001
Stainless steel crowns				
No	34	36	51	
Yes	0	5	100	0.0118
Pulp therapy				
No	33	33	50	
Yes	1	8	89	0.0186
Extractions				
No	23	16	41	
Yes	11	25	69	0.0128
total	34	41	55	

Table 6: Effects of experience with sealants and local anesthesia

		More Confident (n)		
Sealants	Local Anes.	No	Yes	% Yes
No	No	17	0	0
No	Yes	3	2	40
Yes	No	6	3	33
Yes	Yes	8	36	80

Figure 1: Percentage of students who gained experience in VCU School-based Pediatric Dental Rotation versus Service-Learning Rotation



VITA

Bushra Amjad Bhatti was born on January 13, 1985 in Burlington, North Carolina. She attended the University of North Carolina at Chapel Hill and graduated with distinction in 2007. She was then accepted to Boston University Goldman School of Dental Medicine and graduated Summa Cum Laude with a Doctor of Dental Medicine in May 2011. Bushra was then accepted into a two year pediatric dental residency at Virginia Commonwealth University School of Dentistry, from which she is expected to graduate in June 2013.