Caregiver’s Race/Ethnicity on Acceptance of Passive Immobilization for their Child’s Dental Treatment

BY

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THESIS

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<tr>
<td>AAPD</td>
<td>American Academy of Pediatric Dentistry</td>
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<td>ADA</td>
<td>American Dental Association</td>
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<td>ANOVA</td>
<td>Analysis of Variance</td>
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<td>Behavior Management Problems</td>
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Summary

Behavior management continues to be one of the most important aspects of the Pediatric Dentistry specialty. Behavior management techniques (BMTs) have been historically used as a means of creating a positive and safe dental environment for the patient, parent, and dentist (AAPD, 2016-2017). When selecting BMTs, the dentist must be mindful of the individual needs of each patient. Over time, BMTs have evolved and have been tailored to changes that have taken place in our society. Both pharmacological and non-pharmacological techniques have been adapted to meet the expectations of parents, patients, and dentists (AAPD, 2016-2017).

To date, there have been a wide array of studies that have evaluated parental acceptance of behavior management techniques used in Pediatric Dentistry. It has been determined that there are many factors that impact a parent’s decision to accept or reject different BMTs. As pediatric dentists, we understand the importance of parents being involved in this decision-making process and we should be willing to take into consideration these potential factors. We also understand that cultural/ethnic differences may impact one’s decision as it relates to their child’s care. The most recent studies have shown that passive immobilization continues to be the least accepted behavior management technique by parents. To date, there is no study that has isolated this technique and attempted to determine if differences in parental race/ethnicity may play a role. The purpose of this study was to determine if there was an association between caregiver race/ethnicity and their willingness to accept passive immobilization as a means of behavior management for their child’s dental treatment and to confirm the idea that the caregivers in our population are more likely to accept passive immobilization after receiving a description of the technique and have a relatively good understanding of the technique.
1. Introduction

1.1 Background

Behavior guidance is one of the most important aspects of the field of pediatric dentistry. Behavior guidance techniques used in pediatric dentistry, both non-pharmacological and pharmacological, are used to alleviate anxiety, nurture a positive dental attitude, and perform quality oral health care safely and efficiently for infants, children, adolescents, and persons with special health care needs (AAPD, 2016-2017). Non-pharmacological methods include but are not limited to: tell-show-do, voice control, positive reinforcement, passive immobilization, active immobilization. Pharmacological techniques include: nitrous oxide sedation, oral sedation, and general anesthesia. Protective stabilization which includes both passive and active restraint continues to be an area of concern for both providers and caregivers in the field of Pediatric Dentistry. According to the American Academy of Pediatric Dentistry guideline on Behavior Management released in 2016, “The broad definition of protective stabilization (formerly referred to as physical restraint and medical immobilization) is the restriction of patient’s freedom of movement, with or without the patient’s permission, to decrease risk of injury while allowing safe completion of treatment. The restriction may involve another person(s), a patient stabilization device, or a combination thereof” (AAPD, 2016-2017). The use of a patient stabilization device is referred to as passive immobilization. Many studies have concluded that of all the BMTs still being used today, parents were least accepting of physical restraint, and when given the choice between active or passive immobilization, passive immobilization was least accepted (Murphy et al, 1984; Scott & Garcia-Godoy, 1998; Peretz & Zadik, 1999; Abushal et
The objective of the study performed by Eaton et al was to examine parental attitudes toward behavior management techniques used in pediatric dentistry. Parents viewed videotaped scenes of each of the behavior management techniques and then completed survey forms for analysis. Eaton et al concluded that acceptance of each technique was not related to parental age, gender, education level, or social status. However, his study did not attempt to relate parental race or ethnicity. Though these studies have concluded that passive immobilization is the least accepted method by parents, no studies have attempted to determine if parental race or ethnicity may impact this relationship. Studies have however concluded that a positive description of the passive immobilization technique has resulted in more parents accepting this form of behavior management (Lawrence et al, 1991; Kupietzky & Ram, 2005). Kupietzky & Ram, in a study conducted in Israel, investigated the impact of a positive verbal presentation on parental acceptance of passive immobilization (then referred to as passive medical stabilization) for their child’s dental treatment. Parents were placed in two groups: one group receiving a neutral explanation and the other group receiving a positive explanation. The study concluded that a positive explanation resulted in more parents accepting passive immobilization as a form of treatment (Kupietzky & Ram, 2005). It has also been determined that cultural factors can impact patient behavior and can make dental visits more challenging for the pediatric dentist (Ng, 2003). Cultural identity can impact child-rearing practices, which can ultimately impact a child’s willingness to cope within a dental setting (Ng, 2003). For this reason, cultural factors may impact the parent’s willingness to accept different treatment modalities. In a recent study performed by Chang, parental preferences of BMTs differed between ethnicities (Chang, 2016). Studies have shown that African Americans tend to have harsher views about discipline than
Caucasians (Allen, 1990; LeCuyer et al, 2011). The literature describes African Americans as being more authoritative in their parenting, while, Hispanic parents were described as being more permissive (Allen, 1990; LeCuyer et al, 2011; Ng, 2003). A survey of pediatric dentists found that pediatric dentists feel that many parents have become more overprotective and less accepting of BMTs that may be seen as suffering for their child (Casamassimo, 2002). This can be attributed to a change in the nature of parenting in America (Long, 2004). The difference in parenting style by race/ethnicity, and the difference in acceptance of BMTs based upon parenting style, leads us to believe that caregiver’s race/ethnicity may have an impact on their willingness to accept passive immobilization as a behavior management technique for their child’s dental treatment.

1.2 Purpose of This Study

The primary aim of this study was to determine if there is an association between caregiver’s race/ethnicity and their willingness to accept passive immobilization as a means of behavior management for their child’s dental treatment. We also aimed to confirm the idea that the caregivers in our population are more likely to accept passive immobilization after a description of the technique is given.
1.3 Hypotheses

1. Caregiver race/ethnicity is associated with the caregiver’s willingness to accept passive immobilization as a behavior management technique for their child’s dental treatment.

2. A written and pictorial description of passive immobilization makes the caregiver more likely to accept passive immobilization as a form of behavior management for their child’s dental treatment.
2. Literature Review

2.1 Dental Fear and Anxiety in Pediatric Dentistry Patients

Managing dental fear and anxiety in Pediatric Dentistry patients continues to be one of the major focuses of the dental specialty. Many studies have attempted to determine the origin of these fears and anxieties. General emotional status, parental dental fear, previous dental treatment, and experiences of pain have all been identified as factors that may explain a child’s dental anxiety or fear (Klingberg et al, 1998). Also sometimes linked together, dental fear and behavior management problems (BMPs) can be classified differently (Klingberg et al, 2007). Klingberg performed an epidemiological study that showed that not all fearful children present with behavior management problems in a dental setting and that only a small number of children who present with behavior management problems are indeed fearful (Klingberg et al, 2007). Children with dental fear tend to be more withdrawn during dentist-patient interactions and more passive during treatment. On the contrary, children with BMPs tend to be more outgoing in their general behavior and more rebellious during dental treatment (Klingberg et al, 2007).

In a more recent study aimed at determining the main sources of anxiety in children when visiting the dental office, a significant positive correlation was found between the number of unsuccessful dental visits in another office and increased anxiety level (Mendoza et al, 2015). An unsuccessful dental visit was any visit in which treatment was started, but not completed due to pain or the dentist’s inexperience in dealing with pediatric patients. Numerous studies have concluded that negative dental experiences are predictive of

Treating patients with dental fear and anxiety can affect the dental team, parent, and the child; all of which make up the triad of effective pediatric dentistry behavior management (Klingberg et al, 2007). The selection of BMTs should be a result of communication between the patient, parent, and the dentist. As caregivers, parents ultimately have the choice in deciding the treatment and the method of treatment that their child will receive. Due to this, it is important that parental preference and acceptance is valued by the dentist. The acceptance of BMTs by parents has a lot to do with the information they receive about the technique by the dentist, which signifies the importance of effective communication within this triad (Lawrence et al, 1991).

2.2 Behavior Management Techniques used in Pediatric Dentistry

The AAPD guidelines on behavior guidance for the pediatric dental patient were established for the purpose of providing quality and effective oral health care to children and patients with special needs (AAPD, 2016-2017). The guideline aims to educate health care providers, parents, and others who may be interested in contemporary behavior management techniques that have been approved by the AAPD (AAPD, 2016-2017). There are currently ten behavior management techniques that are approved by the AAPD. These can be further classified as either pharmacological or non-pharmacological. These BMTs are used to alleviate anxiety, foster a positive dental attitude, and perform quality dental care safely and efficiently (AAPD, 2016-2017).
2.2.1 Non-Pharmacological Techniques

Before the 21st century, many dentists lacked pharmacological techniques and relied greatly on non-pharmacological techniques that attempted to shape patient behavior.

Non-pharmacological techniques used in pediatric dentistry include: tell-show-do, voice control, positive reinforcement, non-verbal communication, distraction, parental presence/absence, and protective stabilization (AAPD, 2016-2017).

**Tell-Show-Do:** aims to demonstrate important aspects of the dental visit to the patient and to shape their response to procedures. It involves verbal explanations of what will take place at a level appropriate for the patient’s development (tell), demonstrations of the visual, auditory, olfactory, and tactile aspects of the procedure (show), and execution of the procedure (do).

**Voice Control:** altering the volume, tone, pace of the practitioner’s voice with the hope of gaining the attention of the child.

**Positive Reinforcement:** rewards positive behaviors with the hope of increasing the likelihood of recurrence of the desired behaviors. May include social reinforcers such as: positive voice modulation, facial expression, verbal praise, and appropriate physical demonstrations of affection by the dental team.

**Non-Verbal Communication:** reinforcement and guidance of behavior through appropriate contact, posture, facial expression, and body language.

**Distraction:** diverting the attention of the patient from what may seem to be an unpleasant procedure.

**Parental Presence/Absence:** initiating the presence or absence of the parent in order to adjust or maintain the cooperation of the child during treatment.
**Protective Stabilization:** the restriction of patient’s freedom of movement, with or without the patient’s permission, to decrease risk of injury and lead to completion of treatment. Includes both active stabilization/immobilization and passive stabilization/immobilization. Active involves restriction by anything or anyone other than a device, while passive involves the use of a stabilization devise, i.e. papoose board.

### 2.2.2 Pharmacological Techniques

Most children can be managed with non-pharmacological BMTs, however sometimes patients may lack the cognitive and emotional maturity necessary and as a result, more advanced techniques may be needed (AAPD, 2016-2017). Pharmacological techniques currently approved by the AAPD are nitrous oxide, conscious sedation, and general anesthesia.

**Nitrous Oxide:** the inhalation of nitrous and oxygen in order to reduce anxiety and enhance effective communication.

**Conscious Sedation:** medications administered in order to place the patient in a more relaxed state and allow for a more effective and safe completion of treatment. The patient maintains their own airway and is able to respond to tactile stimuli.

**General Anesthesia (GA):** the patient is placed in a controlled state of unconsciousness while the dental procedure is completed. There is a loss of protective reflexes and the patient cannot maintain their own airway independently and cannot respond to physical stimulation or verbal command.
2.3 Parental Acceptance of Behavior Management Techniques used in Pediatric Dentistry

To date, there have been a wide variety of researchers who have aimed to assess parental attitudes towards behavior management techniques used in pediatric dentistry. These studies started over 30 years ago and new studies are done as parenting styles and dental treatment methods adapt to societal changes and influences. The first study that assessed parental attitudes was published by Murphy et al in 1984. Parents were asked to view videotaped segments of actual treatment which showed 10 behavior management techniques. Parents were found to be more accepting of the least aggressive techniques and those techniques involving the administration of drugs and the use of restraint (Murphy, 1984). Though this study was limited to a specific population, it provided the groundwork for other studies. This study did not aim to investigate the impact of parental age, race, gender, socioeconomic status, etc.

Approximately ten years later Lawrence et al. took a different approach. Studies had shown that parental attitudes toward BMTs were generally negative and Lawrence and his counterparts wanted to re-examine these findings (Lawrence, 1991). Were these negative attitudes due to a lack of understanding by the parent or due to a lack of a detailed explanation by the dentist? This was the first study that evaluated the impact of prior explanation of the technique on parental attitudes. Results indicated that parents who were more informed about BMTs were more accepting of techniques than those who were not informed (Lawrence, 1991). More advanced techniques like sedation, general anesthesia, and papoose board were still the least accepted.
Starting in the late 1990s, we started to see a shift in parental attitudes. Parents were starting to become more accepting of pharmacological techniques, and were least accepting of techniques that involved physical interaction between the dentist and the patient (Scott & Garcia-Godoy, 1998; Peretz, 1999; Abushal 2003). The study published by Scott and Garcia-Godoy, in 1998 was the first to examine parental attitudes in one racial group. Attitudes of Hispanic parents were evaluated and it was determined that papoose board and hand-over-mouth were least accepted (Scott & Garcia-Godoy, 1998). Though this study examined the attitudes of Hispanic parents there was no other racial or ethnic group used as a comparison, therefore there was no way to determine if there was a difference in attitudes based upon race/ethnicity. Attitudes of parents in countries outside of the United States have also been examined. Abushal et al examined parental attitudes in Saudi Arabia and Muhammad et al examined parental attitudes in Kuwait (Abushal, 2003; Muhammad, 2011). Parents in Saudi Arabia were least accepting of voice control and hand-over-mouth and more accepting of tell-show-do and positive reinforcement (Abushal, 2003). Most Kuwaiti parents preferred non-pharmacological techniques and techniques that did not involve restraint (Muhammad, 2011). The negative attitude towards voice control had not been seen in any studies that had been conducted in the US, however in 2013 a similar study conducted in Israel found that other than restraint, voice control was the least accepted by Israeli parents (Peretz, 2013). This could be due to cultural differences and differences in parenting styles in different countries.

The use of hand-over-mouth as a behavior management technique received a lot of attention in the early 20th century. With the shift in parenting styles, as well as the
adaptation of more pharmacological approaches, parents and dentists began to voice their concern with the technique and in 2006 it was removed from the AAPD guidelines on behavioral management (Oueis et al, 2010). After HOM was removed from the guidelines, nitrous oxide and oral sedation began to become more accepted by parents and pediatric dentists for the management of patients who were still difficult to manage after trying non-pharmacological techniques (Levering & Welie, 2011; McComb et al, 2002). Pediatric dentists were also surveyed in order to determine how they were adapting with the elimination of HOM. Results indicated that the most preferred were voice control and minimum/moderate sedation as alternatives, respectively (Oueis, 2010).

This shift in behaviors also led to a change in the curriculum in pediatric dentistry residency programs. In 2004, it was reported that all advanced education programs in pediatric dentistry were teaching their residents pharmacological techniques (Adair et al, 2004). As time has gone on, we have seen a similar disapproval of the use of physical restraint (Patel, 2016). This includes both, active restraint and passive restraint. Parents are moving in a direction towards pharmacological management rather than physical management, even though pharmacological management of behavior brings about greater potential health risks (Patel, 2016). Oral sedation and general anesthesia received the lowest approval ratings from parents in 1984 and 1991, but in the study conducted in 2015 they received the highest ratings (Patel, 2016). As behaviors and parental preferences and parenting styles continue to adapt, so must pediatric dentists’ methods of managing behavior.
Knowing that parents are least accepting of techniques involving restraint and that parenting styles may impact their decision, it would lead one to believe that a difference in parenting style may impact their willingness to consent to these techniques.

2.4 AAPD Guidelines on Protective Stabilization

The use of protective stabilization continues to be an area of concern within the pediatric dentistry community. Protective stabilization is defined as “any manual method, physical or mechanical device, material, or equipment that immobilizes or reduces the ability of a patient to move his or her arms, legs, body, or head freely” (AAPD, 2016-2017).

Protective stabilization includes active immobilization, which involves restraint by another person, as well as passive immobilization, which utilizes a restraining device (AAPD, 2016-2017). Before utilizing any form of immobilization, the dentist must be sure to evaluate the specific oral health care needs of the patient. Along with the patient’s oral health needs, the cognitive development, physical and medical conditions, as well as parental preferences must be taken into consideration.

Studies have shown that training in the appropriate use of advanced behavior management techniques, like protective stabilization, is limited in pre-doctoral programs. Forty-two percent of dental schools reported that less than twenty-five percent of their students had at least one hands on experience with passive immobilization for non-sedated patients, while twenty-seven percent of programs provided no clinical experiences (Adair et al, 2004). The use of passive immobilization in Pediatric Dentistry training programs has also been explored. Davis et al, concluded that experience with passive immobilization in residency did not make a difference in provider acceptance of passive immobilization, however, twenty-eight percent of pediatric dentists who
participated in the study reported that they had never used passive immobilization during residency (Davis et al, 2016). It is important that practitioners review the AAPD guidelines on protective stabilization.

2.5 Race and Parenting Styles

Cultural variations in parenting can have an impact on a parents’ willingness to accept changes that may directly or indirectly impact their child’s life and health. Baumrind’s classification of parenting styles, which include: authoritarian, permissive, and authoritative, are used today to determine the impact that they have on child’s behavior in the dental office. Research has shown that parents develop their parenting style based upon family experiences, personality style, and characteristics of their children (Belsky, 1984; Brooks, 1991; Coleman et al, 1989). These parenting styles can impact the behavior of the child as well as the parent in the dental office. Studies have shown that parenting styles among ethnic minority groups differ from that of Caucasians. African Americans tend to adapt a more authoritarian parenting style and believe in the value of strictness (Julian et al, 1994). There have been conflicting studies that have identified most Hispanic parents to adapt both permissive and authoritative parenting styles (Julian et al, 1994). Historically, Asian American parents tend to adapt the authoritative parenting style, demanding hard work and respect for authority (Julian et al, 1994). Differences in parenting styles can vary among different cultures and this may also contribute to anxiety, fear, and behavior in the dental office (Ng, 2003). To date, there has been one study that has evaluated ethnic influence on parental acceptance of behavior management techniques (Chang, 2016). Chang found that there was a difference in
parental acceptance of behavior management techniques based upon their ethnicity (Chang, 2016).

2.6 Parenting Style and Behavior Management Techniques

The change in parenting styles has caused pediatric dentists to adapt their means of behavior management techniques and has impacted child-parent-dentist interactions (Casamassimo et al, 2002; Aminabadi et al, 2015). As time goes on, more parents are adapting a more permissive parenting style, which makes it difficult for pediatric dentists to use advanced behavior management techniques (i.e. passive immobilization, sedation, GA). Aminabadi et al identified an association between parenting style and anxiety level as well as parenting style and behavior management techniques necessary for dental treatment (Aminabadi et al, 2015). Aminabadi et al found that an authoritative parenting style was positively related to positive behavior and negatively related to patient anxiety (Aminabadi et al, 2015). Permissive parents were found to have children who required more advanced techniques due to more negative behavior and increased anxiety (Aminabadi et al, 2015). Another study concluded that patients of authoritative parents were easier to manage in the dental office and had less caries than those with authoritarian and permissive parents (Howenstein et al, 2015). It is important for pediatric dentists to consider parenting style when discussing treatment options with the parents as well as when treating patients. Casamassimo et al conducted a survey of American Board of Pediatric dentistry diplomates regarding their perception of parenting styles and the impact it had on dental practice. They found that most pediatric dentists felt that parenting styles had changed and that this change had negatively impacted their methods of practicing (Casamassimo, 2002). This led to an increase in the number of practitioners
allowing parents into the room during treatment, as well as a decrease in the use of physical restraint during dental procedures (Casamassimo, 2002). The decreased acceptance of methods like voice control and passive immobilization has been identified in numerous studies since (Abushal et al, 2003; Muhammad et al, 2011; Peretz et al, 2013; Patel et al, 2016; Chang, 2016).

2.7 Social Status and Behavior Management Techniques

Social and economic status can greatly impact one’s views and perceptions of the importance of oral health. Access or lack of access to educational information and resources can impact one’s behaviors and views of oral health and behavior management techniques. Studies have found that socioeconomic status of the parent is associated with their acceptance of behavior management techniques used in pediatric dentistry. Parents of high socioeconomic status tended to be less likely to accept passive immobilization and GA, while parents of low socioeconomic status were more likely to accept these BMTs (Havelka, 1992).

2.8 Children’s Attitudes on Behavior Management Techniques used in Pediatric Dentistry

Most of the literature regarding attitudes on behavior management techniques used in pediatric dentistry focuses on the parent’s perspective. This is not of surprise, due to the fact that it is sometimes hard for children to communicate their attitudes effectively, whether it be because of anxiety, fear, or pain perception. As expected children were least accepting of advanced behavior management techniques and more accepting of basic techniques, like tell-show-do (Kantaputra et al, 2007). Those children who had previous dental experiences had worse attitudes and age was determined to confound the
relationship between acceptance and rejection of more advanced techniques (Kantaputra et al, 2007).

2.9 Dentist’s Attitudes toward Passive Immobilization

The use of passive immobilization is also impacted by the dentist’s attitudes regarding the technique. Not all pediatric dentists use passive immobilization as a form of behavior management in their office and this can be due to many factors. Davis et al assessed the acceptance and use of passive immobilization among Pediatric Dentistry Diplomates (Davis et al, 2016). Numerous studies have examined the use of passive immobilization among pediatric dentists, however there have been few studies that have examined provider acceptance (Adair et al, 2007). Davis et al concluded that practitioner’s sex, the setting of the practice, the region in which the practice is located, and perception of parental acceptance all play an important role in whether or not passive immobilization is used for the treatment of patients (Davis et al, 2016). Dentist’s attitudes towards passive immobilization can determine if protective immobilization is used in their practice as well as impact the manner in which the dentist presents the technique to the caregiver, which can impact caregiver attitudes towards any BMT (Lawrence et al, 1991).
3. Methods

3.1 Sample Selection

The target population was caregivers of children between the ages of 1-16 years being treated in the Post Graduate Pediatric Dentistry clinic at the University of Illinois College of Dentistry. Those caregivers who were capable of reading English or Spanish were eligible to participate in the study, if they did not have a child who was previously treated with protective immobilization. Caregivers were recruited during their first visit to the College, either at an Urgent Care visit or Initial Visit.

3.2 Study Design

Each caregiver, upon recruitment by the principal investigator (PI), was given a brown envelope which included a cover letter (Appendix A), pre-intervention questionnaire (Appendix B), pictorial and written description of passive immobilization technique (Appendix C), and a post-intervention questionnaire (Appendix D). The cover letter provided an explanation of the research study, anonymity, potential risks and benefits. Consent was obtained verbally by the PI before having the caregiver complete the survey. If the caregiver opted not to participate, the brown envelope was retrieved from the caregiver. Upon recruitment a few caregivers opted not to participate based upon limitations, including but not limited to, time restraints and not being interested. The number of individuals who opted out upon initial recruitment was not recorded, however it was very few. All brown envelopes were retrieved from the caregivers by the PI after they were sealed. Approval of the study was obtained from the University of Illinois at Chicago Institutional Review Board (Appendix E).
3.3 Survey Tool

The pre-intervention questionnaire was developed by the PI and contained 14 questions. Two questions allowed for identification of caregivers who did not meet the inclusion criteria. Six questions aimed to obtain basic demographic information about the caregiver and/or child. The remaining six questions aimed to obtain information about the caregivers’ understanding and views about protective immobilization and their willingness to consent to its use for their child’s dental treatment. The pictorial and written description of passive immobilization was compiled by the PI using information for the AAPD reference manual. The pictures were taken by the PI using a Protective Stabilization Model and Board Wrap obtained from Specialized Care Co, Inc. Hampton, NH. The written description was obtained from the AAPD guideline of Protective Stabilization. The post-intervention questionnaire contained six questions and these questions were identical to the last six questions on the pre-intervention survey. A four point Likert scale was used to assess the caregivers’ agreement or disagreement with the proposed statements on the questionnaire.

3.4 Statistical Analysis

From the collected packets, caregivers who were not the legal guardian, who had already had a child treated with passive immobilization, and who did not complete both the pre and post intervention questionnaires were excluded from data analysis. Caregivers were categorized based upon the racial/ethnic group they selected. Only 4 racial/ethnic groups were represented: African American, Asian, Caucasian, and Hispanic. Descriptive statistics were completed using SPSS. Statistical significance was set with 95% confidence intervals and p<0.05. Kruskal-Wallis ANOVA was used to assess the difference in acceptance among each racial group and Wilcoxon
Signed Ranks was used to assess the difference in acceptance after reviewing the written and pictorial description of passive immobilization.
4. Results

4.1 Number of Participants

A total of 284 subjects, who met the inclusion criteria, were entered and consented for this study. Four were excluded because the person who accompanied the child was not the legal guardian. Six were excluded because the pre-intervention survey was incomplete, and the remaining eight were excluded because the post-intervention survey was incomplete. Therefore, the sample size of 266 caregivers were used for statistical analysis.

4.2 Demographic Information

The demographic information of caregivers and their children is presented in Table I. The demographic information includes the age, race and sex of caregivers. The child’s age and special needs status is included in Table I. The majority of caregivers were between 21-45 years of age (94%). As it relates to the demographics of the children, 215 were between the ages of 1 and 6 years old (81%) and the remaining 51 children were between the ages of 7 and 11 (19%). Caregivers reported that 244 (91%) children did not have any special needs.
Table I

DEMOGRAPHIC INFORMATION OF CAREGIVERS AND CHILDREN

<table>
<thead>
<tr>
<th></th>
<th>N (%)</th>
<th>Total N (%)</th>
</tr>
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<tr>
<td>Caregiver Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>16 (6%)</td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>126 (47%)</td>
<td>266 (100%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>82 (31%)</td>
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</tr>
<tr>
<td>Caucasian</td>
<td>42 (16%)</td>
<td></td>
</tr>
<tr>
<td>Caregiver Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>47 (18%)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>218 (82%)</td>
<td>266 (100%)</td>
</tr>
<tr>
<td>Caregiver Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21-45 years</td>
<td>250 (94%)</td>
<td></td>
</tr>
<tr>
<td>46+ years</td>
<td>16 (6%)</td>
<td>266 (100%)</td>
</tr>
<tr>
<td>Child’s Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-6 years</td>
<td>215 (81%)</td>
<td></td>
</tr>
<tr>
<td>7-11 years</td>
<td>51 (19%)</td>
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<tr>
<td>Child’s Special Need Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>22 (9%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>244 (91%)</td>
<td>266 (100%)</td>
</tr>
</tbody>
</table>

4.3 Pre-Intervention Questionnaire Results

The results from the pre-intervention questionnaire are outlined in Table II. Caregivers responded to questions about their understanding of passive immobilization, their understanding about the risks/benefits of passive immobilization, their beliefs about passive immobilization being necessary, their beliefs about passive immobilization being safe, their beliefs about it having a negative impact on their child, and their willingness to consent. The results indicated that there was a significant difference (p<.05) among caregiver responses based upon race/ethnicity for all questions. Figure 1 shows a graphical representation of caregiver willingness to consent to passive immobilization by race/ethnicity before viewing a written and pictorial description of the technique. As shown in Figure 1, based upon initial attitudes, 50% of
Asian Caregivers, 66% of African American Caregivers, 84% of Hispanic Caregivers and 24% of Caucasian Caregivers were willing to consent to passive immobilization for their child’s dental treatment.
<table>
<thead>
<tr>
<th></th>
<th>Asian N (%)</th>
<th>African American N (%)</th>
<th>Hispanic N (%)</th>
<th>Caucasian N (%)</th>
<th>P-Value</th>
</tr>
</thead>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>1 (1%)</td>
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<tr>
<td>Agree</td>
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</tr>
<tr>
<td>Strongly Disagree</td>
<td>0 (0%)</td>
<td>36 (28%)</td>
<td>7 (9%)</td>
<td>1 (2%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>126</td>
<td>82</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td><strong>Understand risk/benefits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.000*</td>
</tr>
<tr>
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<td>4 (3%)</td>
<td>0 (0%)</td>
<td>2 (5%)</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
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<td>12 (9%)</td>
<td>24 (29%)</td>
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<tr>
<td>Disagree</td>
<td>16 (100%)</td>
<td>74 (59%)</td>
<td>53 (65%)</td>
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<tr>
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<td>36 (29%)</td>
<td>5 (6%)</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
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<td>126</td>
<td>82</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td><strong>Believe it may be necessary</strong></td>
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<td></td>
<td></td>
<td></td>
<td>.000*</td>
</tr>
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<td>23 (55%)</td>
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<tr>
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<td>14 (88%)</td>
<td>70 (55%)</td>
<td>31 (38%)</td>
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</tr>
<tr>
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<td>49 (39%)</td>
<td>12 (15%)</td>
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</tr>
<tr>
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<td>1 (1%)</td>
<td>3 (4%)</td>
<td>0 (0%)</td>
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</tr>
<tr>
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<td>126</td>
<td>82</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td><strong>Believe it is safe</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.000*</td>
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<td>4 (3%)</td>
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</tr>
<tr>
<td>Agree</td>
<td>13 (81%)</td>
<td>63 (50%)</td>
<td>66 (80%)</td>
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</tr>
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<td>Disagree</td>
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<td>15 (36%)</td>
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</tr>
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<td>26 (21%)</td>
<td>3 (4%)</td>
<td>1 (2%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>126</td>
<td>82</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td><strong>Negative impact on Child</strong></td>
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<td></td>
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<td></td>
<td>.021*</td>
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<tr>
<td>Strongly Agree</td>
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<td>3 (2%)</td>
<td>2 (2%)</td>
<td>29 (21%)</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>1 (6%)</td>
<td>54 (43%)</td>
<td>34 (42%)</td>
<td>28 (67%)</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>15 (94%)</td>
<td>64 (51%)</td>
<td>46 (56%)</td>
<td>5 (12%)</td>
<td></td>
</tr>
<tr>
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<td>2 (2%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
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</tr>
<tr>
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<td>16</td>
<td>126</td>
<td>82</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td><strong>Willing to Consent</strong></td>
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<td></td>
<td></td>
<td></td>
<td>.000*</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>0 (0%)</td>
<td>3 (2%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>8 (50%)</td>
<td>80 (64%)</td>
<td>68 (84%)</td>
<td>10 (24%)</td>
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</tr>
<tr>
<td>Disagree</td>
<td>8 (50%)</td>
<td>42 (33%)</td>
<td>12 (15%)</td>
<td>9 (21%)</td>
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</tr>
<tr>
<td>Strongly Disagree</td>
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<td>1 (1%)</td>
<td>1 (1%)</td>
<td>23 (55%)</td>
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<tr>
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<td>126</td>
<td>81</td>
<td>42</td>
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</table>
4.4 Post-intervention Questionnaire Results

The results from the post-intervention questionnaire are outlined in Table III. Caregivers responded to questions about their understanding of passive immobilization, their understanding about the risks/benefits of passive immobilization, their beliefs about passive immobilization being necessary, their beliefs about passive immobilization being safe, their beliefs about it having a negative impact on their child, and their willingness to consent. The results indicated that there was a significant difference \((p<.05)\) among caregiver responses based upon race/ethnicity for all questions. Figure 2 shows a graphical representation of caregiver willingness to consent to passive immobilization by race/ethnicity after viewing a written and pictorial description of the technique. As outlined in Table III, after receiving more information, 100% of Asian Caregivers, 75% of African American Caregivers, 93% of Hispanic Caregivers
and 95% of Caucasian Caregivers were willing to consent to passive immobilization for their child’s dental treatment. There was a significant difference in willingness to consent to passive immobilization by caregivers after receiving a written and pictorial demonstration of the technique (p<0.05).
## TABLE III
POST-INTERVENTION SURVEY RESULTS BY RACE/ETHNICITY

<table>
<thead>
<tr>
<th></th>
<th>Asian N (%)</th>
<th>African American N (%)</th>
<th>Hispanic N (%)</th>
<th>Caucasian N (%)</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good understanding</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Strongly Agree</td>
<td>14 (88%)</td>
<td>43 (34%)</td>
<td>44 (54%)</td>
<td>32 (76%)</td>
<td>.000*</td>
</tr>
<tr>
<td>Agree</td>
<td>2 (12%)</td>
<td>79 (63%)</td>
<td>37 (45%)</td>
<td>8 (19%)</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>0 (0%)</td>
<td>4 (3 %)</td>
<td>1 (1%)</td>
<td>2 (5%)</td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>126</td>
<td>82</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Understand risk/benefits</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>14 (88%)</td>
<td>43 (34%)</td>
<td>44 (54%)</td>
<td>28 (67%)</td>
<td>.000*</td>
</tr>
<tr>
<td>Agree</td>
<td>2 (12%)</td>
<td>79 (63%)</td>
<td>37 (45%)</td>
<td>13 (31%)</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>0 (0%)</td>
<td>4 (3 %)</td>
<td>1 (1%)</td>
<td>1 (2%)</td>
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</tr>
<tr>
<td>Strongly Disagree</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
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<td>126</td>
<td>82</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Believe it may be necessary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>14 (88%)</td>
<td>59 (47%)</td>
<td>38 (46%)</td>
<td>28 (67%)</td>
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<td>2 (12%)</td>
<td>58 (46%)</td>
<td>40 (49%)</td>
<td>13 (31%)</td>
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<td>9 (7 %)</td>
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<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
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</tr>
<tr>
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<td>126</td>
<td>82</td>
<td>42</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>14 (88%)</td>
<td>7 (5%)</td>
<td>35 (43%)</td>
<td>28 (67%)</td>
<td>.000*</td>
</tr>
<tr>
<td>Agree</td>
<td>16 (100%)</td>
<td>105 (83%)</td>
<td>42 (51%)</td>
<td>10 (24%)</td>
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<tr>
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<td>1 (2%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
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<td>126</td>
<td>82</td>
<td>42</td>
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<tr>
<td>Negative impact on Child</td>
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<td>1 (1%)</td>
<td>0 (2%)</td>
<td>0 (0%)</td>
<td>.000*</td>
</tr>
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<td>Agree</td>
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<td>5 (4%)</td>
<td>20 (42%)</td>
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<td>17 (40%)</td>
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</tr>
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<td>5 (4%)</td>
<td>2 (0%)</td>
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</tr>
<tr>
<td>Total</td>
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<td>123</td>
<td>82</td>
<td>42</td>
<td></td>
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<tr>
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<tr>
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<td>31 (38%)</td>
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</tr>
<tr>
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<td>28 (22%)</td>
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<td>1 (2%)</td>
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<td>1 (1%)</td>
<td>2 (2%)</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>126</td>
<td>82</td>
<td>42</td>
<td></td>
</tr>
</tbody>
</table>
Figure 2. Caregiver Willingness to Consent by Race/Ethnicity Post-Intervention
5. Discussion

5.1 Strengths and Limitations of the Study

This study is the first to evaluate the impact of caregiver’s race/ethnicity on their willingness to accept passive immobilization as a form of behavior management for their child’s dental treatment. A strength of the study was the large sample size (266 subjects) and the 94% response rate.

A limitation of this study was the demographic make-up of the patient population. The patient population in the UIC Post-Graduate Pediatric Dentistry clinic is made up of primarily of underserved/underrepresented minorities of lower socio-economic groups. Therefore, there was not an equal distribution of caregivers from all race/ethnicity groups with different socio-economic populations. Another limitation of the study was the insurance accepted in the UIC Post-Graduate Pediatric Dentistry clinic. Over 97% of the patients seen in the clinic are covered by Public Aid. Studies have concluded that income level may also play a part in caregiver’s willingness to consent to passive immobilization (Havelka, 1992). Future studies should examine the difference based on insurance type or caregiver income. Another limitation of the study is the fact that many of the patients seen in this clinic have been to numerous dentists, and had not been accepted for treatment. By the time they come to the UIC Post-graduate clinic, caregivers are willing to consent to a wide range of behavior management techniques, with the hope of finally getting the treatment completed. This may have led to an increase in willingness to consent to passive immobilization in this patient population.

5.2 Caregiver Race/Ethnicity and Understanding of Passive Immobilization

It was evident that caregiver understanding of passive immobilization, in this patient population, varied by racial/ethnic group (Table II). Asian (87%) and Caucasian (88%)
Caregivers attested to having a good understanding of passive immobilization prior to a detailed explanation, while the majority of African American (88%) and Hispanic (75%) caregivers attested to not having a good understanding. After receiving the written and pictorial information about the technique all racial/ethnic groups showed an increase in understanding. One hundred percent of Asian caregivers, ninety-nine percent of Hispanic caregivers, ninety-seven percent of African American caregivers, and ninety-five of Caucasian caregivers felt that they had a good understanding of passive immobilization. These findings are consistent with other studies that have concluded that a more information about the technique impacts understanding, which also impacts willingness to consent to BMTs as a whole (Lawrence et al, 1991; Havelka et al, 1992; Peretz et al, 1999; Chang, 2016). Since, there have not been studies that have examined this correlation, it would be interesting to see if and how the results would vary in a different patient population.

5.3 Caregiver Race/Ethnicity and Understanding the risks and benefits of passive immobilization

Understanding the risks and benefits of different behavior management techniques can impact one’s willingness to consent. In this study, prior to the explanation, Caucasian caregivers were the only group that reported that they had a good understanding of the risks and benefits of passive immobilization (83%). Twenty-nine percent of Hispanic caregivers, followed by 12% of African American caregivers, and 0% of Asian caregivers, reported understanding the risks and benefits. As expected, after receiving more information over 90% of all caregivers reported understanding the risks and benefits. This is also in line with previous studies promoting a more detailed explanation of BMTs prior to obtaining consent from caregivers (Lawrence et al, 1991; Havelka et al, 1992; Peretz et al, 1999; Chang, 2016).
5.4 Caregiver Race/Ethnicity and Safety of Passive Immobilization

Though the safety of passive immobilization has been a concern among caregivers, results from the pre-intervention survey revealed that the majority of caregivers from all racial/ethnic groups thought that passive immobilization would be safe for their child’s dental treatment (65%). Among the groups, African American (53%) and Caucasian (62%) caregivers had the lowest percentages as it relates to safety of passive immobilization. There was an overall increase in the caregiver feelings about the safety of passive immobilization after they reviewed the written and pictorial demonstration of the technique (from 65% to 91%).

5.5 Caregiver Race/Ethnicity and Negative Impact on Child

As stated in the literature, the impact that passive immobilization will have on children after the dental visit is an area of concern for pediatric dentists and parents (Lawrence et al, 1991; Havelka et al, 1992; Peretz et al, 1999; Davis et al, 2016). Our results showed that with the exception of Caucasian caregivers (12%), the majority of caregivers of other racial/ethnic groups expressed that they believed that the use of passive immobilization for their child’s dental treatment would not negatively impact the child at future dental visits. Though the percentage of caregivers who said that passive immobilization would have a negative impact on their child decreased after receiving more detailed information, the majority of Caucasian caregivers still said their child would be negatively impacted (60%). This finding leads one to believe that with Caucasian caregivers, it is not a lack of understanding or information about the technique that makes one think that it may have a negative impact on their child. There are a number of other factors that may lead to this belief.
5.6 Caregiver Race/Ethnicity and Willingness to Consent to Passive Immobilization

Based upon initial attitudes, the majority of African American (66%) and Hispanic (84%) caregivers were willing to consent to passive immobilization for their child’s dental treatment. On the contrary, only half of Asian caregivers (8/16) were willing to consent and only about a fourth of Caucasian caregivers (10/42) were willing to consent. This finding is particularly interesting due to the fact that African American and Hispanic caregivers reported not having a good understanding of the technique as well as not understanding the risks and benefits of the technique. However, Caucasian and Asian caregivers seemed to have a better overall understanding of the technique, but were less willing to consent. This leads one to believe that these initial attitudes are based upon factors other than understanding of the technique. Some factors may include parenting style, cultural perceptions/beliefs and past dental experiences (Patel et al 2016; Chang, 2016). More caregivers were willing to consent to the use of passive immobilization after they were given a more detailed explanation of the technique, which is consistent with all of the literature as it relates to parental acceptance of behavior management techniques (Lawrence et al, 1991; Havelka et al, 1992; Peretz et al, 1999; Chang, 2016). Sixty-four percent of caregivers were willing to consent to passive immobilization prior to the intervention, while 85% were willing to consent after the intervention. This increase in willingness to consent confirms the idea that as dental practitioners it is our responsibility and it is important that we provide a detailed explanation of passive immobilization, including the indications, risks/benefits, alternatives, as well as obtain consent from caregivers prior to using passive immobilization (Hagan et al, 1984; Chang, 2016; AAPD, 2016-2017).
5.7 Future Studies

Future studies are warranted that will examine the relationship of caregiver’s race/ethnicity and parental acceptance of passive immobilization. It would be beneficial to compare the results found in our clinic with that of clinics in different geographical areas and clinics that serve a different patient population with different socio-economic and cultural backgrounds. A more diverse patient population as it relates to race/ethnicity, socioeconomic status, oral health status, and insurance type may make for a different set of results. A study design that randomly places caregivers into two groups (One group that receives the intervention and one group that does not) and examines attitudes would be an additional way to evaluate the impact of more detailed information. Information gathered from potential studies would provide pediatric dentists in a wide array of practices to develop a more suitable way of discussing behavior management options with caregivers. Additionally, as the field of pediatric dentistry continues to evolve and the parenting styles of caregivers continue to change, studies of this sort will be beneficial for pediatric dentists and our profession.
6. Conclusions

1. In our patient population, caregiver’s race/ethnicity impacts their willingness to accept passive immobilization as a means of behavior management for their child’s dental treatment. African American and Hispanic caregivers were initially more willing to consent, while Asian and Caucasian caregivers were initially less willing to consent.

2. A written and pictorial explanation of the passive immobilization technique changes caregiver’s attitudes about the technique and makes them more likely to consent to the use of the technique, regardless of the racial/ethnic group.
Cited Literature


Chang, Chieh Ting. Ethnic influence on parental preferences towards behavioral management techniques used in pediatric dentistry. Diss. The University of Texas School of Dentistry at Houston, 2016.


University of Illinois at Chicago
Research Information and Consent for Participation in Social Behavioral Research

Relationship of caregiver’s ethnicity on acceptance of passive immobilization for their child’s dental treatment.

You are being asked to participate in a research study. Researchers are required to provide a consent form such as this one to tell you about the research, to explain that taking part is voluntary, to describe the risks and benefits of participation, and to help you to make an informed decision. You should feel free to ask the researchers any questions you may have.

Principal Investigator Name and Title: Brittaney Hill, Pediatric Dental Resident
Department of Pediatric Dentistry, University of Illinois at Chicago
801 S. Paulina St Chicago IL, 60612

Why am I being asked?

You are being asked to participate in a research study about relationship of caregiver acceptance of passive immobilization for their child’s dental treatment. You have been asked to participate in the research because your child is coming to the pediatric dentistry clinic at UIC for their first appointment.

Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future dealings with the University of Illinois at Chicago. Your decision to withdraw or be removed from the study will not affect your child’s care at UIC.

Approximately 300 subjects may be involved in this research at UIC.

What is the purpose of this research?

The purpose of this research is to evaluate caregiver ethnicity and its effect on their willingness to accept protective immobilization as a means of behavior management for their child’s dental treatment.

This research will be performed at the University of Illinois Pediatric Dental Clinic and waiting room areas prior to your child’s first appointment, and the survey will take approximately 10-15 minutes to complete.

The study procedures:
The study involves your assistance in completing two 5 minute questionnaires as well as viewing a short flip booklet. You will be asked to complete a short questionnaire, review a flip booklet, and then complete another questionnaire. The questionnaire asks basic demographic information, and asks questions about your views/understanding of passive immobilization.

What are the potential risks and discomforts?

To the best of our knowledge, the things you will be doing have no more risk of harm than you would experience in everyday life.

A risk of this research is a loss of privacy (revealing to others that you are taking part in this study) or confidentiality (revealing information about you to others to whom you have not given permission to see this information).

Are there benefits to taking part in the research?

Informed Consent Page 1 of 2
Version 2, 5/24/2016
Taking part in this research study may not benefit you personally, but may help us to learn new things that may benefit others.

**What other options are there?**

You have the option to not participate in this study.

**What about privacy and confidentiality?**

No identifying information about you or your child will be present on any paperwork as part of the study. Others in the waiting area may know that you are participating in a research study, but they will not know what the study is about, nor will they know any information you disclose. Your child’s dental provider will not know any information you disclose.

**Can I withdraw or be removed from the study?**

If you decide to participate, you are free to withdraw your consent and discontinue participation before the end of your child’s dental appointment without penalty. No patient identifiers will be present on any paperwork recorded as part of the study so it would be impossible to locate the questionnaire you completed after submission.

**What are my rights as a research subject?**

If you feel you have not been treated according to the descriptions in this form, or if you have any questions about your rights as a research subject, including questions, concerns, complaints, or to offer input, you may call the Office for the Protection of Research Subjects (OPRS) at 312-996-1711 or 1-866-789-6215 (toll-free) or e-mail OPRS at vieer@uic.edu.

**Who should I contact if I have questions?**

Contact the Principal Investigator, Dr. Brittaney Hill, Pediatric Dental Resident (bhill10@uic.edu), or the Research Faculty Advisor Dr. Shahrbanoo Padavi (sfadavi@uic.edu) if you have any questions about this study or your part in it.

**PLEASE KEEP THIS INFORMATION SHEET FOR YOUR RECORDS**
Survey #1

1. Are you the person that makes healthcare decisions for this child?
   1. Yes ➔ Please go on to question 2
   2. No ➔ Please stop here and return the packets to the designated box

2. Have you ever had a child treated with passive immobilization (papoose board) during dental treatment?
   1. Yes ➔ Please stop here and return the packets to the designated box
   2. No ➔ Please go on to question 3

If you answered No to question #1 or Yes to question #2, please do not proceed with the survey. You can place the survey back in the provided folder and return the packets to the designated box.

3. What is your gender?
   1. Male
   2. Female
   3. Other

4. What is your age?

5. What is your relationship to the child?
   1. Mother
   2. Father
   3. Grandparent
   4. Other (please specify): __________

6. What is the age of the child being seen here in the UIC Pediatric Dentistry Clinic? ______ (in years)

7. Does the child/children being seen have any special needs and/or Syndromes?
   1. Yes
   2. No

8. Which of the following do you consider yourself to be? (circle all that apply)
   1. American Indian or Alaska Native
   2. Asian
   3. Black or African American
   4. Hispanic or Latino
   5. Native Hawaiian or Other Pacific Islander
   6. White

9. I have a good understanding of passive immobilization (papoose board).
   1. Strongly Agree
   2. Agree
   3. Disagree
   4. Strongly Disagree

10. I understand the risks and benefits of passive immobilization (papoose board).
    1. Strongly Agree
    2. Agree
    3. Disagree
    4. Strongly Disagree

11. I feel that the use of passive immobilization (papoose board) may be necessary if my child becomes uncooperative during dental treatment.
    1. Strongly Agree
    2. Agree
    3. Disagree
    4. Strongly Disagree

12. I believe the use of passive immobilization (papoose board) is safe for my child’s dental treatment.
    1. Strongly Agree
    2. Agree
    3. Disagree
    4. Strongly Disagree

13. I believe that the use of passive immobilization (papoose board) will have a negative impact on my child’s behavior at future dental visits.
    1. Strongly Agree
    2. Agree
    3. Disagree
    4. Strongly Disagree

14. If necessary, I am comfortable to consent to the use of passive immobilization (papoose board) for my child’s dental treatment?
    1. Strongly Agree
    2. Agree
    3. Disagree
    4. Strongly Disagree

Please place the completed survey back in the brown envelope provided. Please review the stapled booklet enclosed in the brown envelope and then complete survey #2 (purple colored paper).
A patient with special health care needs may experience uncoordinated movements that would be harmful or significantly interfere with

- A sedated patient may become uncooperative during treatment.
- A previously cooperative patient quickly becomes uncooperative during the application of a restraint in order to protect the patient's safety and

- Emergency care is needed and uncoordinated movements risk the safety of the patient's staff, dentists, or parent without the use of
devastational levels of lack of medical or mental and physical conditions.

A pattern requires immediate diagnosis and/or urgent limited treatment and cannot cooperate due to emotional and cognitive
dental treatment in order to protect the patient, staff, dentists, or parent from injury.

A form of behavior management used in pediatrics dentistry where a stabilization device is used to restrict the movements of the patient during

What are the indications for passive immobilization?

Passive immobilization (tongue board)
Survey #2

1. I have a good understanding of passive immobilization (papoose board).

2. I understand the risks and benefits of passive immobilization (papoose board).

3. I feel that the use of passive immobilization (papoose board) may be necessary if my child becomes uncooperative during dental treatment.

4. I believe the use of passive immobilization (papoose board) is safe for my child's dental treatment.

5. I believe that the use of passive immobilization (papoose board) will have a negative impact on my child’s behavior at future dental visits?

6. If necessary, I am comfortable to consent to the use of passive immobilization (papoose board) for my child’s dental treatment?
Approval Notice
Initial Review (Response to Modifications)

July 5, 2016

Brittaney Hill, DDS
Pediatric Dentistry
801 S Paulina St.
M/C 850
Chicago, IL 60612
Phone: (312) 996-7532 / Fax: (312) 413-8006

RE: Protocol # 2016-0473
“Relationship of Caregiver’s Ethnicity on Acceptance of Passive Immobilization for Their Child’s Dental Treatment”

Dear Dr. Hill:

Your Initial Review application (Response to Modifications) was reviewed and approved by the Expedited review process on June 23, 2016. You may now begin your research.

Please note the following information about your approved research protocol:

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Please note that the attached recruitment script has been revised by the IRB to fully inform potential subjects of the research tasks, the separation of services from the research, and to screen potential subjects for eligibility. Kindly remember that this is the only approved recruitment script to be used in this research.

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Please note that stamped and approved .pdfs of all recruitment and consent documents will be forwarded as an attachment to a separate email. OPRS/IRB no longer issues paper letters and stamped/approved documents, so it will be necessary to retain these emailed documents for your files for auditing purposes.

---

Please remember to submit translations of data collection instruments and recruitment/consent documents that will be used for subjects whose primary language is not English. Translations must be accompanied by a statement attesting to the qualifications of the translator and the accuracy of the translations and, if submitted after initial approval of this research has been granted by the UIC IRB, must also be accompanied by an Amendment form.

---

Protocol Approval Period: June 23, 2016 - June 23, 2017
Approved Subject Enrollment #: 300
**Additional Determinations for Research Involving Minors:** The Board determined that this research satisfies 45CFR46.404, research not involving greater than minimal risk. Therefore, in accordance with 45CFR46.408, the IRB determined that only one parent's/legal guardian's permission/signature is needed. Wards of the State may not be enrolled unless the IRB grants specific approval and assures inclusion of additional protections in the research required under 45CFR46.409. If you wish to enroll Wards of the State contact OPRS and refer to the tip sheet.

**Performance Site:** UIC  
**Sponsor:** None  
**Research Protocol:**  
  a) Relationship of Caregiver's Ethnicity on Acceptance of Passive Immobilization for Their Child's Dental Treatment (no footer)  
**Recruitment Material:**  
  a) Recruitment Script; Version 2; 05/24/2016  
**Informed Consents:**  
  a) Informed Consent; Version 2; 05/24/2016  
  b) A waiver of documentation (verbal consent/permission, no written signature obtained) under 45 CFR 46.117(c)(1) for this research (minimal risk; survey responses would not otherwise be identifiable)  
  c) A waiver of consent/assent/permission has been granted to access clinic records only to identify potential subjects under 45 CFR 46.116(d) (minimal risk; a list of potential subjects will be generated every day and the researcher will destroy that list at the end of the day)  
**Assent:**  
  a) A waiver of child assent has been granted for children as secondary but identifiable subjects of this research under 45 CFR 46.116(d) (minimal risk; data will be collected from clinic records and from the child's parent/guardian; no direct research interview with the child)  
**HIPAA Authorization:**  
  a) A waiver of HIPAA preparatory to research has been granted for access to clinic records only to identify potential subjects

Your research meets the criteria for expedited review as defined in 45 CFR 46.110(b)(1) under the following specific category:

(7) Research on individual or group characteristics or behavior (including but not limited to research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

**Please note the Review History of this submission:**

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<th>Receipt Date</th>
<th>Submission Type</th>
<th>Review Process</th>
<th>Review Date</th>
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<td>05/13/2016</td>
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<td>Response To Modifications</td>
<td>Expedited</td>
<td>06/23/2016</td>
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Please remember to:

→ Use your research protocol number (2016-0473) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the OPRS website under:
  "UIC Investigator Responsibilities, Protection of Human Research Subjects"
  (http://tigger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf)

Please note that the UIC IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996-1711 or me at (312) 996-2014.

Sincerely,
Sandra Costello
Assistant Director, IRB #2
Office for the Protection of Research Subjects

Please note that stamped and approved .pdfs of all recruitment and consent documents listed below will be forwarded as an attachment to a separate email. OPRS/IRB no longer issues paper letters and stamped/approved documents, so it will be necessary to retain these emailed documents for your files for auditing purposes.

Enclosures:
1. Informed Consent Document:
   a) Informed Consent; Version 2; 05/24/2016
2. Recruiting Material:
   a) Recruitment Script; Version 2; 05/24/2016

cc: Marcio Da Fonseca, Pediatric Dentistry, M/C 850
    Shahrbanoo Fadavi (faculty advisor), Pediatric Dentistry, M/C 85
Approval Notice
Amendment to Research Protocol and/or Consent Document – Expedited Review
UIC Amendment # 2

April 14, 2017

Brittaney Hill, DDS
Pediatric Dentistry
801 S Paulina St.
M/C 850
Chicago, IL 60612
Phone: (312) 996-7532 / Fax: (312) 413-8006

RE: Protocol # 2016-0473
“Caregiver’s Race/Ethnicity on Acceptance of Passive Immobilization for Their Child’s Dental Treatment”

Dear Dr. Hill:

Members of Institutional Review Board (IRB) #2 have reviewed this amendment to your research and/or consent form under expedited procedures for minor changes to previously approved research allowed by Federal regulations [45 CFR 46.110(b)(2)]. The amendment to your research was determined to be acceptable and may now be implemented.

Please note the following information about your approved amendment:

Amendment Approval Date: April 13, 2017

Amendment:
Summary: UIC Amendment #2 dated March 30, 2017 (received March 31, 2017) is an investigator-initiated amendment to change the project title. The new title will now read "Caregiver’s Race/Ethnicity on Acceptance of Passive Immobilization for their Child's Dental Treatment." The protocol (version 2, 4/13/17) and application have been updated to reflect the new title.

Research Protocol(s):
a) Caregiver's Race/Ethnicity on Acceptance of Passive Immobilization for their Child's Dental Treatment; Version 2; 04/13/2017
Please note the Review History of this submission:

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<td>Approved</td>
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Please be sure to:

→ Use your research protocol number (2016-0473) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure, "UIC Investigator Responsibilities, Protection of Human Research Subjects" ([http://tigger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf](http://tigger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf))

Please note that the UIC IRB #2 has the right to ask further questions, seek additional information, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact the OPRS at (312) 996-1711 or me at (312) 996-0548. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Brandi L. Drumgole, B.S.
Assistant Director
Office for the Protection of Research Subjects

cc: Shahrbanoo Fadavi, Faculty Sponsor, M/C 850
Marcio Da. Fonseca, Pediatric Dentistry, M/C 850
VITA
Brittaney Hill, DDS

EDUCATION:

University of Illinois at Chicago, Chicago, Illinois
Master of Public Health
2016-2018

University of Illinois at Chicago, Chicago, Illinois
Certificate in Pediatric Dentistry
Master of Oral Sciences
2015-2017

Meharry Medical College, Nashville, Tennessee
Doctor of Dental Surgery
2011-2015

Xavier University of Louisiana, New Orleans, Louisiana
Bachelor of Arts
Biology Major, Chemistry Minor
2007–2011

EMPLOYMENT:

Family Dental Care, Calumet City, Illinois
General Dentist
2016 - current

VOLUNTEER EXPERIENCE:

Give Kids a Smile Day
2016-2017

Meharry Children’s Dental Health Month
Organizer
2013-2015

LICENSURE:

Southern Regional Testing Agency, Board Certified
August, 2015

Illinois State Dental License
July, 2016

PROFESSIONAL MEMBERSHIP

American Dental Association
2011- current

American Association of Pediatric Dentists
2013- current

Illinois Society of Pediatric Dentists
2016-current