A Comparison of How Adolescent Patients and Their Parents Rate Communication by Pediatric Resident Physicians

Thesis submitted to the University of Arizona College of Medicine – Phoenix
in partial fulfillment of the requirements for the degree of Doctor of Medicine

Connor Ohmart
Class of 2018

Mentor: Vasudha Bhavaraju, MD

ABSTRACT:

There are unique challenges in caring for the adolescent population, including communication in a way that is effective for both the adolescents and their parents or caregivers. While we assume that both are seeking similar qualities in their resident doctor, we sought to determine if a difference exists between adolescents and their parents in the judgment of adequate physician communication. This may offer insight into what each population values most in the skill set of their provider and may guide future pediatric resident education. **Methods**: We used the validated Communication Assessment Tool to survey adolescent patients (ages 11 – 17) and their respective parents about resident communication skills at the Phoenix Children's Hospital and Maricopa Medical Center Adolescent Clinics. **Results**: Analysis of 30 parent/adolescent pairs found that of the fourteen questions on the survey, there was a statistically significant difference in responses on only two topics: (1) Greeted me in a way that made me feel comfortable and (2) Treated me with respect. With regards to the other 12 topics surveyed, however, there was no statistical difference in the ratings between adolescent patients and their respective parents. **Conclusion**: These findings suggest that in this small sample study, adolescent patients and their parents are, overall, quite similar in quantitative evaluation of resident interpersonal and communication skills

TABLE OF CONTENTS:

Introduction 1-2

Methods 3-4

Results/Data Analysis 5-10

Discussion 11

Future Directions/Limitations 12

Conclusions 13

References 14

Appendix 15

FIGURES AND TABLES

Table 1 6

Table 2 7

Figure 1 8

Figure 2 9

Figure 3 10

INTRODUCTION:

Adolescents and young adults (age 10 – 19) constitute approximately 13% of the population in the United States.[1]" According to the Pediatric Physicians Workforce Book, approximately 304 pediatricians have pursued adolescent medicine fellowships since the year 2001.[2] Even if one were to make the assumption that every physician who became certified in Adolescent Medicine (n=692) was still actively practicing today, this would translate to one board-certified adolescent medicine provider for nearly 100,000 adolescents. Though many providers, including general pediatricians, family practitioners, and combined internal and medicine-pediatric physicians, have the ability to appropriately treat adolescents, there appears to be a shortage in physicians with ample specialized training to care for this population.

While pediatric residencies are mandated by the Accreditation Council for Graduate Medical Education (ACGME) to provide a dedicated unit in treating adolescent patients, pediatricians continue to feel inadequately prepared in caring for adolescent populations.[3] Kaul et al attempted to assess the competency of third-year pediatric residents (n=24) at the University of Colorado School of Medicine with regards to adolescent medicine via an Objective Structured Clinical Exam or OSCE. This OSCE addressed the six basic competencies expected of a resident by the ACGME including patient care, interpersonal and communication skills, professionalism, medical knowledge, practice-based learning and improvement, and systems-based practice.

The results from this study showed that overall, pediatric residents in their program performed less well on the adolescent case in their OSCE compared to the average scores of their non-adolescent OSCE cases. With appropriate statistical analysis, it was found that the mean score difference between adolescent and non-adolescent cases were statistically significant in the realms of professionalism and history taking .[4] With regards to professionalism, the average score on a scale of 1-100 for the adolescent case was 79.57 versus 89.51 on the nonadolescent case ($p = 0.01$). When rated on history taking, the residents scored an average of 66.27 on the adolescent case versus 75.10 on the nonadolescent case ($p=0.05$). According to the study, "with regard to the category of professionalism in the adolescent case, residents more often failed to elicit feelings and/or thoughts about concerns, respond to patient needs, and convey

compassion.[4]" While this study only represents experiences from one residency program, survey data from pediatric residency program directors demonstrated that great variability exists between programs with regards to their adolescent care curriculum and the "actual time spent with adolescents is minimal.[4,5,6]"

Determining how to communicate skillfully with both the adolescent patient and their parent is likely challenging for residents, but there is no literature to date directly addressing this issue. The goal of this study is to assess the patient feedback of adolescents versus that of their parents in a singular resident encounter and to elucidate how each individually views their provider with regards to communication and interpersonal skills. We hope that through analysis of these hypothesized differences in values and judgment of adequate physician communication that residents can increase their awareness of how they might tailor their communication styles to simultaneously strengthen both the physician-patient and physician-parent relationship. This study was developed as a sub-project of a large multi-institutional study with Stanford University, University of Chicago, and Phoenix Children's Hospital with approval from the site Principle Investigators.

METHODS:

Study population: Adolescent patients (11-17 years old) and their accompanying parents or guardians at the Phoenix Children's Hospital (PCH) and Maricopa Medical Center (MMC) Adolescent Clinics.

Protocol:

i) Data was collected by trained research assistants via the Pediatric-Patient/Family Feedback Tool (P-PFT) (see Appendix). This tool was a variation of the validated Communication Assessment Tool (CAT) and had 14 survey questions with responses collected via Likert score (1-5) with descriptors, (ie 1 = poor and 5 = excellent). Responses were then grouped evaluated as dyads (adolescent versus respective parent) as well as grouped into appropriate populations (adolescent versus parent) and mean values calculated for each of the 14 questions surveyed.

ii) After the adolescent had been evaluated by a resident doctor in one of the adolescent clinics described above, a research assistant explained the aim of the study and families were provided with the patient and parent-specific research information sheets and assent forms.

iii) P-PFTs were distributed to adolescents and their accompanying parents by paper-form to assess the quality of communication skills demonstrated by the resident doctor during the previous encounter. When preferred, Spanish-translation of the form was used.

iv) Each survey from a single encounter with a resident was coded with a unique identifier (i.e., 1 – 100) so that the P-PFT's from both the adolescent patient and their accompanying parent could be linked to that singular resident encounter.

v) Information collected from patient feedback forms included the current date, age of the patient, race/ethnicity, and preferred language, but no other pertinent personal health information that could be linked back to the patient. Risk to resident privacy was be mitigated by having paper patient feedback responses stored in a safe on-

site location at PCH or Maricopa under lock and key; Resident names were removed prior to statistical analysis of this portion of the study.

Inclusion/Exclusion criteria: All patients at the adolescent clinics along with their accompanying parents at PCH and MMC will be eligible to participate and complete patient feedback forms. Adolescent patients were excluded from the study if their respective parent was not present during the initial history and physical exam by the pediatric resident doctor or if they elected not to participate.

Power Analysis: An estimate of completed pairs of surveys needed was calculated based on the length of our data collection period and the understanding that the census of adolescent patients at both clinics has been unpredictable according to the providers at these locations. A 40% difference in the number of patients who answered “agree” or “strongly agree” between the parent and adolescent populations rendered a statistical power of 89% with an assumption that 50 pairs of surveys could be collected

Data Analysis: The Wilcoxon Rank Sum test was implemented to compare scores between the child and parent population.

RESULTS/DATA ANALYSIS:

We aimed to collect approximately 50 pairs of parent/patient surveys combined at both the PCH and MMC adolescent clinics. Due to low census numbers at both adolescent clinics, however, only a total of 30 pairs of surveys were collected and the number of surveys needed for appropriate power was not reached. Table 1 lists the demographic information of all those surveyed at both adolescent sites.

Table 2 demonstrates the average ratings on 14 different communication skills using a Likert scale of 1 to 5 (1=poor and 5=excellent) from both populations collectively. There was a statistically significant difference between the adolescent and parent populations for the topics 'Greeted me in a way that made me feel comfortable' and 'Treated me with respect'; the Adolescent population as a whole graded the resident doctor less positively on these two skills than did the adult cohort. However, there was no statistically significant difference in the responses for the remaining 12 topics on the P-PFT; this includes no difference between the adolescent and adult cohorts in total (for these remaining 12 skills) in addition to no difference between an individual adolescent and his or her respective parent in a dyad.

When comparing the responses of only the adolescents, it was found that there was little variation in their ratings of resident physicians when separated by gender. This is apparent in Figure 1 which demonstrates that the only statistically significant difference in the responses between genders was that male adolescents typically rated their resident more positively on the topics of 'Understood my main health concern' and 'Gave me as much information as I wanted'.

Analysis of each individual population by native language demonstrated that the adult population had no statistically significant variation in responses when comparing English versus Spanish native speakers (Figure 3). However, amongst the adolescent responses it was found that English speakers rated their residents more favorably than their Spanish-speaking counterparts in the topics of 'Checked to be sure I understood everything', 'Showed care and concerns', and 'Spent the right amount of time with me' (Figure 2). It is important to note that language fluency of the resident physician or use of a language interpreter during the encounter was not recorded.

TABLE 1: Demographics

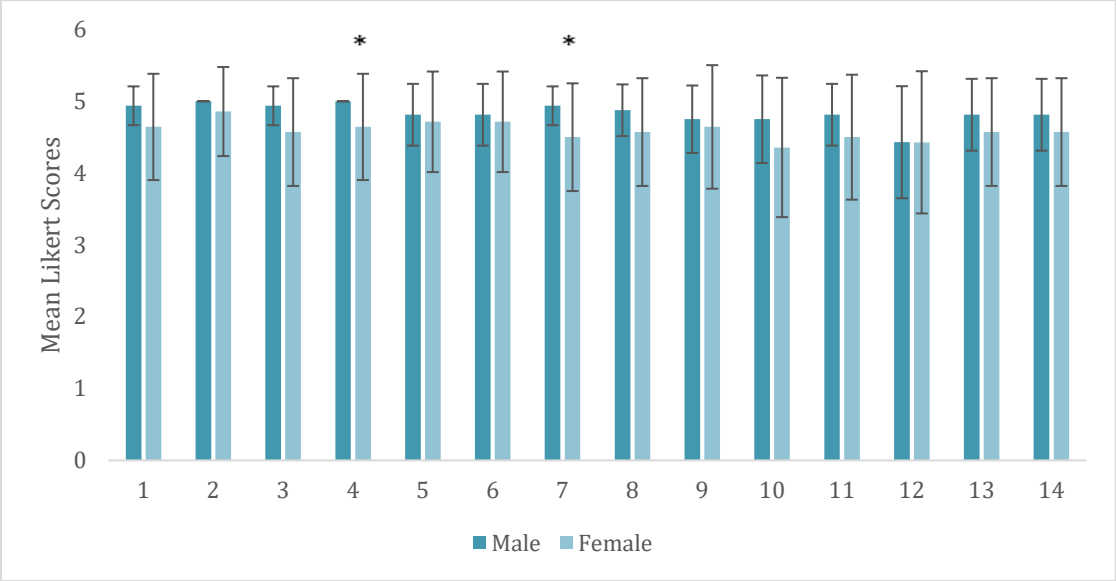
Survey Characteristics	Values
Child's Age (mean, SD)	15.7 (1.1)
Parent's Age (mean, SD)	41.2 (7.6)
Parent's Race (Hispanic, %)	25 (83.3)
Parent's Race (Caucasian, %)	5 (16.7)
Locations (N, %)	
MIHS	27 (90.0)
PCH	3 (10.0)
Parents' Primary Language (N, %)	
English	6 (20.0)
Spanish	24 (80.0)
Childs' Primary Language (N, %)	
English	18 (60.0)
Spanish	12 (40.0)
Child's Gender (N, %)	
Female	14 (46.7)
Male	16 (53.3)

TABLE 2: Survey Questions with Mean Response Entries using Likert scale 1-5 (1=poor and 5 = excellent)

Survey Questions	Overall N=60	Child N=30	Parent N=30	P-value[1]	P-value[2]
	Mean (SD)	Mean (SD)	Mean (SD)		
(1) Greeted me in a way that made me feel comfortable.	4.55 (0.74)	4.30 (0.88)	4.80 (0.48)	0.009	0.02
(2) Treated me with respect.	4.80 (0.51)	4.67 (0.61)	4.93 (0.36)	0.015	0.02
(3) Showed interest in my ideas about my (child's) health.	4.73 (0.57)	4.70 (0.65)	4.76 (0.50)	0.89	0.88
(4) Understood my (child's) main health concerns.	4.73 (0.57)	4.63 (0.67)	4.83 (0.46)	0.18	0.19
(5) Paid attention to me (looked at me, listened carefully).	4.73 (0.57)	4.70 (0.53)	4.76 (0.50)	0.56	0.58
(6) Let me talk without interruptions.	4.70 (0.57)	4.63 (0.61)	4.76 (0.50)	0.36	0.39
(7) Gave me a s much information as I wanted	4.67 (0.65)	4.60 (0.77)	4.73 (0.52)	0.66	0.53
(8) Talked in terms I could understand.	4.65 (0.68)	4.57 (0.82)	4.73 (0.52)	0.61	0.49
(9) Checked to be sure I understood everything.	4.61 (0.67)	4.53 (0.73)	4.70 (0.59)	0.35	0.40
(10) Encouraged me to ask questions.	4.56 (0.69)	4.57 (0.67)	4.56 (0.73)	0.79	0.66
(11) Involved me in decisions as much as I wanted.	4.65 (0.63)	4.63 (0.67)	4.66 (0.61)	0.93	0.80
(12) Discussed next steps, including any follow-up plans.	4.51 (0.79)	4.58 (0.82)	4.43 (0.77)	0.27	0.41
(13) Showed care and concerns.	4.70 (0.67)	4.70 (0.74)	4.70 (0.59)	0.61	0.67
(14) Spent the right time amount of time with me.	4.61 (0.73)	4.53 (0.86)	4.70 (0.59)	0.61	0.63

1- Wilcoxon Rank Sum to compare between Child and Parent Measurements.
2- Wilcoxon Sign Rank to compare between each Child's response and their respective Parent's response

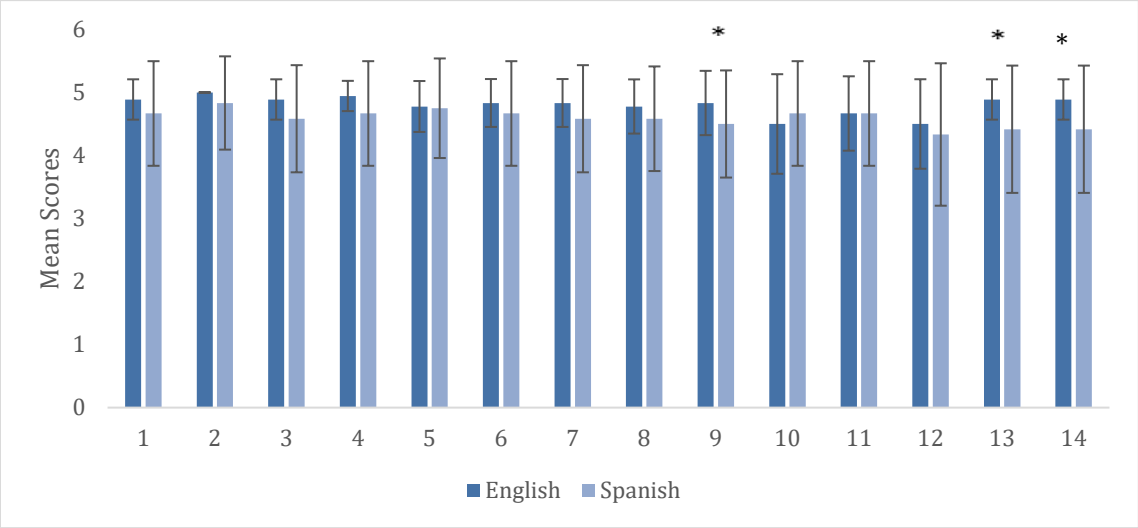
FIGURE 1: Adolescent-only responses grouped by gender



* indicates a statistically significant difference in response between groups

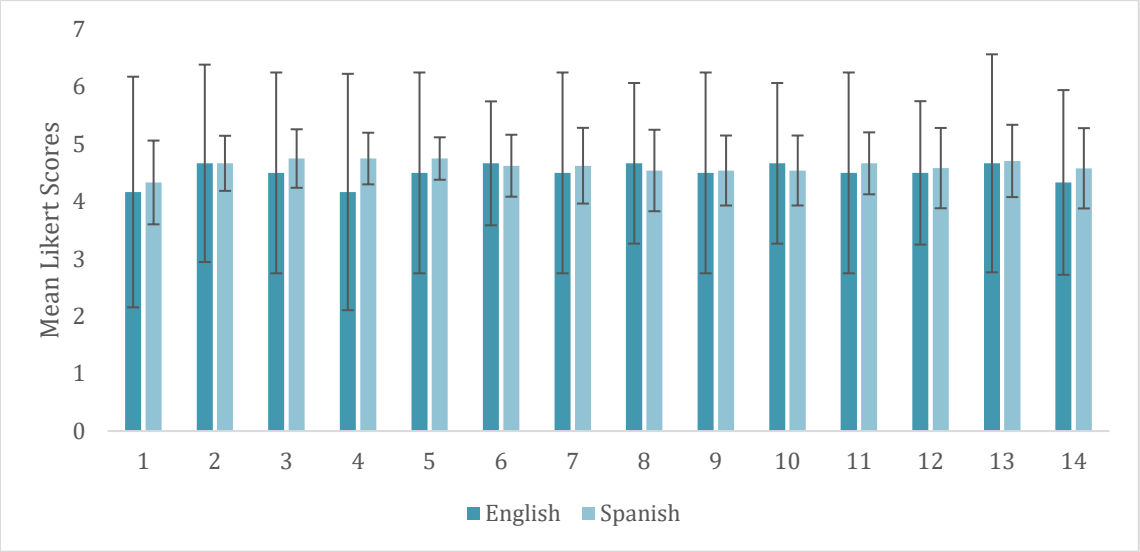
Note: Brackets around the mean values represent the standard deviation (SD)

FIGURE 2: Adolescent-only responses grouped by primary language



* indicates a statistically significant difference in response between groups
Note: Brackets around the mean values represent the standard deviation (SD)

FIGURE 3: Parent-only answers grouped by primary language



* indicates a statistically significant difference in response between groups
Note: Brackets around the mean values represent the standard deviation (SD)

DISCUSSION:

Despite an inability to obtain fifty paired surveys to meet the power requirement for this study, its results show an interesting trend. As a whole, on twelve out of the fourteen topics surveyed from a single resident encounter with an adolescent and a respective parent, no statistically significant difference was seen in their rating of their resident doctor. Though we initially hypothesized that adolescents would rate the communication skills and empathy of their resident physician differently, it appears they view their provider similarly on the majority of skills measured by the P-PFT. The two areas that adolescents evaluated the resident physician more negatively than their parents and the parent population as a whole were 'Greeted me in a way that made me feel comfortable' and 'Treated me with respect'. These findings offer the insight that since these two distinct populations perceive the interpersonal and communication skills of their resident physician similarly, perhaps future pediatric resident physicians should engage both populations similarly in their interactions. It is not surprising that adolescents may prefer to be treated more like and "adult patient" with empowerment for their own care and decision-making, rather than a "pediatric patient" whose opinions may not be as often elicited by the physician, as decision-making is often deferred to the parent. It should be noted that as a whole, both populations rated their resident physicians positively with regards to average Likert scores for each topic in the P-PFT. This result may point to a lack of experience with using Likert scales or, perhaps, the fact that both parents and adolescents may perceive their doctor as an authority figure, defaulting to high ratings on interpersonal and communication skills.

FUTURE DIRECTIONS/LIMITATIONS:

This study is limited in that the number of surveys needed to meet the power requirement of the study was not met due to a low census of patients and some adolescents seeking medical care without the presence of a parent or guardian. In addition, these results may not be generalizable to other institutions or the entire population at large since the majority of our subjects were from one specific race (83.3% Hispanic). More data would need to be collected to examine whether these findings translate across multiple ethnic and cultural groups. Finally, neither the primary language of the residents nor the use of a language interpreter were recorded, and may have influenced the survey results. The use of an interpreter requires extra time and can be seen as both an aid and a barrier in some aspects of interpersonal and communication skills.

Follow-up to this study should include an increased number of subjects to increase power and further examine the relationship between adolescent and parent responses with regards to a singular resident encounter. Further studies should also examine whether or not the use of an interpreter during the encounter may affect the evaluation of communication skills by the resident. Qualitative data may also prove to be valuable in this context where one could more thoroughly examine the nature of what traits adolescents seek or value in their pediatricians and in what ways they differentiate themselves from their respective parents in how they judge adequate communication and interpersonal skills

CONCLUSIONS:

Despite inadequate power with the study, it was found that on a majority of topics surveyed (12/14) concerning resident communication, the adolescent population response showed no statistical difference from the responses of the adult population when examined both in individual dyads or in aggregated groups. These findings suggest that there is little differentiation between the judgment of the surveyed adolescents and their parents with regards to evaluating the interpersonal and communication skills of their resident physician. This, in turn, has valuable implications with regards to how we might choose to train future pediatric residents in adolescent medicine.

REFERENCES:

(1) U.S. Census Bureau. (2016, June). Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties, and Puerto Rico Commonwealth and Municipios: April 1, 2010 to July 1, 2015. Retrieved August 23, 2017, from **factfinder.census.gov/bkmk/table/1.0/en/PEP/2015/PEPAGESEX?slice=GEO~0100000US**

(2) American Board of Pediatrics, Pediatric Physicians Workforce Data Book, 2016-2017, Chapel Hill, NC: American Board of Pediatrics, 2017.

(3) Fox H, McManus M, Klein J, et al. Adolescent Medicine Training in Pediatric Residency Programs. *Pediatrics.* 2010;125(1):165-172. doi:10.1542/peds.2008-3740

(4) Kaul P, Gong J, Guiton G, Rosenberg A, Barley G. Measuring Pediatric Resident Competencies in Adolescent Medicine. *Journal of Adolescent Health*. 2014; 55(2):301-303. doi:10.1016/j.jadohealth.2014.05.003.

(5) Fox H, McManus M, Diaz A, et al. Advancing Medical Education Training in Adolescent Health. Pediatrics. 2008; 121(5): 1043-1045. doi:10.1542/peds.2007-3720.

(6) Kaul P, Barley G, Guiton G. Medical Student Performance on an Adolescent Medicine Examination. *Journal of Adolescent Health*. 2012; 51: 299-301. doi:10.1016/j.jadohealth.2912.02.005.

APPENDIX:

PEDIATRIC-PATIENT/FAMILY FEEDBACK TOOL:

Resident's Name: _____

Current date: _____ Time: _____ am pm

Current location: Outpatient clinic Emergency department Hospital unit (please specify) _____

Hospital: _____

Who is filling out this form? The: patient parent/guardian research assistant

Communication with patients is an important part of good medical care. We would like to know how you feel about the way the resident doctor communicated with you and/or your child. Your answers are completely confidential and will not affect your/your child's medical care in any way, so please be as open and honest as you can. For paper surveys, please place the completed survey in the envelope provided, seal, and return to the nurse or medical assistant.

The resident doctor…	Poor	Fair	Good	Very Good	Excellent
1. Greeted me in a way that made me feel comfortable	1	2	3	4	5
2. Treated me with respect	1	2	3	4	5
3. Showed interest in my ideas about my (child's) health	1	2	3	4	5
4. Understood my (child's) main health concerns	1	2	3	4	5
5. Paid attention to me (looked at me, listened carefully)	1	2	3	4	5
6. Let me talk without interruptions	1	2	3	4	5
7. Gave me as much information as I wanted	1	2	3	4	5
8. Talked in terms I could understand	1	2	3	4	5
9. Checked to be sure I understood everything	1	2	3	4	5
10. Encouraged me to ask questions	1	2	3	4	5
11. Involved me in decisions as much as I wanted	1	2	3	4	5
12. Discussed next steps, including any follow-up plans	1	2	3	4	5
13. Showed care and concern	1	2	3	4	5
14. Spent the right amount of time with me	1	2	3	4	5

15. What did the resident doctor do well to communicate with you/your child? Please give specific examples.

16. How can the resident doctor improve his/her communication with you/your child? Please give specific examples