PARENTS' PHYSICALLY PERFORMATIVE BEHAVIORS DURING

SHARED BOOK READING: AN OBSERVATIONAL STUDY

by

Laura E. Cutler

A dissertation submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Human Development and Family Sciences

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ABSTRACT

The research presented here is an exploration of the physically performative behaviors demonstrated by mothers and fathers during shared book reading (SBR) activities. The design included separate observations of counterbalanced sessions of father-child and mother-child dyads reading with their preschool-aged child ($M_{\text{age}} = 46$ months). Video-recorded observations were coded and analyzed by the researcher using a coding scheme developed for this study. The coding instrument focused on the physically performative behaviors (PPBs) demonstrated by parents during SBR, including hand/body gestures, facial expressions, voice, pointing, and proximity to the child while reading. In addition, parents completed a researcher-developed survey designed to assess various facets of parent-child shared reading experiences (e.g., parental- and child-levels of enjoyment of SBR activities). This research uses primary observational data collected from a convenience sample of families ($N = 40$) recruited from university-based child care programs, as well as from those in the surrounding community. Using the Actor Partner Interdependence Model (APIM), findings of this dyadic data analysis reveal actor effects for the relationship between parental PPBs and parental affect, but no partner effects. Results also demonstrate similarities and differences in the stylistic approaches mothers and fathers used when engaging in the shared book reading task, with mothers demonstrating more physical behaviors than

fathers, and fathers engaging in more interconnected physical contact with their children than mothers. Finally, results indicate that parental reading order and child sex did not influence the frequency or types of behaviors male and female co-parents demonstrated while reading. This research contributes to the existing SBR literature because it provides original observational data regarding mothers' and fathers' physicality during shared reading activities and how these physical behaviors contribute to the overall quality of parent-child SBR experiences.

Chapter 1

INTRODUCTION

What is Shared Book Reading?

Shared book reading (SBR), in which an adult (typically a father, mother, or other caregiver) reads a story to or with a child, has been widely considered a valuable mechanism for promoting early language and literacy development in young children (Bennett, Weigel, & Martin, 2002; Bus, van IJzendoorn, & Pelligrini, 1995; Ortiz, Stowe, & Arnold, 2001). Parents in Western society are frequently advised to read to their children from an early age (Duursma, Pan, & Raikes, 2008) and data from various parental reports indicates that over 50% of American parents read with their young children on a daily basis (Kuo, Franke, Regalado, & Halfon, 2004; Zickuhr, Rainie, & Purcell, 2013), with many stating that this reading began while their children were infants (DeBaryshe, 1993; Fletcher & Reese, 2005). A variety of programs have also been developed to encourage mothers and fathers to read with their children (e.g., Reach out and Read; Fathers Reading Every Day) and the Global Family Research Project (2017) has identified SBR as one of the key ways that families can create literacy-friendly home environments. The sharing of books between parents and children has long been recognized as part of the daily routine for many families (Anderson, Anderson, Lynch, & Shapiro, 2004; Kassow, 2006; Lyytinen, Laakso, Poikkeus, 1998) and books designed for the youngest of readers are

often used to share educational, societal, and cultural information with children in a relaxed atmosphere (Palm, 2013). As such, it is shared reading experiences that form children's earliest notions of what reading is all about. Through SBR, children are introduced to print and print concepts, to the narrative structure often found in books designed for young children, and to the various types of information that can be obtained from books (Goldfield & Snow, 1984).

Why is Shared Book Reading Important?

The benefits attributed to SBR experiences are numerous. For example, children's picture books have been said to serve as "windows and mirrors" for the youngest of readers (Bishop, 1990). Specifically, they provide children with exposure to the lives of other individuals who may be unfamiliar to them (windows) and also presents them with opportunities to see themselves represented on the pages in front of them (mirrors). McBride-Chang (2012) notes that one of the most striking and important elements of SBR activities is their ability to "transport" families to contexts they are unlikely to encounter in daily life (e.g., far away galaxies, rural farms, etc.). This frees families to explore contexts that would otherwise be experientially or cost-prohibitively impossible. The environments and rich contexts presented in books also introduce children to new vocabulary and scenarios that are usually not reflected in the day-to-day interactions they experience. Furthermore, the types of sentence structure and language used during reading may even offer children novel linguistic experiences (McBride-Chang, 2012) and exposes them to speech that may be more sophisticated

than is used in everyday conversations and interactions (Munzer, Miller, Weeks, Kaciroti, & Radesky, 2019).

Using SBR activities as opportunities to expose children to characters, environments, and experiences that are different than their own can also lead to enhancements in the development of a child's theory of mind, often designated ToM (Adrian, Clemente, Villanueva & Rieffe, 2005). Introducing children to the idea that their lived experiences are simultaneously similar, yet distinct, from others' encourages children to consider the thoughts and feelings of other individuals. Additionally, SBR can also present opportunities for enhancing children's symbolic functioning. Books offer two-dimensional representations of images (e.g., people, animals, objects, etc.) that rely on the readers' understanding of "distancing"—a focus on something removed in time or space (Sigel & McGillicuddy-DeLisi, 1984). Through SBR, children are given opportunities for repeatedly practicing and learning how to conceptualize time periods, people, and objects that may not be part of their immediate environment.

SBR activities may serve as opportunities for strengthening interpersonal bonds between parents and children. SBR provides both mothers and fathers with the opportunity to engage their children in positive interactions and enjoyable reading experiences (Bus et al., 1995; Sonnenschein & Musterman, 2002; Tamis-LeMonda, Shannon, Cabrera, Lamb, 2004), may promote greater levels of attachment between parents and children (Bus & van IJendoorn, 1992, 1995), and can lead to increases in children's positive motivation related to literacy (Sonnenschein & Musterman, 2002).

Ortiz (2004) has explored father-child relationships within the context of literacy activities, noting that father engagement in such experiences are more typical of those fathers who viewed them as part of their responsibilities as fathers and co-caregivers. Additionally, Ortiz, Stile, and Brown (1999) found that Mexican-American fathers participate in literacy activities with their children as both a means for helping the child to get a head start in reading and writing and also as an avenue for bonding with their young children. Similarly, Swain, Cara, and Mallows (2017) note that fathers use bedtime reading routines as an opportunity to be emotionally and physically close their children. The same types of bonding experiences during SBR have been found for mother-child pairs as well (Bus & van IJzendoorn, 1997; Haden, Reese, & Fivush, 1996).

The emotional bonding experience that occurs for some parent-child dyads during SBR is partly reflective of the affective climate that exists during SBR activities. The emotional expression and warmth demonstrated during shared reading activities is a crucial component to the overall experience of reading (Fletcher & Reese, 2005) and has been found to influence understanding of and engagement in story reading (Bus, 2001; Partridge, 2004). The emotional affective climate that is created during SBR takes these experiences beyond just the didactic purpose of reading and expands them to providing opportunities for children to develop a love of reading—to become passionate and motivated about reading. "When parents and their children engage in warm, nurturing, and encouraging interactions, children become more engaged, which in turn enhances children's growing literacy skills" (Caspe &

Lopez, 2017, p.6). Creating a positive affective climate during shared reading experiences offers children a safe and warm environment for enjoying such activities (Bus and van IJzendoorn, 1995; 1997; McBride-Chang, 2012). These types of positive experiences with literacy at a young age may also encourage children to continue to enjoy participating in these types of experiences more frequently and more consistently across the life span (Sonnenschein & Musterman, 2002; Teal, 1984). Additionally, research has demonstrated a positive correlation between children's interest in reading and frequency of being read to by parents—that is, the greater interest children show, the more often their parents read to them (Lyytinen et al., 1998; Scarborough and Dobrich, 1994). Thus, SBR creates a bidirectional, transactional pattern of child interest and frequency of parent-child SBR experiences, each of which has the potential to provide children with an opportunity to participate in parent-child exchanges that include a positive affective climate.

Various parental behaviors have been found to be associated with a positive affective environment during SBR, including adapting the reading style to meet the child's ability and interest, focusing on aspects of the book that are enjoyable to the child, talking about illustrations, and talking about things that are indirectly related to the story (i.e., non-immediate talk) (Baker, Mackler, Sonnenschein, & Serpell, 2001; Bus, 2001; Duursma, 2016; Partridge, 2004). However, it is important to note that the majority of strategies previously identified as having a positive influence on the affective component of the SBR experience are language- and communication-based. To build upon the existing literature and explore the possible contributions that

physically-based behaviors during SBR contribute to the affective component of SBR experiences, this research focuses on the unique contribution that physically-based performative behaviors have on the overall experience of SBR experiences between parents and children.

Shared book reading has also been linked to a variety of long-lasting cognitive, language, and literacy outcomes for young children (Bennett et al., 2002; Caspe, 2009; Lyytinen et al., 1998; Raikes et al., 2006; Sonnenschein & Musterman, 2002). Positive experiences with literacy at a young age may encourage children to continue to enjoy participating in these types of experiences more frequently, and at a higher level, across the life span (Sonnenschein & Musterman, 2002), providing important foundations for school success. SBR provides children with increased exposure to a varied vocabulary and more complex talk from adults through both the contextualized and decontextualized conversations that occur during these experiences (Fletcher & Reese, 2005). Hindman, Connor, Jewkes, and Morrison (2008) also posit that shared book reading between parents and their children offers children opportunities to gain base knowledge of print concepts (i.e., reading from left to right, book orientation, that print has meaning, etc.)—skills that are important as children transition to more formal school environments (McBride-Chang, 2012). Positive early literacy experiences, such as those that occur between parents and children, set children on a trajectory to become confident and proficient readers by the time they reach third grade—a milestone which has been associated with high school graduation rates (Caspe & Lopez, 2017). In contrast, facing literacy problems at a young age is correlationally

associated with a higher school dropout rate, with increased participation in juvenile delinquency, and with reliance on the welfare system (Dearing, McCartney, Weiss, Kreider, & Simpkins, 2004). These findings serve to further highlight the importance of early literacy experiences, such as SBR, for all young children.

Finally, participating in SBR also has the potential to be a cost-effective method for encouraging mothers and fathers to engage with their children, as children's books have become widely accessible and relatively affordable to families across a range of all socioeconomic levels. Children's literature is widely and inexpensively available through public library systems, discount catalogs such as Scholastic Reading Club, and local book retailers and discount stores—both brick and mortar locations and online marketplaces. Shared reading experiences between parents and children can occur in almost any context—while at home in play or routine care, while waiting at bus stops or medical appointments, or during visits to the library, restaurants, or other public locations. Thus, shared book reading represents an accessible and portable mechanism to promote developmentally facilitative activity between parents and children that includes such things as close physical proximity, shared attention, conversational turn-taking, direct eye contact, and a focus on others' thoughts, feelings, and behaviors.

The Current Study

Because parent-child SBR experiences are seen as a highly facilitative and frequently implemented activity in early childhood, a rich literature base exists which explores various facets of parent-child shared reading activities (Bennett et al., 2002;

Cabrera et al., 2004; Duursma, 2016). A growing consensus of this empirical literature

has documented substantive differences between the quality of mothers' and fathers'

linguistic interactions with their young children (Hladik & Edwards, 1984; Rowe,

Coker, & Pan, 2004; Tomasello, Conti-Ramsden, & Ewert, 1990). Such findings

verify that fathers typically interact in a manner that requires and elicits higher quality

language from their children. Furthermore, fathers have been found to uniquely

approach literacy activities with their young children (Saracho, 2008). However,

despite having language-based data on the similarities and differences between

mothers' and fathers' interactions during shared reading experiences, we do not have a

comparable literature base that examines parental distinctions in *physical* reading

styles. This is particularly surprising since oral language is often deeply intertwined

with body language—including the gestures made using one's hands and arms

(Mayberry & Nicoladis, 2000), as evidenced by the fact that humans gesture nearly as

often as they speak (Mayberry & Shenker, 1997). It is possible that the use of

gesturing while speaking also extends to parental use of gesturing while engaging in

reading tasks with young children, possibly as a means of enhancing children's

engagement or as a method for sustaining their attention (DeBruin-Parecki, 1999). It is

also equally possible that the non-verbal behaviors parents demonstrate during SBR

activities can foster a love of reading in children and also promote a secure attachment

between parents and children (Munzer et al., 2019). Therefore, to get a complete

picture of the parent-child SBR experience, it is critical to build upon the rich

literature that exists exploring the language used by mothers and fathers during SBR to

also explore the types of physical behaviors they exhibit during these activities as well.

Additionally, the bulk of our knowledge concerning parent-child interaction during shared reading experiences comes from empirical studies of mother-child reading (Bojczyk, Davis, & Rana, 2016; Bus & van IJzendoorn, 1997; Martin & Reutzel, 1999). However, social ecological approaches to children's learning in the context of their typical social environments requires the inclusion of empirical investigations, particularly observational studies that also include father-child shared reading. Thus, the research presented here is designed such that both mothers and fathers' physical behaviors during SBR are considered.

This research examines the physically performative behaviors demonstrated by mothers and fathers during SBR activities. The observational design allows for separate data to be collected on father-child and mother-child dyads, using a preschool-aged child who is co-parented by a mother and father. Video-recorded observations were coded and analyzed by the researcher using a coding scheme developed for this study. This coding instrument focuses on the physically performative behaviors demonstrated by parents during a SBR task and includes the hand/body gestures of parents, their use of facial expressions, parental voice inflection and story sounds, their use of pointing, and the parents' proximity to the child while reading. The design also includes a researcher-developed survey which investigates various facets of parent-child shared reading experiences (e.g., parental and child

home literacy behaviors, parental beliefs regarding early literacy development, and parental- and child-levels of enjoyment of SBR activities).

This study collected primary observational data from a convenience sample of families recruited from university-based child care programs, as well as from those in the surrounding community. The intent of this research is to examine an aspect of parent-child SBR that has thus far been underexplored in previous investigations of parent-child shared reading—the types of physical behaviors parents exhibit while reading with their children. Information gathered from this study can provide baseline data regarding the physicality that occurs during shared reading activities and how these physical behaviors contribute to the quality of parent-child SBR experiences. Additionally, the coding instrument developed for this study can be used in future SBR research to assess the measure's reliability with other similar samples and to also determine its generalizability to SBR activities with other non-similar samples (e.g., different aged children, a random sample of nationally representative families, low-income families, etc.).

Chapter 2

LITERATURE REVIEW

Maternal and Paternal Contributions to Shared Book Reading

Much of the research regarding SBR has been conducted with mothers and their young children (Bus & van IJzendoorn, 1992, 1995; Hindman et al., 2008; Ortiz et al., 2001), predominantly because they have traditionally been characterized as the primary caregiver in young children's lives (Craig, 2006), and secondarily because mothers are also typically identified as young children's principle co-reader (Duursma et al., 2008; Duursma, 2016; Swain et al., 2017). However, more recently, the experiences between fathers and their children in book sharing activities have been addressed (Cutler & Palkovitz, 2020; Duursma, 2016; Foster, Froyen, Skibble, Bowles, & Decker, 2016; Pancsofar et al., 2010; Swain et al., 2017). This shift in focusing on fathers in the empirical research highlights the changing family structure present in contemporary American society. In increasing proportions, mothers are seeking higher educational degrees, participating in the workforce, continuing to work after transitioning to motherhood, and contributing to the financial well-being of the family unit (Amato & Sobolewski, 2004; Duursma et al., 2008; Duursma & Pan, 2011). Simultaneously, there has been a growing level of attention to increases in father involvement in child care responsibilities and fathers' contributions to young children's development (Lamb & Sagi, 2014; Lamb & Tamis-LeMonda, 2004;

Marsiglio, 1995; Palm, 2013; Pancsofar et al., 2010; Pleck, 2010; Tamis-LeMonda, Shannon, Cabrera, & Lamb, 2004). The role of fathers in American society continues to become more dynamic, less stereotyped, and more culturally and linguistically diverse (Pancsofar et al., 2010) and fathers are more frequently expected to demonstrate higher levels of family attentiveness while still maintaining full participation in the workforce (Palkovitz & Daly, 2004; Yeung, Sandberg, Davis-Kean, & Hofferth, 2001). The convergence of maternal and paternal roles has begun to result in greater focus on fathering as well as greater availability of fathers for participation in research studies with young children.

Contemporary research regarding fathers' engagement in shared book reading experiences has found that fathers and mothers demonstrate both similar and different behaviors while reading with their young children. Overall, fathers continue to read with their children less frequently than mothers (Duursma et al., 2008; Vandermaas-Peeler, Sassine, Price, & Brilhart, 2012). However, it is becoming more common to find fathers engaging in such an activity on a daily or weekly basis (Ortiz, 2004; Swain et al., 2017).

Similarities of Mothers and Fathers During Shared Book Reading

Some SBR research indicates that mothers and fathers demonstrate similar behaviors when engaging in shared reading with their children. For example, research has assessed the type of speech fathers and mothers use with their young children during shared reading, and several findings indicate that this speech is quite similar to that of mothers (Golinkoff & Johnson Ames, 1979; Hladik & Edwards, 1984). In

observed play and reading settings, fathers were recorded using similar numbers of verbs as mothers, and utterances and vocal turns of the same length as mothers (Golinkoff & Johnson Ames, 1979). The mean length of utterance recorded for mothers and fathers was also similar in SBR research conducted by Hladik and Edwards (1984). Additionally, mothers and fathers did not differ on the types of sentences they used (i.e., declarative, yes/no questions, etc.) while communicating with their children during SBR activities. More contemporary SBR research conducted by Pancsofar et al. (2010) also primarily found similarities between mothers and fathers. The researchers examined the behavior of 518 residential, low-income fathers during shared book experiences with their 6-month-old children. Parents were provided a wordless picture book and told to "go through" the book with their child as they normally would. Results of these tasks indicate that the language interactions between mothers and fathers and their child were largely comparable. Fathers and mothers used similar words and consistent numbers of words throughout the task. Unfortunately, though a thorough coding method was used to focus on parental language behavior with children, no information is available regarding the non-linguistic interactions (i.e., the physically performative behavioral styles) of mothers and fathers during the SBR activity.

Differences Between Mothers and Fathers During Shared Book Reading

Despite the similarities that have been found in the ways mothers and fathers engage with their children during SBR, other investigations have documented differences in the SBR behaviors of fathers and mothers. Some research has found that

fathers uniquely approach literacy activities with their young children. For example, Saracho (2008) assessed father participation in a family literacy program designed to encourage fathers to engage in SBR with their children. The author discovered that fathers greatly varied in their use of the literacy strategies introduced as part of the program. Fathers were found to use their own personal style and interests to carry out the literacy strategies with some orally sharing the story, some reading the story text, some referencing only the books' illustrations, and some fathers having their child do the reading.

Differences in Communication-Based Interactions During SBR. Recent empirical studies have also begun to distinguish differing linguistic styles of mothers and fathers during parent-child shared reading tasks. Some research has found that fathers engage in more conversationally challenging interactions with their children during SBR than do mothers (Ely, Gleason, Narasimhan & McCabe, 1995; Tomasello et al., 1990). Additionally, research conducted by Rowe and colleagues (2004) found that fathers were more likely to ask their children wh- questions and request specific information related to the text during shared reading exchanges than were mothers. In these studies, the greater linguistic complexity of fathers has also been associated with more complex speech from their toddlers.

Baker et al. (2015) also found fathers' language input during SBR activities to uniquely influence children's academic outcomes. In their investigation of over 500 low-income families living in two regions of the United States, the researchers observed fathers and mothers reading with their children just before kindergarten

entry. Findings indicate that fathers' language input during SBR (i.e., mean length of utterance) predicted children's problem-solving skills and receptive vocabulary at the end of kindergarten above and beyond mothers' language input. Such results highlight the unique contributions fathers have to their young children's early literacy development through their engagement in father-child SBR activities.

Furthermore, in their investigation of the types of guidance behaviors provided by mothers and fathers to their three-year old-children, Vandermaas-Peeler et al. (2012) found that fathers provided significantly more literacy-related guidance to daughters than to sons during shared reading. Mothers were found to provide similar levels of guidance to their children, regardless of sex. Results also indicated that fathers provided higher rates of guided participation while reading with daughters, while mothers engaged in such guidance more frequently with sons. Additionally, Anderson et al. (2004) found that fathers were more interactive during shared book reading than were mothers. Fathers were also observed to make considerably more confirmation and clarification statements and to ask more questions than mothers while participating in shared book reading, especially when sharing non-narrative texts. Despite a relatively small and homogenous sample of parents ($n = 25$), the findings of Anderson et al. (2004) are an indication that stylistic differences do exist in the ways in which fathers and mothers share books with their children. It may be that fathers approach shared reading activities as an additional contextual opportunity to engage in playful interactions with their children while mothers view these shared exchanges as supplemental opportunities for providing additional teaching or

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caregiving to their young children. Furthermore, these stylistic differences may be a result of differences in familiarity that mothers and fathers have with SBR experiences—perhaps a parent who is more frequently engaged in SBR activities will approach the task differently than a parent who is less familiar with these types of experiences.

      Differences in Frequency of SBR. In addition to the differences in the types of communication-based behaviors fathers and mothers produce while reading with their children, differences have also been found in the frequencies which mothers and fathers read with their children. Previous research regarding the home literacy environments and SBR demonstrate that fathers have consistently been found to engage in SBR activities with their young children less often than mothers (Duursma, 2016; Fletcher & Reese, 2005; Swain et al., 2017; Yeung et al., 2001). Fathers are also less frequently identified as the primary reader in the home (Duursma et al., 2008). Results of Britto, Fuligni, and Brooks-Gunn (2002) reveal that 29% of fathers in their study reported reading with their infants and toddlers in the past week as compared to 41% of mothers.

      Additionally, Duursma et al. (2008) also found that fathers read less often with toddlers than do mothers. Findings revealed that over a quarter of fathers (28%) reported reading daily to their 24- and 36-month-old children, about a third reported reading weekly (34%), and 17% reported reading monthly. Twenty-one percent of fathers in this sample indicated that they rarely read to their children. This finding is particularly surprising when compared to the mothers of the children in this analysis.

In comparison, only 5% (at age 24 months) and 6% (at age 36 months) of mothers reported that they rarely read to their children, supporting the premise that not only do mothers read with their children more frequently, they are typically the primary reader in shared reading activities at home. Duursma and Pan (2011) found similar results in their study of paternal reading patterns in low-income families. Their analyses indicated that at 14, 24, and 36 months, fathers were more likely to report infrequently (monthly or rarely) reading with their children than were mothers. Furthermore, mothers were more likely to read with their children on a daily basis than were fathers.

Results of Swain et al. (2017) confirm those from previous research regarding father participation in shared book reading experiences (Duursma et al., 2008; Foster et al., 2016). English fathers ($n = 254$) were asked about the literacy activities they engage in with their five-year old children. Overall findings show that fathers were less likely to be the main reader in the home and read with their children less often than did mothers. However, despite these findings, the rates at which fathers did engage in shared reading activities are notable. The majority of fathers (82%) reported reading with their child daily (33%) or several times a week (49%). When compared to the findings of Duursma et al. (2008), fathers in Swain et al. (2017) reported higher frequencies of weekly reading with their children and much lower frequencies of rarely engaging in this activity with their children. Specifically, only 4% of fathers surveyed by Swain et al. (2017) indicated that they rarely read to their children, as compared to 21% in Duursma et al. (2008).

Differences in Frequency of SBR. Yeung and colleagues (2001) found similar discrepancies in the types of activities fathers and mothers engage in with their young children, as well as the time spent in various activities. Their research is unique in that it assessed the time fathers spent engaging in different types of activities (e.g., play, childcare, social events, etc.) with their children both during the week and on the weekends. Results indicated that although fathers were more likely to engage in more "interactive activities" such as playing with their children or helping them with homework, than they were to participate in "custodial activities" such as bathing and feeding their children, they were still much less likely to engage in SBR experiences than were mothers. These findings also held across day of the week—on weekdays, fathers were engaged in teaching-based activities, such as SBR, with their preschool-aged children about one-third as often as were mothers. However, on the weekends, fathers appeared to increase their participation in such activities, engaging in these experiences with their preschool-aged children two-thirds as often as mothers. Nevertheless, overall, fathers had very low participation in shared reading activities relative to mothers and also in comparison to the other types of activities they participated in (e.g., social events, religious activities, etc.).

Father Involvement

These patterns of father-child reading are consistent with results of the National Responsible Fatherhood Clearinghouse's (NRFC) 2018 report on father involvement. Using data gathered from the 2013-2015 National Survey of Family Growth (NSFG), the investigation analyzed father reports of their involvement with

their children in various facets of their children's lives—including the types of routine care they provided (e.g., feeding, bathing, etc.), the frequency with which fathers take their children on outings, errands, and to appointments, and the types of activities fathers participate in with their children. Specific to the types of activities fathers engage in with their children aged 0-4-years-old, researchers looked at how often fathers reported playing, reading, and eating dinner with their children.

Results indicated that residential fathers were much more likely to report that they played and ate dinner with their child daily than they were to report reading to their child each day. Twenty-one percent of fathers indicated that they read with their child each day in the past month, while 71% played with their child, and 69% ate dinner with their child each day. Furthermore, resident fathers were also much more likely to indicate that they had not read with their child at all in the past month (24%) than they were to report having never played (1%) or eaten dinner with their child in the past month (5%). These findings are particularly surprising since, in theory, these residential fathers had access to their children on a daily basis and could have read with them—as evidenced by the high percentage of fathers who reported playing with their children daily.

There are a myriad of factors that could have contributed to residential fathers reporting higher rates of play than reading with their children (e.g., fathers' perceived efficacy of reading, fathers' lack of knowledge regarding the importance of SBR, maternal ownership of SBR experiences, scheduling of bedtime routines often associated with SBR, etc.), however, the simple fact that fathers were nearly 3½ times

more likely to play with their child every day than they were to read every day further adds to the body of literature exploring the frequency and types of involvement residential fathers have with SBR experiences.

Results of this report also reveal the ways in which non-residential fathers engage with their children in SBR activities. Similar to residential fathers, non-residential fathers were more likely to indicate that they played with their children on a daily basis (21%) than they were to report reading with their child every day (12%). Additionally, more than one-third of non-residential fathers (36%) were more likely to report that they had not read with their child at all in the past month. In contrast, only 8% of non-residential fathers indicated that they had not played with their child in the past month, while 29% reported not having eaten dinner with their child in the previous four weeks.

These findings indicate that fathers, both residential and non-residential, are less likely to read with their children than they are to play with them. Again, various reasons for these discrepancies are possible, although such outcomes are important to address in the larger context of father-child interactions and relationships. Research highlighting the crucial role fathers play in their young children's development supports fathers' involvement in a wide range of activities, including SBR, and encouraging fathers to include SBR as one of many activities they can participate in with their young children may be beneficial to both the child and their father.

Although the literature base regarding parental participation in SBR activities indicates that fathers read less often with their children than do mothers, it also

highlights a positive trend in father participation—that contemporary fathers are in fact reading with their children and are doing so more frequently than in previous generations (Foster et al., 2016; Swain et al., 2017). It is possible that recent patterns of maternal and paternal role convergence (Livingston, 2018a; 2018b) in responsibilities regarding child care and engagement with young children has resulted in higher rates of father involvement in such activities as parent-child shared reading. Contemporary cohorts of married and cohabitating couples both expect and enact more egalitarian roles in relationships and parenting responsibilities (Spinks, 2018). Therefore, fathers may be using SBR not only as a means for spending quality time with their children, but also as an opportunity to enact their fathering role (Ortiz et al., 1999; Swain et al., 2017).

Parental Participation in SBR: The Role of SES

Parental participation in SBR experiences has also been explored in regard to familial socioeconomic status (SES), although such research has revealed mixed results. Some studies have found that parents from more affluent families are more likely to read with their children than are parents from lower SES groups (Duursma et al., 2008; Karrass, VanDeventer, & Braungart-Rieker, 2003), while others have demonstrated that low-income families are just as engaged in SBR activities as are more economically advantaged families (Bracken & Fischel, 2008; Dearing et al., 2004).

Data gathered by the National Center for Education Statistics (2000) indicates that children living in poverty are much less likely to be read to by a family member

on a daily basis than are children from higher SES groups, and a body of research regarding SBR supports this finding. For example, in their investigation of the interactions of 79 mother-child dyads, Karrass et al. (2003) found that mothers with higher family incomes were more likely to read to their infants than were mothers with lower family incomes. Similarly, Britto et al. (2002) report that parents from higher income groups are nearly one and a half times as likely as lower income parents to read daily with their child. Furthermore, when contrasting the low-income sample of fathers used by Duursma et al. (2008) with the higher-income sample of fathers used by Swain et al. (2017), comparisons reveal that fathers with higher incomes reported higher frequencies of weekly reading with their children and much lower frequencies of rarely engaging in this activity with their children than did the low-income fathers sampled by Duursma et al. (2008).

However, though some research has found differences in the shared reading habits of families based on familial SES, Snow and colleagues (1998) caution that these differences may be better understood at the community or school level than at the individual family level. Families who are low-income or experiencing poverty may simultaneously experience other factors that could be related to the frequency and/or types of shared reading experiences they engage in with their young children. (e.g., low adult educational levels, low adult literacy and efficacy with reading, limited access to children's books, etc.). Thus, all else being equal, coming from a family of low-SES does not by itself automatically translate to less frequent or lower quality

parent-child SBR. Instead, the myriad of additional factors often associated with low familial SES may account for observed differences in parent-child SBR experiences.

As such, other investigations of SBR have found familial SES to be unrelated to shared reading activities between parents and children. Results of Dearing et al. (2004) indicate that familial SES (as measured by mothers' educational level) was not related to the frequency or types of parent-child literacy experiences provided. Instead, a positive relationship was found between maternal engagement level and early literacy experiences such as SBR. Children who had mothers who were highly engaged, regardless of familial SES, were more likely to experience SBR activities than were children whose mothers were less involved. Similarly, results of a meta-analysis of the intergenerational transmission of literacy (Bus et al.,1995) support the conclusion that SES does not influence familial SBR practices. The meta-analysis revealed that differences found in the frequency of reading between low-SES families and more affluent families were not significant. Findings of Duursma and Pan (2011) also demonstrated that SBR occurs often in low-income families. More than half of the low-income fathers in their study reported reading with their child on a regular basis (weekly or daily). Furthermore, a recent report by Bassok and colleagues (2016) found that low-income parents are increasingly investigated in supporting their young children's development and education through activities such as SBR. Thus, despite commonly held beliefs that low-income children experience parent-child shared reading less often than do more economically advantaged children, the findings

presented here indicate that many children from low-income families are exposed to SBR activities just as often as their more affluent peers.

Summary of Maternal and Paternal Contributions to Shared Book Reading

Overall, the findings of this SBR literature review also reveal that fathers and mothers produce communication-based behaviors during SBR that are both similar and different and that fathers and mothers make contributions to children's literacy development that are both unique and independent from each other. It is therefore possible that just as differences have been documented in maternal and paternal linguistic exchanges during parent-child SBR activities, differences may also exist in the ways that fathers and mothers physically behave during shared reading experiences.

Now is an opportune time for focusing on mothers' and fathers' participation in activities that are associated with fostering young children's development, especially those that have previously been found to yield numerous positive developmental outcomes for the child. SBR is one such activity. Through shared reading, fathers and mothers not only support literacy and later school success, they also nourish the emotional bond between themselves and their children. This "double impact" makes shared book reading a highly important parent-child activity (Palm, 2013) worthy of continued investigation.

However, few studies have included both mothers and fathers in their observational research of SBR. Cabrera et al. (2004) posit that studies that disregard paternal involvement invite both methodological and practice challenges to their

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design. In addition, omitting fathers from research investigating SBR experiences also

creates conceptual debates about fathers from diverse settings (Coltrane, Parke, &

Adams, 2004). In order to construct a more comprehensive picture of children's home

literacy environments, including their participation in parent-child SBR activities, both

mother-child and father-child dyads should be considered (Duursma & Pan, 2011).

Not only does such practice increase young children's exposure to early literacy

experiences, it also presents SBR as an egalitarian activity that both mothers and

fathers participate in.

As such, the research presented here includes SBR observations with both

mother-child and father-child dyads to discern if differences exist in the ways in which

fathers and mothers behave during SBR experiences.

Quality of Shared Book Reading

Although SBR in itself is an important experience for promoting multiple

facets of a young child's development, researchers have also begun to highlight the

quality of the SBR activity as a crucial component to the success of SBR (Bojczyk,

2016; Han & Neuharth-Pritchett, 2014; Partridge, 2004). In fact, Duursma and Pan

(2011) highlight that "what happens during an adult-child book reading interaction

could be equally or more important than how frequently it happens" (p. 1177).

Research on SBR has also supported this notion, as results indicate that it is the

quality, not the quantity, of these reading interactions that has the greatest impact on

children's literacy development (DeJong & Bus, 2002; Partridge, 2004; Reese & Cox,

1999). It has become increasingly clear that what parents do during reading matters—

parents' actions, both verbal and non-verbal, have the potential to significantly influence the overall experience of shared reading activities (Goldfield & Snow, 1984).

As such, investigating the quality of SBR experiences may also provide evidence-based strategies to parents and professionals designing literacy-based early interventions on how to maximize the benefits of SBR activities (Han & Neuharth-Pritchett, 2014). Although many researchers agree that the quality of SBR activities is equally, if not more, important than the quantity, the ways in which quality has been operationalized, explored, and measured varies greatly across the research literature.

Measuring the Quality of Shared Book Reading

The large majority of research investigating parents' behaviors during SBR experiences focuses on parental "styles" of reading, with "styles" primarily being operationalized as the types of communication parents produce while reading (e.g., asking questions, talking about the story, etc.). For example, Flood (1977) analyzed 14 separate components of parent-child reading tasks, including the types of comments made by parents, the questions parents asked of children before, during, and after reading, and the number of words spoken by the parents. All 14 of the observed "styles" were communication-based behaviors. Furthermore, Partridge (2004) suggests ten strategies parents can use to make SBR experiences more meaningful and enjoyable to their children (e.g., reread favorite books, talk about the print, read often, etc.), yet none of these strategies focus on the physical domain of SBR. There is no attention given to the ways parents can use voices, facial expressions, or body gestures

to maximize both the SBR experience and children's engagement. Instead, Partridge offers suggestion that focus on parent-child communication and establishing routines for SBR. Although these are valid and helpful recommendations for parents, they are limited in their scope. Ignoring the "intangibles" that frequently occur during SBR is a missed opportunity when one is providing suggestions to parents on how to make SBR activities enjoyable for all involved.

Parental Talk During SBR. Additionally, the types of talk parents use during SBR has also been a focal point of interest for several researchers (Anderson, Anderson, Lynch, Shapiro, & Kim, 2012; Duursma, 2016; Hindman, Skibble, & Foster, 2014). Using data from nearly 700 families who participated in the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B), Hindman et al. (2014) assessed the types of book-related discussions that took place between parents and children. Results indicated that parents focused mainly on the meaning of the story, rather than the code of the text. In other words, they were more likely to discuss the story content, describe the story characters, and ask children questions specific to the story than they were to focus on helping their child to decode story text (e.g., highlighting specific letters or letter sounds). Similar results were found regarding the types of conversations parents have while engaging in SBR activities with their young children. McArthur, Adamson, and Deckner (2005) observed mothers reading with their children at ages 24-, 30-, and 36-months and noted the types of talk mothers used throughout these exchanges. Most of the story-related discussions were predominantly

focused on the identification, naming, and description of story characters and actions, as well as in talk around the books' illustrations.

Parental Questioning During SBR. Investigating the types of questions parents ask their children during SBR was also the focus of Anderson et al. (2012). Forty parent-child dyads were video recorded reading narrative and informational books with their four-year-old children. Parent child dyads included 30 mother-child pairings and 10 father-child pairings. Parents were observed for the types of questions they asked their children during reading and results indicated a wide range in the frequency of asking questions across the dyads. In about one-quarter of the book readings, parents and children asked four or fewer questions; in another quarter of the readings, they asked 29 questions or more; and in three of the book readings, children and parents asked 85 questions or more. Findings also suggested that parental-sex differences in SBR behaviors existed, with mothers asking about one-third more questions than fathers for both narrative and informational texts.

Although Anderson and colleagues (2012) used video recordings "to capture both the verbal and non-verbal (e.g., gestural) interactions" (p.1144) that occurred during parent-child SBR, they did not report any details of or findings related to these "non-verbal" interactions. Therefore, although previous research has acknowledged that SBR constitutes more than just verbal communication, these non-verbal behaviors have not been systematically reported on by researchers investigating SBR in early childhood.

Parental Commentary During SBR. What parents do during SBR has also been conceptualized as "stylistic differences"—a term operationalized by Haden and colleagues (1996) as both the frequency of and the types of commentary mothers produce while reading with their children. In their study of 18 mothers and their children at 3.5 years of age and 5 years of age, the authors classified these "stylistic differences" into three categories: Describers, Comprehenders, and Collaborators. "Describer" mothers labeled and described pictures and characters in the story; "Comprehenders" focused on print knowledge concepts such as where to start reading, how to hold the book, etc.; and Collaborators encouraged, responded to, and confirmed children's commentary about the book while reading. Again, the term "stylistic differences" utilized by these authors focused on the communication styles and verbal commentary produced by mothers—not on the actual physical behaviors they demonstrate during SBR.

Parental Use of Active Reading Strategies During SBR. Another communication-based platform from which the quality of SBR experiences has been operationalized and assessed is through observations of mothers' use of "active reading strategies" while reading with their children. Bojczyk et al. (2016) define "active reading strategies" as things that contribute to children's active engagement, including such behaviors as asking the child to label pictures, describing what is happening the story, and relating story content to the child's personal experiences. Results indicated that the more often mothers performed these "active reading strategies", the more active participation and involvement their children demonstrated

during SBR activities. Although their focus was on exploring various ways mothers

contribute to the quality of SBR experiences, Bojczk and colleagues focused only on

communication-based behaviors with no mention of the physically performative

behaviors that occur as part of the SBR experience between parents and children.

 Parental Extra-Textual Talk During SBR. Beck and McKeown (2001)

extend the literature base around the types of talk parents use when reading with their

children by focusing on the "extra-textual talk" that occurs during SBR. "Extra-textual

talk" is talk that is not directly related to the story (e.g., referencing the family dog

after seeing a dog in the story). In their discussion of the benefits of read-aloud

experiences for young children, the authors highlighted the use of extra-textual talk as

one of the specific strategies parents can use to enhance children's language and

symbolic development through shared reading. Again, the communication-based

components of SBR received exclusive priority and the physically performative-based

aspects were ignored. Duursma (2016) also focused on the types of extra-textual talk

parents produce while engaging in SBR with their children. In this research, which

referred to extra-textual talk as "non-immediate talk," fathers and mothers were

observed reading with their children at 2- and 3-years-old. Results indicated that

fathers were more likely to engage in non-immediate talk while reading with their

children than were mothers.

 Parental Use of Dialogic Reading During SBR. Parents' use of dialogic

reading is another communication-based style of interaction that is frequently explored

as a means for investigating the quality of parent-child SBR experiences. Dialogic

reading (Arnold, Lonigan, Whitehurst, & Epstein, 1994; Valdez-Menchaca & Whitehurst, 1992; Whitehurst et al., 1994a; Whitehurst et al., 1994b; Whitehurst et al., 1988) is a style of shared reading that includes a series of procedures in which the parent engages their child in discussion and higher-order thinking around the text. Specific strategies of dialogic reading include asking open-ended questions and wh-questions, providing informative feedback to the child, repeating and expanding the child's responses using more sophisticated language, and providing feedback and praise to the child that matches their current abilities (Han & Neuharth-Pritchett, 2014; Whitehurst et al., 1988). This type of SBR style creates opportunities for children to participate in the storytelling through active listening and back and forth discussion with the adult (Wasik & Bond, 2001).

Han and Neuharth-Pritchett (2014) identify dialogic reading as a style of reading that can be used to promote quality during SBR and one that parents can use to maximize the benefits of shared reading activities. In addition to the use of extra-textual talk and print referencing (i.e., helping children attend to the code of text through identification of letters and words), they highlight the communication-based strategy of dialogic reading as one way to conceptualize and measure the quality of SBR experiences between parents and young children. Reese (2012) also points to dialogic reading as a style of reading that parents can use to promote literacy development in their young children, indicating that children whose parents used this style of communication-based interaction during SBR had better outcomes than did children of parents who used less interactive styles of engagement while reading

(Reese & Cox, 1999). Although dialogic reading is commonly researched as a "style" of reading that parents demonstrate during SBR activities, it is yet another example of how investigations into the quality of SBR and the types of behaviors parents produce during these experiences are primarily communication-based.

Parental Use of Verbal Sounds During SBR. Another way that quality of SBR experiences between parents and children has been assessed is through mothers' use of sounds while reading. Martin and Reutzel (1999) observed 25 mothers reading with their children (child age ranged from 6 months to 4 years) for the ways in which mothers deviate from the printed story text while reading. One set of deviations, classified as "engagement deviations", were strategies that mothers implemented to maintain their child's attention during the book reading activity. One such strategy was the use of non-story-related sounds, defined as vocalizations such as "oh", "mmmm", gasping, or laughing, that were designed to keep children engaged during SBR. Findings indicated that mothers of younger children (6-, 12-, and 18-month-olds) frequently relied on these types of sounds to engage their children while reading; 70% of the total deviations across age groups fell into this category. Although this research contributes additional information to the types of behaviors parents demonstrate during SBR activities, it is not clear that the sounds made by mothers were in direct response to story content or were intentionally used as a means for adding further enjoyment to the shared reading experience. Instead, it is possible that the non-story-related sounds made by mothers in Martin and Reutzel (1999) were simply a communication-based mechanism for sustaining child engagement.

New Lenses for Viewing SBR: Parents' Physically Performative Behaviors During SBR

Though it seems that the types of sounds parents produce during SBR should be considered communication-based behaviors, for the purposes of the research presented here, this category of behaviors were reclassified as one type of *physically performative behaviors* parents demonstrate during SBR activities. It is thought that the story-related sounds (as opposed to non-story-related sounds such as "oh" and/or "hmm") fathers and mothers make while reading to their children are part of the *physical performance* of reading in that they are reflective of story text and illustrations. Therefore, sounds parents made during reading that were directly related to the story content and were used in a way to enhance story text and/or illustrations were noted as one of the physical behaviors explored in this study. This is similar to the method used by Bus and van IJzendoorn (1997) who recorded the types of story-related animal sounds mothers made while reading with their 12-15-month-old infants, rather than the types of non-story-related sounds produced (e.g., "oh", "hmm").

Although the majority of research investigating the quality of SBR has focused on the communication-based behaviors used by parents, Bus and van IJzendoorn (1997) did measure parents' use of pointing during reading. Results assessing the frequency with which mothers pointed to the text and illustrations during SBR activities with their preverbal infants indicated that this was a common behavior, especially with older infants (14-15 months). The authors reported that mothers

engaged in this type of physically performative behavior as a means for referencing the child to the book.

Though the investigation by Bus and van IJzendoorn (1997) is a promising start, the literature review presented here has demonstrated that very little research exists regarding mothers' and fathers' physically performative behaviors during SBR. It may be that the focus is on the communication-based behaviors parents demonstrate during shared reading because such behaviors have been correlated to children's academic outcomes. Parents who engage in conversations that extend beyond the explicit information presented in the story (i.e., use extra-textual or non-immediate talk) have been found to have higher performance on vocabulary measures than their counterparts whose parents focused instead on the explicit message of the text (DeTemple & Snow, 1992). Similarly, children who had parents who engaged them in high-level conversations around books (e.g., making predictions, asking questions, etc.) performed better on vocabulary and language measures than did children whose parents engaged them in low-level communication-based exchanges (e.g., answering yes/no questions, identifying letters, etc.) (Haden, Reese, & Fivush, 1996).

Likewise, it is possible that the physically performative behaviors parents demonstrate during SBR may also contribute not only to the quality of the SBR activities, but to child outcomes as well. However, because no research currently exists that explores such connections, it is unclear of the role that these types of physically-based behaviors play in the overall quality of parent-child shared reading. Therefore, the research presented here intends to add to the existing literature base on

SBR by investigating the types of physical behaviors fathers and mothers demonstrate when reading with their children.

Of course, there may also be child-specific factors that influence the quality of the SBR experience. Individual differences in children's temperament (Frosch, Cox, & Goldman, 2001), in their interest in participating in literacy-based activities (Fletcher & Reese, 2005; Lonigan, 1994), in their engagement level (i.e., attention to and/or interest specifically in books) during SBR (Ortiz et al., 2001) as well as the child's sex (Duursma & Pan, 2011; Duursma et al., 2008; Swain et al. 2017; Vandermass-Peeler et al., 2012) may impact the quality of the overall SBR experience. More broadly-based considerations of parent-child interactions and parental styles often discuss such considerations in terms of "goodness of fit" between parents and their children (e.g., Newland & Crnic, 2017) or as a type of "scaffolding" (Hattan & Alexander, 2018).

Although each of these factors are important to consider when determining the quality of SBR between parents and children, investigating each of these child-specific factors in an in-depth manner is out of the scope of the project presented here. However, in an attempt to account for possible child-specific variables, child demographic information was collected (i.e., sex).

Physical Behaviors During Parent-Child Interactions: Play as a Context

In order to investigate the physically performative behaviors that occur during parent-child SBR experiences, it is first necessary to explore the ways in which positive physical interactions between parents and children have previously been researched.

Unlike the SBR literature, which focused primarily on mothers' engagement in early literacy activities with their children, much of the research on parent-child play interactions has concentrated on fathers (Kazura, 2000; Lamb, 1981; Tamis-LeMonda, 2004). Perhaps this is because fathers and mothers have been found to interact with their children in different ways (Fagot, 1995), including in such arenas as play and in risk-taking, competitiveness, and independence (Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000). Additionally, it has been suggested that since fathers typically spend less time with their children than do mothers (Tamis-LeMonda, 2004; Yeung et al., 2001), they may be motivated to engage with their young children in ways that are immediately appealing and memorable—characteristics often associated with play-based experiences. As a result, fathers are often seen as "specialists in play and laughter" with their children (LaRossa & LaRossa, 1981).

For example, Kazura (2000) found that children had higher rates of play with their fathers than with their mothers and that fathers' stylistic differences during play (i.e., becoming goal oriented or directive) led to increased toy exploration in their children. The author concluded that these findings suggested that father-child relationships revolve around play, while mother-child relationships instead center around social interactions. This conclusion is similar to that made by Lamb (1981) in which it was speculated that infants form attachments to their fathers through energetic play interactions, whereas infant-mother attachments are formed through mothers' provision of sensitive, consistent care. Despite the cohort shifts in mothering

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and fathering roles briefly discussed previously, it appears that fathers and mothers continue to be characterized along these more traditional role distinctions.

The predominance of father-child play-based engagement is also evident from data found in the father involvement report produced by the National Responsible Fatherhood Clearinghouse (NRFC, 2018) (highlighted earlier in this review). Residential and non-residential fathers were much more likely to play with their young children than they were to do other types of activities (e.g., shared reading, eating dinner together), indicating that father-child play interactions were a priority for fathers.

Several scales exist to observe the physical behaviors that occur between parents and children during play activities. Several of these scales specifically focus on father-child rough and tumble play (RTP). For example, the Rough and Tumble Play-Quality Scale (RTP-Q, Fletcher, St. George, & Freeman, 2012) was developed to code father-child RTP for warmth, sensitivity, control, physical engagement and playfulness, and winning and losing. Additionally, Flanders and colleagues (2009) developed the Play Regulation Coding Scheme (PRCS) to assess the dominance relationships between fathers and children during play. The PRCS codes for both behaviors and communications that reflect the degree to which fathers hold the dominant position in relation to their child and/or the degree to which they control the flow of play.

More recently, scholars have begun to expand these father-child RTP measures to include both mothers and fathers. Olofson and Schoppe-Sullivan (2019) are

currently piloting the Risky Interaction Support and Challenge (RISC) Scale with parents and their toddlers. The RISC is designed to code parental behavior while their children engage in age-appropriate tasks that involve physical risks and/or behavioral challenges. Verbal and physical behaviors of parents are coded using the RISC and include parents' encouragement of the child to take risks, their allowance of their child's autonomy to take risks, and the extent to which they are overprotective of their children during risky tasks.

It is evident that a rich body of literature exists which establishes that mothers and fathers interact with their children during play-based activities in different ways. Additionally, various scales exist to assess the type of behaviors parents demonstrate during parent-child play experiences. Research has also shown that fathers have special ways of interacting with their children and that they add fun and informality to family life in ways that mothers do not (Lareau, 2000). However, it is unclear if such physically performative behavioral differences between mothers and fathers transfer to parent-child SBR experiences. Therefore, the research presented here intends to investigate if such differences do in fact translate to non-play interactions, such as SBR.

Physical Behaviors During Shared Book Reading

While much work has been done to systematically observe for the physical behaviors parents demonstrate during play-based tasks, the same cannot be said for the physical behaviors that parents display during SBR activities. Despite a thorough

review of the SBR literature, only one measure has been identified which includes parental physical behaviors as one component of analysis.

The Adult/Child Interactive Reading Inventory (ACIRI; DeBruin-Parecki, 1999) categorizes 12 parental literacy behaviors into three broad categories: promoting interactive reading and comprehension, using literacy strategies, and enhancing attention to text.

Parental behaviors in the "promoting interactive reading and comprehension" category are mostly communication-based behaviors commonly seen in SBR research, such as asking and answering questions and using extra-textual talk. The one non-communication-based parental behavior exception in this category is parents' pointing to the words and pictures in the book. The "using literacy strategies" category of the ACIRI includes behaviors that are also exclusively communication-based—such things as soliciting children's predictions, asking children to recall information from the story, and elaborating on children's ideas.

However, where the ACIRI differs from previous investigations of parent-child SBR interactions is in the parental behaviors that make up the "enhancing attention to text" category. These behaviors represent several aspects of the physicality that takes place during SBR, including physical proximity to the child, giving the child an opportunity to hold the book and/or turn the pages, and intentionally displaying the book so the child can see it.

It is important to note, though, that although these behaviors are related to the physicality that takes place during SBR, they are categorized as those that enhance the

child's attention to the text. Thus, it is difficult to determine if these physical aspects of SBR are strategies parents use solely to maintain their child's attention while reading or if they are designed to enhance the overall reading experience. It may also be possible that such physically-based behaviors are symbiotic in that attention maintenance is an essential component of quality SBR experiences. Therefore, it may be that the physically-based behaviors that are used to engage and sustain children's attention during shared reading also serve as mechanisms for enhancing the quality of the SBR activity overall.

For example, Rodriguez, Hines, and Montiel (2009) assessed both the communication behaviors and the "interactive strategies" of Mexican American mothers while reading with their toddlers. The authors used the ACIRI to measure mothers' "interactive strategies" and found the mothers to rarely use literacy strategies or to promote interactive reading and comprehension (the first two categories of the ACIRI). In contrast, the Mexican-American mothers in their sample were somewhat more likely to demonstrate behaviors that enhanced their child's attention to the text (again, the more physical behaviors measured via the third category of the ACIRI). Although findings of Rodriguez et al. (2009) indicated that Mexican-American mothers were more likely to demonstrate the physical behaviors found on the ACIRI (enhancing attention to text) than they were the verbal behaviors (promoting interactive reading and comprehension and using literacy strategies), the authors did not collect data regarding mothers' reasons for such actions. Therefore, it is not possible to determine if their more frequent use of physical behaviors over verbal

behaviors was due to their attempts at sustaining their child's attention or for enhancing the SBR experience overall (or, possibly both).

Regardless of the reasons why mothers and fathers demonstrate verbal and physical behaviors during SBR experiences with their preschool-aged children, it remains crucial to assess both types of these behaviors if there is to be a full understanding of the parent-child SBR experience. The research reviewed here has demonstrated that the current literature base on SBR has focused almost exclusively on the communication-based behaviors parents display during SBR. Despite it being a common feature of parent-child SBR activities, very little research exists which explores the physicality that takes place during SBR. The study presented here takes the first critical step in exploring the physicality of the SBR experience by investigating the types of physical behaviors mothers and fathers demonstrate during SBR activities with their preschool-aged children.

The Third Dimension: Physically Performative Behaviors During Shared Book Reading

In their discussion of storybook reading in the classroom context, Martinez and Teal (1989) posit that SBR involves the construction of a "complete text" (p.126). That is, one that includes the language and ideas of the author and illustrator in conjunction with the comments, questions, and discussion around the book that is produced by the reader(s). Although an interesting conceptualization of the SBR experience, this research presented here will argue that the "complete text" formula offered by Martinez and Teal (1989) for the classroom context is, in fact, incomplete,

when applied to parent-child SBR experiences. It does not consider what I will refer to as the "*physicality*" (i.e., the physically performative behaviors) of SBR—the physical actions, gestures, facial expressions, and voice inflections readers (specifically parents) often demonstrate during SBR activities. In my view, the physicality that is enacted by those participating in the reading experience is a "third dimension" involved in the construction of a "complete text".

Golden and Gerber (1990) allude to the performative behaviors that take place during SBR in their discussion of the various cues that more advanced readers use to help less advanced readers determine what is occurring in the text. They identify these as the paralinguistic, kinesic, and proxemic cues that the adult reader performs. These cues represent the reader's own interpretation of the text and are used to guide the child in constructing an understanding of the story. The authors acknowledge the "third dimension" of SBR—the performance behaviors of the reader (kinesic)—in their discussion of the various facial expressions made during reading. They note how a reader's use of facial expressions (e.g., a frown, a fearful expression, etc.) creates interactions between the written text (word), the oral reading (voice), and the physical action (body).

Golden and Gerber (1990) also consider the proxemics involved in SBR experiences and how such performative behaviors influence how a story unfolds. Here, proxemics refers to the physical location of adult reader and child and their proximity to one another during the reading. For example, a child sitting in a parent's

lap during reading is a physically performative behavior that has the potential to affect not only the intimacy of the SBR experience, but also the quality of the experience.

The kinesthetic and proxemic interactions may enhance the reading experience for those involved and create a unique quadratic interaction between the author's text, the illustrator's pictures, the reader's verbal communication, and the reader's physically performative behaviors. These interactions, therefore, present the less experienced reader (a child in most cases) with multiple cue systems for interpreting and constructing the story.

Although suggested as a key component of SBR by Golden and Gerber (1990) nearly thirty years ago, these performance behaviors have been grossly understudied in the existing literature base which explores SBR—perhaps because these behaviors are made up of the unspoken dialogue that exists during close interactions such as SBR. Yet, often times, it is these overlooked exchanges that occur within relationships and interactions, including those that occur between parents and children, that reveal the most valuable information. These covert, nuanced behaviors often provide glimpses into the true dynamics within families. It is frequently the case that these fluid exchanges in the routines of daily life are those that yield the richest information (Lareau, 2000). Relying on the artistic principle of "positive and negative spaces," Daly (2003) refers to these unseen behaviors, interactions, and familial exchanges as the "negative spaces" in families. The nuances that are exchanged between parents and children while engaging in SBR serve as one example of the negative spaces within families. Such things as the physical positioning of parents and children during

reading, the gestures used, and the voices imitated by the reader constitute the negative space of SBR. These types of covert exchanges may have a significant impact on the overall enjoyment of and quality of the SBR experience for both parents and children.

As such, the research presented here explores one aspect of these nuanced exchanges between parents and children—the physically performative behaviors mothers and fathers demonstrate while reading with their children.

Theoretical Framework

The SBR research presented here is framed within the social constructivist theory developed by Vygotsky (1962, 1978), in which all learning takes place within a social context. Here, families and the interactions that occur among families serve as the social context for literacy development (Snow, 1993). Vygotsky proposed that language is a key component of development, and that language and culture form the foundational basis from which humans experience, understand, and respond to stimuli. Social constructivist theory posits that knowledge is co-constructed by the learner and the environment around them, and that all cognitive functions are a result of this co-constructed learning. During SBR activities, parents and children engage in bidirectional interactions which serve to co-construct meaning and knowledge regarding the text (Han & Neuharth-Pritchett, 2014; Landry et al., 2012). During such experiences, parents play a central role in shaping their children's knowledge of how to engage with books, how to gain information from text and illustrations, and how to connect with stories (McArthur et al., 2005).

Vygotsky (1978) also introduced the idea of a zone of proximal development, the difference between a child's "actual developmental level as determined by independent problem solving" and their level of "potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 86). From this perspective, adults foster children's learning by offering appropriate support when necessary, and then by gradually withdrawing support as the child becomes more capable of completing tasks independently.

This type of behavior is common in SBR experiences between parents and their children. Shared reading activities typically offer children and their parents a familiar context in which to support children's language and literacy development and provides adults the opportunity to build upon their child's current level of cognitive ability. Specific adult-scaffolded support offered to children during shared book reading often takes the form of explanations, questions, and positive feedback (Anderson et al., 2004; Caspe, 2009) that is reflective of and in response to children's current knowledge. Scaffolding extends children's learning beyond where they are currently functioning but not to the extent where they experience high levels of frustration in their learning (Anderson et al., 2012). During SBR experiences, mothers and fathers can simultaneously adjust their interactions to support children's current literacy knowledge while also encouraging a higher level of learning in their children.

Research has shown that parents are aware of their children's abilities and scaffold their exchanges during SBR accordingly (i.e., asking more complex questions as the child ages, using less complex text than what is written for children with lower

skill levels) (Bojczyk et al., 2016; Martin & Reutzel, 1999; McArthur et al., 2005).

This pattern of behavior is reflective of sociocultural theory in that more skilled

mentors (i.e., parents) respond to the abilities of their children and provide support and

feedback based on the child's level of understanding and performance. With

knowledge and understanding of children's abilities and engagement, parents can

make more informed decisions about how to navigate the SBR experience, and how to

help their child do so as well (Partridge, 2004).

Additionally, as discussed previously, children's books are frequently utilized

as a means for sharing societal and cultural information with children. From a social

constructivist perspective, this utilization of shared book reading as one type of adult-

guided activity promotes children's active internalization and construction of literacy

knowledge and skills deemed valuable within a cultural community (Caspe, 2009;

Rodríguez et al., 2009). Children learn language and communication skills in their

primary social contexts from caregivers, predominantly mothers and fathers, who play

a central role in the development of the children's early use of language (Pancsofar et

al., 2010). Parent–child interactions around literacy are guided by culturally specific

beliefs about the views, values, and uses of literacy, the goals of children's

development, and the environment in which children are raised (Rodriguez et al.,

2009; Rogoff, 1990). Through a highly social activity such as shared book reading,

children are exposed to many facets of language and social interaction that serve as

methods for developing foundational understandings of societal and cultural norms

and expectations.

In addition to social constructivist theory, Family Systems Theory (FST; Cox & Paley, 1997; Schacht, Cummings, & Davies, 2009) is a useful theoretical basis from which to explore parent-child shared reading experiences. FST recognizes that dyads within the family have distinct histories and styles within the larger family context. As such, FST would recognize that fathers and mothers may have different roles and interactional qualities and developmental outcomes when engaging in shared reading activities with children. Research and theory on the effects of gendered parenting on children's wellbeing (e.g., Leaper, 2002; Palkovitz, 2013) suggests that mothers and fathers will not only have different meanings, processes, and styles of shared reading, but that parent-son and parent-daughter shared reading may be characterized by different qualities and genre preferences for reading materials.

Additionally, Palkovitz, Trask, and Adamsons (2014) emphasized the ways in which FST can be used to further the argument for conducting research that includes both mothers and fathers as an avenue for exploring the "essential differences" that exist in the meaning and processes associated with mothering and fathering. Their work highlighted the ways in which daughters and sons learn and subscribe to different scripts based on interactions with and observations of their fathers and mothers. The authors posit that "within families, mothers and fathers interact with their children in convergent yet distinct ways, characterized by different meanings and processes that yield different expectations and developmental outcomes" (p. 409). Thus, in acknowledging that fathers and mothers interact with their children in both

similar and distinct ways, it is critical that the research presented here includes both mothers and fathers in its design.

Research Questions

Based on previous research regarding SBR and grounded in social constructivist theory and Family Systems Theory, the research presented here was guided by the following research questions:

> 1. Are there differences in fathers' and mothers' demonstration of physically performative behaviors during shared book reading activities with their preschool-aged children?
>
> > 1a. Are there differences in the frequency with which fathers and mothers demonstrate physically performative behaviors during shared book reading?
> >
> > 1b. Are there differences in the types of physically performative behaviors fathers and mothers demonstrate during shared book reading?
>
> 2. What is the relationship between the physically performative behaviors demonstrated by fathers and mothers during shared book reading and the quality of shared book reading experiences?

Chapter 3

METHODS

This observational study used quantitative coding measures and questionnaires to explore the physically performative behaviors fathers and mothers demonstrate during SBR. Using a coding measure specifically designed for this research, both the *frequency* and *types* of physically performative behaviors parents demonstrate were recorded. Mothers and fathers were separately video-recorded reading a researcher-supplied age- and developmentally appropriate children's book with their child. Parents' physically performative behaviors included facial expressions, hand and body gestures, pointing, voice, and proximity of the parent-child dyad during reading. Additionally, demographic information about the parents and children was collected prior to the SBR observation. Parents also individually completed a questionnaire after the SBR observation asking them about their personal literacy habits and those of their child, as well as their personal beliefs regarding early literacy. This survey also included questions that asked parents to reflect on the specific SBR activity they completed as a research participant.

Research Design

This study is an observational investigation exploring the physically performative behaviors mothers and fathers exhibit during a single SBR activity with their pre-school aged child (Figure 1). Because no data currently exists that

specifically assesses the physicality that occurs when parents read with their children, this study collected primary data that captured both the frequency and type of physically performative behaviors demonstrated by parents during SBR. Similar observational designs have been used to collect language-based interactions during SBR (Duursma, 2016; Pancsofar & Vernon-Feagans, 2006; Rowe, Leech, & Cabrera, 2017). The study presented here replicates these designs by collecting demographic information from participants (Anderson et al., 2004; Rowe et al., 2004), by counterbalancing the order in which fathers and mothers were observed reading with their child (Vandermaas-Peeler et al., 2012), and by gathering parent self-report data on their early literacy beliefs (Weigel, Martin, & Bennett, 2006), their literacy habits and those of their child (Duursma & Pan, 2011; Nichols, 2000), and their rating of familiarity with and enjoyment of the SBR reading activity (Vandermaas-Peeler et al., 2012).

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│   Recruitment   │
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│Eligibility Screening│
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│ Random Assignment│
│ to Reading Order │
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│ SBR Observation │
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│ Parent-Child SBR│
│     Survey      │
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│   Quantitative  │
│    Analysis     │
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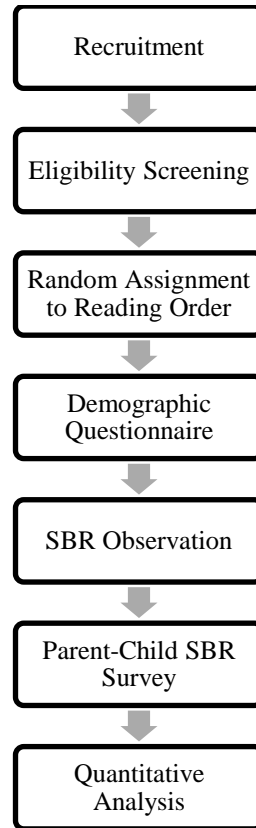
Figure 1. Diagram of observational study design.

Power Analysis

To determine an ideal sample size for this research, a priori power analyses were completed. Because this is an exploratory observational study investigating an aspect of parent-child SBR that has not been addressed previously, it was not possible to determine the size of the expected difference between the two groups on this multiple regression (i.e., mothers and fathers). Therefore, the researcher conducted two separate power analyses for this research, based on the multiple regression analysis for research question *1a*. Using the G* Power software program (Faul,

Erdfelder, Lang, & Buchner, 2007), both power analyses were conducted for a linear multiple regression. The significance level was set at .05 and three predictor variables (child sex, parental reading order, and reading location) were included. In addition, power was set to .80, indicating an 80% probability of identifying statistically significant differences between the two sample groups if those differences are in fact present in the population.

For the first power analysis, the researcher set the effect size to medium ($f^2 =$ .15; Cohen, 1988). Results from this first power analysis showed that 77 cases would be required for each group (i.e., mothers and fathers). This created a target sample of 77 mother-father-child triads, for a total of 154 adult participants and 77 child participants to determine a medium effect size between mothers and fathers.

For the second power analysis, all parameters used in the first power analysis remained the same, however, the researcher set the effect size to large ($f^2 = .35$; Cohen, 1988). Results from this first power analysis showed that 36 cases would be required for each group (i.e., mothers and fathers). This created a target sample of 36 mother-father-child triads, for a total of 78 adult participants and 36 child participants to determine a large effect size between mothers and fathers.

Because the sample sizes needed to determine a medium effect size versus a large effect size vary significantly, the researcher planned to recruit at least the number of participants needed to detect a large effect size between the two groups (i.e., mothers and fathers; 36 mother-father-child triads). Attempts by the researcher were made to continue to recruit until the minimum number of participants needed to

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detect a medium effect size was reached (i.e., 77 mother-father-child triads). However, after extensive recruitment efforts were made (see additional details in the "*Recruitment*" section), a total of 41 mother-father-child triads were recruited for participation in this study, yielding the ability to determine a large effect size between mothers and fathers.

Participants

The research presented here utilized a convenience sample of participants recruited from the local community of a university in the northeastern region of the United States. Participants were those parents who had a preschool-aged child (ages 36-59 months) enrolled at one of two childcare programs located on the university's campus. These programs enroll children from the local community as well as those whose parent(s) is employed at the university. Additionally, the programs serve a diverse population of families from varying racial, ethnic, and socioeconomic classes and one of the sites also services families participating in a local Early Head Start program. One location has the capacity to enroll 254 preschool-aged children and the other has a capacity of 50 preschool-aged children.

Participants consisted of mother-father-child triads. In an effort to create a consistent participant sample, only heterosexual mother-father dyads were included. This was so that statistical comparisons could be made in the ways in which a non-independent sample of mothers and fathers engage with their child during SBR. However, mother-father dyads for this research did not need to be in-tact, married couples. This expanded the participant pool to include cohabitating heterosexual

couples, divorced pairings, and non-romantic living apart couples. Additionally, this sample included children's non-biological fathers (i.e., social fathers, step-fathers, etc.), as long as this individual had presumed a fathering role in the child's life. The focus of this sample was on mother-father pairings (as operationalized above) so that comparisons could be made between fathers' and mothers' physically performative behaviors during a SBR task.

Inclusion criteria for participation in the research included: (a) willingness of both the mother and father to participate in the study (i.e., complete demographic and SBR questionnaires and complete the SBR task), (b) child aged 36-59 months, (c) both mother and father read English at a level of proficiency that allowed them to complete consent procedures and research questionnaires and to read the researcher-provided story.

Sample

Table 1 provides demographic characteristics of the study sample. A total of 41 mother-father-child dyads participated in this research. However, one family had to be eliminated from the study because they did not fully complete the SBR task. This yielded a final sample of 40 families (80 adult participants and 40 child participants). The sample included equal numbers of boys and girls. Children were between 37 months and 59 months at the time of data collection, with an average child age of 46 months (SD = 6.8 months). Three children (8%) had identified disabilities and 65% of children were White.

The average age of mothers was 35 years (SD = 8.2 years) and most mothers were White (65%). The average age of fathers was 37 years (SD = 7.3) and most fathers were White (65%). Mothers and fathers in this sample were highly educated, with of 73% of mothers and 47% of fathers having graduate degrees. Parents were also most likely to be employed in full-time work, with 68% of mothers and 80% of fathers being employed full-time. Ninety-five percent of parents reported that they were married, cohabitating couples and 98% percent of mothers and fathers indicated that they lived with their child all of the time.

Table 1
Sample Demographic Characteristics (N =40)

	Mothers		*Fathers*		*Children*	
	n	*%*	*n*	*%*	*n*	*%*
Race/Ethnicity						
Asian	7	17.0	6	15.0	5	12.5
Black/African American	4	10.0	5	12.0	4	10.0
Hispanic/Latino	1	3.0	1	2.0		
Multiracial	2	5.0	1	3.0	5	12.5
Other			1	3.0		
White	26	65.0	26	65.0	26	65.0
Educational Level						
Less than High School			1	3.0		
Some College/Trade School	2	5.0	2	5.0		
Associate's Degree			3	8.0		
Bachelor's Degree	9	22.0	15	37.0		
Graduate Degree	29	73.0	19	47.0		
Employment Status						
Employed Full-Time	27	68.0	32	80.0		
Employed Part-Time	6	15.0	4	10.0		
Unemployed	7	17.0	4	10.0		

Measures

Three quantitative measures were used to collect data for this observational research study: the Participant Demographic Questionnaire (parent version, Appendix A; child version, Appendix B), the Parent-Child SBR Survey (Appendix C), and the Physically Performative Behaviors Checklist (PPBC, Appendix D).

Participant Demographic Questionnaire

This study included two versions of a participant self-report demographic questionnaire. The demographic questionnaire, developed and piloted by the researcher, was designed to take less than 5 minutes to complete. The first version is a parent questionnaire that was completed by each parent participant. It gathered data regarding parents' age, race, ethnicity, and sex. In addition, it asked parents to report their highest level of education, their employment status and current occupation if employed, relationship status to child's co-parent, and residential status in relation to the child. The second version is a child questionnaire and was completed by one of the parent participants (parents were given the choice on who would complete the child questionnaire). The child questionnaire gathered data regarding the child's age, race, ethnicity, and sex, as well as if the child has an identified disability.

Pilot Procedures for the *Participant Demographic Questionnaire*. As part of the pilot procedures implemented for this research, both the parent- and child-versions of the *Participant Demographic Questionnaire* were piloted over several iterations. First, the questionnaires were piloted with an informally recruited convenience sample of colleagues who have experience in designing and implementing survey-based

research. This round of pilot testing refined the parent version of the *Participant Demographic Questionnaire* to include additional options for highest parental educational level, removed language that would be unclear to those not in the field of family sciences, and clarified the parental employment question. The question on the parent version of the *Participant Demographic Questionnaire* asking about parents' relationship status to child's co-parent was also modified from a select-option to a fill-in option to be more inclusive of the various types of relationship co-parents have. Additionally, the race and ethnicity questions were modified on both the parent- and child versions of the *Participant Demographic Questionnaire* to also be more inclusive of how participants identify themselves. Next, the questionnaires were piloted with an informally recruited convenience sample of friends, colleagues, and family members who had children at the target age for this research (i.e., 36-59 months). The questionnaires were sent to these individuals and they were asked to provide the researcher with feedback regarding the readability, the flow, and the clarity of survey questions, as well as how long it took to complete the surveys. Based on this second iteration of pilot testing, the parent version of the *Participant Demographic Questionnaire* was revised to include a co-parent relationship status example that is inclusive of co-parents who have never been in a romantic relationship: (e.g., married, living together, divorced/separated, *co-parents only*, etc.).

Parent-Child SBR Survey

Parent participants completed the *Parent-Child SBR Survey*, a survey developed and piloted by the author, and informed by similar surveys that have been

used in previous empirical investigations of parent-child SBR. The survey designed for this research includes four sections and was designed to be completed in less than 15 minutes.

Section 1 asks parents to report on their beliefs regarding early literacy, including the role of the family in literacy development, the purpose of parent-child SBR, and their self-efficacy with SBR. Some questions in Section 1 are Likert-based and use a four-point rating system ranging from "Strongly Disagree" to "Strongly Agree". To avoid acquiescence bias, several of these questions are reverse-coded. Additional questions in Section 1 specific to parental efficacy with SBR activities and reasons for participating in SBR are list-based, where participants select as many items on the list as are relevant.

Following previous research investigating parental beliefs regarding early literacy development, (Lynch et al., 2006), a composite score for Section 1 of the *Parent-Child SBR Survey* will be created to use in future research that explore parents' views of early literacy as being more emergent or more traditional. Likert-based survey responses are assigned a point value with higher scores representing a more emergent parental early literacy perspective, and lower scores indicating a more traditional perspective. Survey items representing a more emergent early literacy perspective include, "you should allow your child to "read" familiar books by retelling the story from memory" and "a child benefits from hearing favorite stories read over and over". Survey items indicating a more traditional perspective include, "to learn how to read, a child needs workbooks that teach specific reading skills" and "children

have to be a certain age before they can begin to read and write". The reliability of survey items in Section 1 that are informed by Lynch et al. (2006) was previously determined using Cronbach's alpha, with a resulting alpha value of .85, indicating good reliability of these items.

Sections 2 and 3 includes questions specific to parents' and children's personal literacy habits. Using Likert-style questions, Section 2 asks parents how often they engage in reading and writing tasks at home and how frequently they participate in a variety of literacy-based activities with their child (e.g., SBR, singing or reciting rhymes, oral storytelling, etc.). Similar to data collected via the National Survey of Family Growth (NSFG; 2018), the Likert-style questions are based on a five-point rating system ranging from "Never/Rarely" to "Daily". Additionally, Section 2 asks parents to report at what age they began reading with their child and to indicate who does most of the reading with their child at home. Section 3 asks parents to report on their child's reading and writing habits and uses Likert-type questions specific to how often children independently read and write, how often they ask to be read to, how frequently they visit a public library. Again, these Likert-based questions use a five-point rating system ranging from "Never/Rarely" to "Daily". Reliability for the items in Sections 2 and 3 that were patterned from similar research investigating home literacy environments was previously found to be acceptable (Cronbach's $\alpha = .74$) (Griffin & Morrison, 1997). A final question asks parents to indicate how many books their child has in the home.

Following similar procedures employed in previous SBR research (Christian et al., 1998; DeBaryshe & Binder, 1994; Park, 2008), composite scores will be created for Sections 2 and 3 of the *Parent-Child SBR Survey*. These composite scores, which will be used for future research, indicate levels of parental and child engagement in early literacy activities. Likert-based survey responses are assigned a point value with higher scores indicating higher levels of parental and child engagement in early literacy activities, and lower scores indicating lower levels of involvement.

Finally, Section 4 of the *Parent-Child SBR Survey* asks parents to reflect on the SBR activity completed as part of the research study presented here. Questions in Section 4 of the survey ask parents to report on their level of enjoyment of parent-child SBR activities in general, as well as their level of enjoyment specific to the SBR activity completed as part of the observational research study. Parents are asked to complete these two enjoyment ratings for their child's level of enjoyment as well. Both the parent- and the child-ratings in Section 4 use Likert-type questions based on a four-point rating response, ranging from "Didn't enjoy at all" to "Enjoyed very much". These four-point Likert-based survey responses were assigned a point value with higher scores indicating higher levels of parental and child enjoyment of the SBR task used for this research, and lower scores indicating lower levels of enjoyment.

Additionally, Section 4 of the *Parent-Child SBR Survey* asks parents about their child's familiarity with the researcher-provided book used during the SBR task. The specific book chosen for the SBR task portion of this study was selected with the intent of providing families with a novel reading experience, using a book they had not

previously read. This design decision was particularly important since mothers and fathers read the same story across their individual SBR tasks. Survey responses to this question of Section 4 of the *Parent-Child SBR Survey* indicate that 90% of parents who were the first to complete the SBR task reported that their child was not at all familiar with the story.

For the purposes of the analyses presented here, only data from Section 4 of the *Parent-Child SBR Survey* was used. Both parental levels of enjoyment and parental perceived levels of child enjoyment specific to the video-recorded parent-child SBR task were included in analysis.

Pilot Procedures for the *Parent-Child SBR Survey*. As part of the pilot procedures implemented for this research, the *Parent-Child SBR Survey* was piloted over several iterations. First, the questionnaires were piloted with an informally recruited convenience sample of colleagues who have experience in designing and implementing survey-based research. This round of pilot testing refined the *Parent-Child SBR Survey* to include additional items regarding parental beliefs and efficacy related to SBR and to improve the clarity of some questions. Additionally, this first round of pilot testing also increased several of the Likert-based frequency of activity questions from a four-point scale to a five-point scale, altering the response options from "Never/Rarely; Monthly; Weekly; Daily" to "Never/Rarely; A few times per month; About once a week; Several times per week; Daily". Next, the *Parent-Child SBR Survey* was pilot tested with an informally recruited convenience sample of colleagues who are experts in literacy and early childhood development. This iteration

of pilot testing refined some of the language used throughout the *Parent-Child SBR Survey* and also improved the survey by adding additional questions regarding parents' and children's use of technology for reading and writing purposes. Finally, the *Parent-Child SBR Survey* was piloted with an informally recruited convenience sample of friends, colleagues, and family members who have children at the target age for this study (i.e., 36-59 months). The questionnaire was sent to these individuals and they were asked to provide the researcher with feedback regarding the readability, the flow, and the clarity of survey questions, as well as how long it took to complete the survey. Based on this final iteration of pilot testing, the *Parent-Child SBR Survey* was revised to provide additional clarity around questions involving parents' and children's use of electronic devices for reading.

Physically Performative Behaviors Checklist (PPBC)

The observational coding measure for the research presented here was developed and piloted by the author. It assesses the various physically performative behaviors parents may demonstrate during SBR and uses event sampling to code for both the frequency and type of behavior. Similar types of event sampling methods are common in SBR research (Anderson et al., 2012; Duursma, 2016; McArthur et al., 2005). Physically performative behaviors included on the *PPBC* include pointing, hand/body gestures, facial expressions, voice, and proximity to the child.

Behaviors on the *PPBC*. The *PPBC* includes five categories of parental behaviors: pointing, hand/body gestures, facial expressions, voice, and proximity to the child. *Pointing* is coded each time a parent points specifically to the words or

illustration in the story; *hand/body gestures* is noted each time a parent exhibits a non-pointing hand or body movement in response to the story content (illustrations and text) such as bumping their legs up and down, using their arms to produce a scooping motion, tapping their fingers to imitate a walking motion, nodding or shaking their head, etc. Additionally, the *hand/body gestures* category is coded as either occurring on the child or elsewhere. For example, if the parent tickles the child physically, this is coded as "hand/body gesture; child". Likewise, if a parent uses their hand to pretend to hold a flashlight, this is coded as "hand/body gesture; elsewhere".

The *facial expressions* code is used any time a parent makes a change to their facial expression such as furrowing their forehead, making a silly face, frowning, etc. Each new facial expression is coded independently, so that a parent smiling, then frowning, then smiling again, would be coded as three distinct facial expressions. Likewise, if a parent makes a silly face, returns to a neutral face, and makes another silly face, this is coded as two distinct instances of facial expression. Individual facial expressions are determined through the changes in participants' facial features and face muscles such as the raise of an eyebrow, the pull up or down at the corners of the mouth, the creasing of the forehead, etc.

Voice is noted each time a parent alters their voice pitch (inflection) or makes a sound that is directly related to the story content (story sound). For example, if a parent uses a pitch other than their typical speaking voice to narrate a character, such as deepening their voice to speak the words of a large animal such as a lion or using a whisper to narrate a small animal such as a mouse, "voice; inflection" is coded. Voice

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inflection also includes the use of imitated accents. Additionally, consistent with Bus and van IJzendoorn (1997) only story-related sounds produced by mothers and fathers that are reflective of story text and illustrations (e.g., animal sounds, machine sounds, vehicle sounds, etc.) are coded, using a "voice; story sound" code. This excludes non-story-related sounds produced by mothers and fathers during reading (e.g., "oh", "hmm"). Furthermore, if a parent alters their pitch (inflection) while producing a story-related sound (story sound), both "voice; inflection" and "voice; story sound" is coded. Finally, because the researcher is not familiar with the varying tones and pitches that are used in languages other than English and therefore cannot discern when inflection is used in direct response to the story text and illustrations rather than as part of the typical pattern of speech, voice codes are only captured during the SBR task when mothers and fathers are speaking English.

Proximity Categories on the *PPBC.* Coding for *proximity to the child* notes the relative location of the child to the parent. Four codes are available to indicate the parents' *proximity to the child*: shared space (SS), near space contact (NSC), near space (NS), and distal space (DS). Shared space is coded in instances where there is immediate physical contact between parent and child in an interlocking way, such as when the child is sitting on the parent's lap or when the parent has their arms around the child. Near space contact is used when the parent and child are close together (i.e., within an arm's distance) and are engaged in physical contact, such as sitting/standing next to each other, but not in an interlocking way. Near space is coded when the parent and child are close together (i.e., within an arm's distance) but are not engaged in

physical contact. Distal space is used when the parent and child are further than an

arm's length distance from each other and are not engaged in physical contact, such as

when the child walks away from the parent to a different area of the room. Within this

coding scheme, both SS and NSC include parent-child physical contact whereas NS

and DS do not include such contact. Unlike the other physically performative

behaviors found on the PPBC (i.e., pointing, hand/body gestures, facial expressions,

voice), proximity to the child codes are not captured through event sampling. Instead,

the time that a parent-child dyad spends in each of the individual proximity categories

(SS, NSC, NS, and DS) is recorded. For example, if a dyad is seen in SS for two

minutes, then moves to NSC for 20 seconds, then back to SS for an additional three

minutes and ten seconds, the total time captured for proximity codes would be as

follows: SS 5:10; NSC :20; NS :00, DS :00. In addition to the total time each parent-

child dyad spends in each of the proximity categories, the proportional amount of time

spent in each category relative to the total time of the SBR task is also recorded. Using

the example above, if the total time of the SBR task is 5:30, the proportional time

spent in SS would be 94%, in NSC 6%, in NS 0%, and in DS 0%. These procedures

allow the researcher to capture the total time each parent-child dyad spends in the

various proximity categories as well as considering these proxemic behaviors relative

to the total time of each SBR task. Because proximity to the child codes are not

captured in the same format as are the other behaviors found on the PPBC (i.e.,

pointing, hand/body gestures, facial expressions, voice), they are excluded from

analyses exploring the relationship between mothers' and fathers' physically performative behaviors during SBR and the quality of the SBR experience (*RQ2*).

Data Collection Using the *PPBC*. Through the use of event sampling, each time a new behavior is exhibited, or a different form of the same behavior is demonstrated, the behavior was coded. For example, if a parent produced a sad facial expression (i.e., frown) and then changed it to a happy facial expression (i.e., smile), each of these behaviors were independently coded as *facial expression*. Furthermore, if a parent pointed to the text/illustration in the book, moved their finger away/off of the page, and then pointed again, this was coded as two separate instances of *pointing* behavior. Because the parent-child shared reading experiences were video-recorded, event sampling was used to capture any and all physically performative behaviors demonstrated during the SBR task (except for the proximity to child categories, as described above). Video-recording allowed the researcher to stop and start the video at any time and to watch the video repeatedly to ensure all behaviors were noted.

Data collection from the video recordings began as soon as the SBR task commenced, as noted by a verbal or physical behavior that indicated the task's start (i.e., the parent and child had a shared attention to the book, the parent started reading the title of the story, the parent told the child that they were going to read the book, etc.). Data collection ceased when the SBR task ended, as noted by a verbal or physical behavior that indicated the task's end (i.e., the parent and child put the book down, the parent stated that they were done with reading, the parent or child signaled to the researcher that they were done with the SBR task, etc.).

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To ensure all behaviors were accurately captured, each video was viewed by the researcher five times. The first viewing was to capture start and stop times for the reading as well as to code for *proximity to the child*. The second viewing was to code for *pointing* behaviors, the third for *hand/body gestures*, (both "hand/body gesture; child" and "hand/body gesture; elsewhere"), and the fourth for *facial expressions*. The final viewing of the video was to code for *voice* (both "voice; inflection" and "voice; story sound").

Scoring of the *PPBC*. The *PPBC* produces an overall frequency score (total) that captures the total number of physically performative behaviors demonstrated by mothers and fathers. Additionally, each type of behavior also has a total score that indicates the total number of each of the specific behaviors demonstrated by mothers and fathers. This includes total scores for the frequency of pointing, hand/body gestures: child, hand/body gestures: elsewhere, facial expressions, voice: inflection, and voice: story sound. As discussed previously, proximity location is captured through total time spent in each proximity category (SS, NSC, NS, DD) as well as time spent in each proximity category proportional to the total time of the SBR task.

To account for the varying length of time in which each mother-child and father-child dyad spends in the SBR task and to develop a standardized measure of behaviors, the total frequencies of physically performative behaviors demonstrated by mothers and fathers, as well as the frequencies of the individual types of behaviors, was divided by the total time (in seconds) each dyad spent in the SBR task. This created a frequency indicating the average number of behaviors per second

demonstrated by mothers and fathers during the SBR task. To transform these frequencies into more meaningful increments of time, they were converted into thirty-second increments. The incremental time of thirty seconds was chosen to mirror the organization of the PPBC, which divides the entire time spent in the SBR task into thirty-second increments. Additionally, it was determined that thirty seconds was a meaningful amount of time to lapse but not so much time that it would not capture the nuanced frequencies of behaviors that mothers and fathers demonstrated during the SBR task. For example, if the average number of points per second was .1003 for mothers, this was multiplied by thirty to represent 3.00 points per thirty-second interval. In other words, on average, mothers pointed three times for every thirty seconds that lapsed during the SBR task.

The converted overall and individual frequency scores, which accounted for the varying amount of time mothers and fathers spent in the SBR task, allowed the researcher to compare both the total frequency of physically performative behaviors demonstrated by mothers and fathers, as well as the frequencies of the individual types of behaviors. This data was used to investigate *RQ1a* and *RQ1b*, exploring if differences exist in fathers' and mothers' demonstration of physically performative behaviors during shared book reading (SBR) activities with their preschool-aged children. Additionally, this data allowed for both general comparisons (e.g., "fathers demonstrated more physically performative behaviors than mothers overall") and specific comparisons (e.g., "mothers were more likely to point during the SBR task than were fathers").

Additional Behaviors on the *PPBC*. Additionally, the *PPBC* also has a separate area for the researcher to note parental affect ratings and parental use of dialogic behaviors ratings in order to include these in analyses assessing the relationship between mothers' and fathers' physically performative behaviors during SBR and the quality of the SBR experience (*RQ2*).

The first additional outcome variable used to explore the relationship between mothers' and fathers' physically performative behaviors during SBR and the quality of the SBR experience (*RQ2*) was parental affect (Frosch et al., 2001; Kassow, 2006; Logan, Justice, Yumuş, & Chaparro-Moreno, 2019). Similar to Kassow (2006) and Munzer et al. (2019), parental affect was determined by assigning a global affect rating to each video-recorded parent-child SBR task as follows: negative affect (0, no shared parent-child attention to the book, negative or harsh responses to the child's cues), neutral affect (1, no or neutral responses to child's cues), or positive affect (2, continual shared parent-child attention to the book, positive/warm responses to the child's cues). Because the specific aspects of parental affect described above are not part of the physically performative behaviors coding system developed for this research, rather than coding for the frequency of such behaviors, a single global rating of the entire parent-child SBR task was assigned by the researcher. This global rating was designed to represent the overall parental affect for the SBR experience.

The second additional outcome variable used to explore the relationship between mothers' and fathers' physically performative behaviors during SBR and the quality of the SBR experience (*RQ2*) was an assigned global rating of parents' use of

dialogic reading behaviors. As discussed previously, dialogic reading includes such things as asking open-ended questions and wh- questions, providing informative feedback to the child, repeating and expanding the child's responses using more sophisticated language, and providing feedback and praise to the child that matches their current abilities (Han & Neuharth-Pritchett, 2014; Whitehurst et al., 1988). For the purposes of assessing the relationship between mothers' and fathers' physically performative behaviors during SBR and the quality of the SBR experience (*RQ2*), a dichotomous coding system was used. Dialogic reading use was determined by assigning a global dialogic reading rating to each video-recorded parent-child SBR task, with 0 indicating limited or no use of dialogic behaviors and 1 indicating consistent use of dialogic behaviors throughout the reading session. The dialogic reading behaviors considered for this rating included those discussed previously (i.e., asking open-ended questions and wh- questions, providing informative feedback to the child, repeating and expanding the child's responses using more sophisticated language, and providing feedback and praise to the child that matches their current abilities). Similar to procedures used for coding parental affect, dialogic reading ratings were designed to be a global measure of mothers' and fathers' use of dialogic behaviors. Because dialogic behaviors are not part of the physically performative behaviors coding system developed for the research presented here, an overall rating will be given for use of dialogic reading rather than coding for the frequency of such behaviors.

Pilot Procedures for the *PPBC*. To ensure that the *PPBC* would allow the researcher to fully capture all physically performative behaviors demonstrated by parents during the parent-child shared book reading task, the *PPBC* was piloted by the researcher over several iterations. First, the researcher watched publicly available video recordings of parents and children engaging in shared reading. After watching several videos, the researcher expanded the coding sheet to include more specific codes for proximity to the child, as well as a code to note the location of the SBR activity (i.e., at a recruitment site, the family's home, the researcher's office). Next, the researcher used the updated *PPBC* to code parents' physically performative behaviors by watching several more publicly available video recordings of parents and children engaging in shared reading. This second round of pilot procedures included the expansion of codes for mothers' and fathers' use of voice to include both inflection and story sounds, as well as refinement of the codes for facial expressions. Initial versions of the *PPBC* coded facial expressions on a secondary level by identifying their origin, as either in response to the book or in response to the child's behavior (i.e., a parent frowning to demonstrate their displeasure with the child's negative behavior versus a parent frowning because of sad story text). This secondary level of coding was intended to differentiate between parental facial expressions that are directly related to the shared reading from those that are a result of non-reading related behavior. However, through piloting of the measure, the researcher determined that consistently distinguishing the origin of a parental facial expression was too difficult, and therefore, this secondary level of coding was removed. Additionally, as part of the

procedures used to pilot the materials included in this study, the researcher informally recruited a convenience sample of friends, colleagues, and family members who have children at the target age for this research (i.e., 36-59 months). Several of these informally recruited mothers and fathers provided the researcher with a video recording of their engagement in a SBR activity with their child. The researcher used these videos to ensure that the *PPBC* was both age- and developmentally appropriate for the specific target-age of the research presented here. Finally, as these informally recruited parent-child dyads piloted the children's book selected for this research, the researcher also simultaneously piloted the PPBC to ensure its design was both appropriate and practical for the specific book selected for this researcher-designed SBR task.

Procedures

IRB Approval

All required forms, materials, and applications were submitted by the researcher to the University of Delaware Institutional Review Board in May 2019. IRB approval was granted in June 2019 and the researcher began recruitment procedures in July 2019.

Recruitment

Recruitment for this research took place at the child care sites described above. The researcher worked with the directors and staff from each site to advertise the research study. At both child care programs, a recruitment flyer (Appendix E) was sent home either via email or paper format to all families with a child in the classrooms

that serve children who met the age criteria (36-59 months). Additionally, at both recruitment sites, the recruitment flyer was also sent home to families on the sites' enrollment wait lists, as well as to families who had children who would age-up into the age criteria for this study (36-59 months) during the study's recruitment and implementation periods. Additionally, the researcher worked with the administrators from each site to determine the most preferable and effective in-person strategies for recruiting families to participate in this research. In-person recruitment strategies for this study consisted of the researcher setting up an information table at each location during arrival and dismissal. During the time period of July-October 2019, the researcher completed twelve on-site recruitment sessions across both recruitment sites. On-site recruitment included recruitment flyers, sample consent forms, and a sign-up sheet for families to provide the researcher with their contact information so that direct follow-up from the researcher was possible. See Appendix F for a sample script that the researcher used to explain the research to potential participants during in-person recruitment.

Recruitment for this research also included a participation incentive for families. All participating families were offered a $10 gift card to a local bookstore as a thank-you for their participation. In addition, after the study's completion, the researcher coordinated with each of the site administrators to arrange for the researcher to deliver a presentation at each of the recruitment sites for the programs' staff and families. These presentations will provide information regarding the results, conclusions, and implications of the study. Using the contact information gathered

from participating families during study implementation, the researcher will personally invite each family that participated in the research to these presentations so that they are aware of the events.

Recruitment occurred on a rolling basis from July-November 2019 and additional reminder notifications were sent to potential participants as a means for maximizing participation (Groves et al., 2009). In an attempt to enroll each family that expressed interest in participating in the study, the researcher followed up with each potential family via email, phone, and text at least three times. The researcher believed that recruitment from these specific university-affiliated childcare sites would yield higher participation rates than recruitment from non-university-affiliated childcare sites in the area. Because these two sites are located on a university campus, their program philosophies include a strong commitment to engaging in research. Families are made aware of this commitment prior to enrollment and are highly encouraged to participate in research opportunities. As such, recruitment efforts at these sites were successful, with 83% of participating families recruited across the two sites (13 families from site one and 20 families from site two).

Additionally, during recruitment, the researcher employed snowball sampling, a procedure in which research participants are asked to suggest additional participants who may be eligible for the research (Mertens, 2010). This sampling procedure yielded an additional seven families (18%) for participation in this study.

As indicated by the a priori power analysis, the minimum sample size suggested to detect statistically significant differences in the sample if such differences

do in fact exist at the large effect size level was 36 mother-father-child triads.

Therefore, the researcher continued to recruit families until this minimum sample size

was reached. Once this minimum sample size was reached, the researcher continued to

recruit families with the goal of recruiting until the minimum number of participants

needed to detect a medium effect size was reached (i.e., 77 mother-father-child triads).

However, after extensive recruitment efforts including repeated follow up attempts

with potential participants, multiple rounds of on-site recruitment efforts, and use of

snowball sampling strategies, and in consultation with the researcher's dissertation

committee co-chairs, it was decided to cease recruitment efforts at the end of

November 2019 with a participant sample of 41 mother-father-child triads.

Eligibility Screening

Interested participants either contacted the researcher using the information

provided on the recruitment flyer, or the researcher used the information provided by

potential participants during recruitment to contact participants directly. The

researcher conducted an eligibility screening procedure with each interested

participant, either over the phone or in-person. This screening was designed not only

to ensure that each participant met the eligibility criteria set forth for this research

study, but also to reiterate to potential participants the intent of the research and the

requirements for participation, including their consent to participate, to be observed

and videotaped reading with their child, and for the mother-child and father-child

dyads to participate in the research session at the same time.

Scheduling

Once participants were confirmed to have met the eligibility criteria and verbally agreed to participate, they were scheduled for the SBR observation. Families needed about one hour to complete all tasks necessary to participate in this research. This included the time needed for parent participants to complete the research questionnaires, as well as the time needed for each father-child and mother-child dyad to engage in separate SBR tasks. During eligibility screening and scheduling, the researcher explained to participating families that scheduling had to be done during a day and time in which the two observations could be completed back-to-back. This procedure required families to only schedule one observation session to participate in the research, as opposed to scheduling two separate sessions (one for the father-child dyad and one for the mother-child dyad). Additionally, for families that had other children who were not participating in the research, but that accompanied the family to the research site (i.e., siblings), this design allowed for one parent to be with and care for these children at all times. Furthermore, this scheduling procedure limited the amount of variability between the mother-father-child triads and helped to standardize family history effects (e.g., if participants are having a good or bad day as a family), since both father-child and mother-child observations were conducted on the same day and were close in time. The researcher clearly outlined this scheduling procedure during the eligibility screening and scheduling processes, and families were not provided the option to schedule separate mother-child and father-child observation sessions.

Data Collection

During eligibility screening and scheduling, participants were offered the opportunity to complete the SBR task either at the childcare site in which their child was enrolled or at their home. Although much of the SBR research previously conducted uses the family home as the primary setting to observe and video-record parent-child shared reading (Malin, Cabrera, Karberg, Aldoney, & Rowe, 2014; Rodriguez et al. 2009; Vandermaas-Peeler et al., 2012), the study also offered families the alternative location of the childcare site. Although the childcare site may not be as a familiar environment in which to engage in SBR activities as the families' homes, it does offer a convenient location for families to participate in the research study. Additionally, because the childcare sites used for this research are university-affiliated and committed to supporting research, they have dedicated spaces in which researchers can conduct observations. This provided a uniquely convenient opportunity for families to participate in research as part of their typical drop-off and pick-up routines. Furthermore, this provided a consistent environment in which the SBR task could be observed, which limited the various unforeseen factors that can occur during a SBR task in the families' homes (e.g., interruptions from other family members, household responsibilities such as meal preparation that may take parents away from the task, etc.). However, if families indicated that it was more convenient or preferable to complete research forms (i.e., questionnaires, consent forms) and be observed completing the parent-child shared reading task in their homes, this option was available.

Consequently, this option was the preferred option for the large majority of families who participated in this study. Research observations were completed in family homes for 73% of families (n = 29). Eight families (20%) opted to use site two as their research observation location and three families (7%) used site one.

Upon arrival for participation in the study, participants were asked where they wanted to complete the SBR task. For observations that took place in families' homes, participants were asked to select the location within the home that was most comfortable for them and their child. For observations that took place at the childcare sites used for recruitment into this research study, participants were brought to the rooms designated for conducting research and were asked where within those designated rooms they wanted to complete the SBR task. This included options such as at the table/chairs, on the couch, and on the large bean bag chairs. Upon arrival participants were also reminded of the pre-assigned reading order for the SBR task.

Consent and Demographic Data Collection. Mothers and fathers were then asked to complete the required written consent forms for participating in the research (Appendix G). One consent form per family was also completed giving parental permission for the child to participate in the research (Appendix H). Written consent forms were provided in paper and pencil format. Additionally, each parent was requested to complete separate demographic questionnaires, also completed in paper and pencil format. If needed, the researcher was available to monitor the safety of the child while the adult participants completed the demographic questionnaires and consent forms.

Counterbalance of Reading Order Procedures. Prior to engaging in the

SBR observation, parent participants were assigned the order in which to participate in

the shared reading task. This allowed for counterbalancing of the order in which

mothers and fathers read with their children, so that half of the participating mothers

read first, and half of the participating fathers read first. Since the dyadic observations

were scheduled back to back, and the intent of this research is to explore differences

between the physically performative behaviors fathers and mothers demonstrate

during SBR, it is important that the order in which reading occurred was

counterbalanced. This reduced the possibility that differences found between mothers

and fathers are a result of the order in which they read to their child, rather than to true

differences between the groups (Miller, 2013). To conduct the counterbalancing of

reading order, the researcher assigned the participating family to either the mother-

first or the father-first group. This order was rotated for each new family that was

scheduled to participate in the research, so that a participating family had the opposite

order of the family that participated before them, as well as the opposite order of the

family that participated after them. At the start of the study, the researcher used an

online random number generator to randomly assign the first participating family one

of the reading orders (i.e., father first or mother first). This random process resulted in

the father being assigned to read first for the first family to participate in the study. All

subsequent participating families followed in counterbalanced order based on this first

randomly selected reading order. Since the first scheduled family was assigned to the

father-first group, the second family to be scheduled was assigned to the mother-first

group, the third family to the father-first group, and so on. This allowed

counterbalancing to occur throughout the research recruitment and data collection

windows and yielded a counterbalancing of 20 families in which the father read first

and 20 families in which the mother read first. Families were assigned their reading

order during scheduling (based on the assignment of the family scheduled before

them) and were notified of their assigned reading order during the scheduling

conversation. So that families could make arrangements accordingly, the researcher

used the scheduling conversation to explicitly state which dyad would read first and to

explain that this was an important part of the study design.

   SBR Task Procedures. Once the participants had completed the demographic

questionnaires and consent forms, the researcher began procedures specific to the SBR

observation task. Following procedures to obtain assent of minors set forth by the

researcher's university and using the Child Assent Form (Appendix I), the researcher

began by verbally explaining to the child that they were going to read with their

parent. The researcher described the research's intent, the research procedures, and

explained to the child that they could change their mind about being in the research

study. Mirroring procedures previously implemented in observation-based SBR

research (Bus & van IJzendoorn, 1997; Hindman et al., 2008) parents were given the

researcher-selected children's book and were instructed to read the book with their

child as they normally would. Parents were instructed to read the entire story, to start

whenever they were ready, to take as long as they wanted, and to notify the researcher when they had finished reading.

Children's Book Selection. A single book was chosen for this research, to be read by both mothers and fathers. Providing mother-child and father-child dyads with the same book to read across the SBR task is common in several previous studies investigating SBR, especially those with small sample sizes (Anderson et al., 2004; Anderson et al., 2012; Shapiro et al., 1997). Selecting one book to use across both mother-child and father-child dyads was one method for creating consistency across the parent-child dyads. Since this research is designed to assess potential differences between mothers and fathers during SBR activities, providing mothers and fathers with the same book eliminated the possibility that any potential differences found in parental behaviors was a result of differences in the content of the stories they read during the SBR task, rather than due to actual differences in behaviors across the mother-child and father-child dyads.

The children's book selected for the research is *Raybot and Weebot* (Watkins, 2017). This book was chosen for several reasons. First, it is an age- and developmentally appropriate narrative children's picture book (32 pages) that has vibrant and engaging illustrations. The book also includes characters who display several different emotions and who make different types of noises and sounds. These text features are important to this research because they have the potential to elicit mothers' and fathers' use of physically performative behaviors during the SBR tasks.

Additionally, the book's main characters are two anthropomorphized robots, which could potentially appeal to both male and female children. Although the robots are both identified as male through the use of male pronouns, they lack any identifying racial or ethnic identity. It is thought that this may make these characters appealing to children from varying ethic and racial backgrounds. This book also does not feature any human parental characters. This is an important feature for this research which includes observations of both mothers and fathers reading with their child. Using a book that includes either or both parental figures could have potentially influenced the ways mothers and fathers read with their children, including their use of physically performative behaviors, because it is possible that parents would identify with the book's parental figures in some way. In turn, this identification could have influenced how parents behaved during the SBR activity. Therefore, selecting a book that does not include such figures removed the potential influence that the presence of these characters could have had on parents' behaviors.

Furthermore, it was believed that this book was unlikely to be familiar to the majority of participating families—it is not on any lists of popular or best-selling children's books located by the researcher. This is an especially important feature of this specific book because it had the potential to create a novel experience for families. Consequently, as described previously, responses to the *Parent-Child SBR Survey* question which asked mothers and fathers how familiar their child was with the book used for the SBR task indicated that 90% of parents who were the first to complete the SBR task reported that their child was not at all familiar with the story. This was key

to the design of this study, which relied on back-to-back reading sessions between father-child dyads and mother-child dyads. Presenting families with a book they had not previously read potentially reduced any possible book-related fatigue the child might have experienced during the second SBR task.

In addition to consulting with early literacy experts regarding the appeal and appropriateness of this book, it was also piloted with various mother-child dyads and father-child dyads that included children in the target range for this research (36-59 months). During these pilot procedures, the researcher gathered information from parents and children regarding the appropriateness and likeability of the selected book. Each pilot participant agreed that the book was engaging to their child, that the content was appropriate, and that the length of the story was appropriate for their child.

SBR Task. After participants completed the demographic questionnaires and consent forms, the participants were invited to the location they had selected to complete the SBR task. The researcher then set the video-camera equipment (video-camera and tripod) to face the specific location and made sure that both the parent and the child could be seen through the video-camera. The researcher placed the video-camera and tripod within three feet of the participants to ensure that all verbal communication between participants could be heard. Immediately following the researcher's explanation of the procedures specific to the SBR observation task, the researcher provided the parent-child dyad with the book to be used for the SBR task. The researcher then set the video-camera to record. Once the recording had started, the researcher again made sure that both participants could be fully seen through the

video-camera and that the camera was positioned in such a way that physical behaviors demonstrated by mothers and fathers would be visible. Once any required adjustments to the positioning of the video-camera equipment were made, the researcher left the room. The researcher returned to the room to stop the video recording only when the family indicated that they were finished (i.e., the parent and child put the book down, the parent stated that they were done with reading, the parent or child signaled to the researcher that they were done with the SBR task, etc.).

  Parent-Child SBR Survey Procedures. After each adult participant completed the parent-child shared reading observation, they were asked to individually complete the *Parent-Child SBR Survey*. This survey was completed post-observation as to not influence the types of interactions and behaviors that occurred during the parent-child shared reading task. Participants completed the *Parent-Child SBR Survey* electronically via the Qualtrics software platform (Provo, UT) on an iPad provided by the researcher.

  Once all components of the SBR session were complete (i.e., consent forms, demographic questionnaires, father-child and mother-child SBR tasks, and SBR questionnaires), participating families were provided with their bookstore gift card. As part of the incentive procedures for this study, families signed a form indicating that they had received their bookstore gift card.

  All survey responses from the *Parent-Child SBR Survey* were collected using Qualtrics software (Provo, UT) which is freely available through the researcher's

university. All data from the *Participant Demographic Questionnaire* as well as all observational data from the *PPBC* were entered into the Statistical Package for Social Sciences software (version 25) (SPSS; IBM, 2017). All *PPBC* data were coded by the researcher.

Inter-rater Reliability

Throughout data coding, 20% ($n = 16$) of the parent-child recordings were used to assess inter-rater reliability. To ensure that the researcher did not drift from reliable coding, a second coder who was trained on the coding scheme coded a random selection of observations throughout the coding process. These randomly selected observations were chosen across all observations at set intervals throughout the data collection and observation windows.

To train the second coder, the researcher first provided background information about the study's purpose, design, and procedures. The researcher and second coder then reviewed the PPBC, including the format and organization of the coding sheet, the various codes found on the sheet, and the method for capturing data (i.e., event sampling). Over several in-person meetings, the researcher detailed each of the procedures for coding of parents' physically performative behaviors and the researcher and second coder watched several videos together to view parental behaviors in real time. The researcher and the second coder then practiced coding for each of the behaviors on the PPBC (e.g., pointing, hand/body gestures, facial expressions, voice, proximity to the child, parental affect, and parental use of dialogic behaviors) by simultaneously watching and coding several videos. Mirroring the

procedures used by the researcher throughout the coding process, the researcher and the second coder watched the selected videos five times to ensure all behaviors were accurately captured. This procedure took place over several iterations until the codes recorded by the researcher and second coder reached at least 80% agreement (as determined by the Intraclass Correlation procedures outlined below).

Then, throughout the coding process, a random selection of videos was chosen for both the researcher and the second coder to code. This process of randomly identifying videos to use for IRR coding took place over four iterations. After each iteration, the researcher compared the resulting codes from both the second coder and the researcher, and the two coders met in person to discuss the results. As part of the IRR procedures, any discrepancies between the two raters were then resolved through discussion and recoding until consensus was achieved.

Because the majority of coding items on the PPBC were continuous, the researcher calculated Intraclass Correlations (ICC) to gather inter-rater reliability statistics, instead of Cohen's kappa coefficients, which is for categorical data only (Koo & Li, 2016; Landers, 2015). Individual ICC statistics were calculated for all PPBs found on the PPBC including pointing, hand/body gestures: child, hand/body gestures: elsewhere, facial expressions, voice: inflection, voice: story sound, total PPBs, all of the proximity categories (i.e., SS, NSC, NS, DS), parental affect, and parental use of dialogic behaviors. ICC estimates and their 95% confidence intervals were calculated in SPSS (IBM, 2017) based on a two-way random effects model with absolute agreement. A two-way random effects model was chosen because this models

both an effect of rater and of ratee (i.e., two effects) and because it assumes that both

raters are drawn randomly from a larger population of potential raters, allowing for

reliability results to generalize to any raters who possess the same characteristics as

the selected raters used for this specific reliability analysis (Koo & Li, 2016; Landers,

2015; Shrout & Fleiss, 1979). Additionally, absolute agreement was selected because

the intent of this ICC was to determine to what extent the researcher and the second

coder assigned the same codes (i.e., have agreement on the coding decision) (McGraw

& Wong, 1996).

ICC values less than 0.5 are indicative of poor reliability, values between 0.50

and 0.75 indicate moderate reliability, values between 0.75 and 0.90 indicate good

reliability, and values greater than 0.90 indicate excellent reliability (Koo & Li, 2016).

An overall reliability of .88 averaged across all codes was found. All ICC values for

the PPBs (e.g., pointing, hand/body gestures: child, hand/body gestures: elsewhere,

facial expressions, voice: inflection, voice: story sound, and total PPBs) were at .90 or

above, indicating excellent reliability. The ICC value for parental affect was 1.00 and

for dialogic reading, .81. For the proximity to child categories, ICC values ranged

from .528 (NS) to .962 (DS), with an average ICC value of .78, indicating good

reliability.

Storage and Security of Study Materials

Participating families in this study were assigned an identification number that

allowed the researcher to maintain confidential participant records. All written

documents (i.e., completed paper consent forms, completed paper versions of the

parent- and child-versions of the *Participant Demographic Questionnaire*, completed

PPBC documents) are kept in the researcher's university-based office in a locked

filing cabinet. Only the researcher has access to this filing cabinet. Participant research

materials are kept separately from a listing of participant identification numbers so

that participant confidentiality is maintained, and in following the guidelines set forth

by the researcher's university, participants' identification numbers are not included on

the participant consent forms. All electronic research materials (i.e., the *Parent-Child*

SBR Survey) are maintained through Qualtrics software (Provo, UT). Only the

researcher has electronic access to this survey information. Additionally, data files,

including those used to organize collected data (i.e., SPSS data files) are housed on the

secure server hosted by the researcher's university and are only accessible by the

researcher and any members of the research team. Any documents containing

confidential participant information are encrypted following encryption guidelines set

forth by the researcher's university. Finally, all video-recordings of the parent-child

SBR observations are securely stored in a locked filing cabinet in the researcher's

university-based office. Only the researcher has access to this locked cabinet and only

the researcher and members of the research team (i.e., the second coder used for inter-

rater reliability coding) have access to view these video recordings. In adherence to

the consent policies of the researcher's university, the consent forms also include an

additional question asking participants to consent to have their video-recorded

observations shared publicly for presentations, publications, and/or educational

purposes. Refusal to consent for this additional question does not prohibit participation

in the research. Furthermore, in abiding by data maintenance procedures set forth by

the researcher's university, all research materials will be securely maintained by the

researcher for three years after the closure of the project. And finally, any and all

results of this research are presented in aggregate form, with no information

identifying participants being shared.

Data Analysis

Research Question 1a

To address research question *1a* regarding differences in the frequency with

which fathers and mothers demonstrate physically performative behaviors during

SBR, a multiple regression analysis was conducted. The difference score between the

overall frequency of physically performative behaviors demonstrated by mothers and

fathers (converted to account for time as described previously) served as the outcome

variable. To determine how much of the variability in overall frequency scores

between mothers and fathers is due to actual differences between mothers and fathers,

and not due to other possible factors, the predictor variables for this multiple

regression included child sex, parental reading order, and reading location (i.e., site

one, site two, family home, etc.). In other words, the overall difference in frequency of

mothers' and fathers' physically performative behaviors was regressed on child sex,

parental reading order, and reading location. The hypothesis of this multiple regression

analysis was that child sex, parental reading order, and reading location would account

for less of the variance in overall parental frequency scores than did the actual

difference in mothers' and fathers' behaviors. Figure 3 depicts the path diagram for this multiple regression analysis.
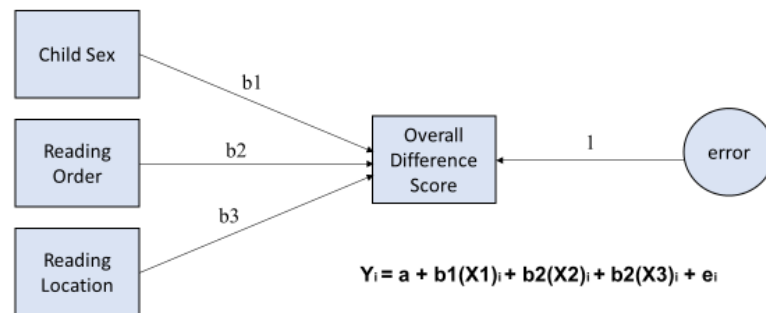
Figure 2. Path diagram of multiple regression for research question1a.

The difference score between the overall frequency of physically performative behaviors demonstrated by mothers and fathers (converted to account for time as described previously) served as the outcome variable. Several calculations were conducted to create this outcome variable. First, the total number of PPBs (e.g., pointing, hand/body gestures: child, hand/body gestures: elsewhere, facial expressions, voice: inflection, voice: story sound) for each mother and father was calculated by adding the frequency counts of each individual behavior together to create the total number of PPBs. This number was then divided by the total time, in seconds, that each

mother and father engaged in the SBR task. This created a total number of PPBs, accounting for the time that each participant was engaged in the reading task. This yielded a value that represented the number of PPBs parents demonstrated per second. As explained previously, to transform these frequencies into more meaningful increments of time, they were converted into thirty-second increments by multiplying each value by thirty. Next, the difference between the total number of PPBs for each mother-father pair was calculated by subtracting the new total PPBs score for each mother-father pair. This yielded the final difference score between the overall frequency of physically performative behaviors demonstrated by mothers and fathers. This variable served as the outcome variable for the multiple regression analysis.

The predictor variables for the multiple regression included child sex, parental reading order, and reading location. Child sex was gathered from the *Participant Demographic Questionnaire-Child Version* and was dummy coded with girl as the reference category (0 = girl; 1 = boy). The parent who was assigned to be the first reader was also dummy coded with mother as the reference category (0 = mother; 1 = father). Reading location was coded categorically as (0 = Home, 1 = Site one, 2 = Site two).

The multiple regression analysis was conducted in SPSS (IBM, 2017) using the following multiple regression equation:

Overall PPBs Difference Score$_i$ = *β0 + β1*csex + β2*frstread + β3*loc+ e*

where Overall PPBs Difference Score$_i$ = Overall Difference Score Between Mothers' and Fathers' PPBs, csex = child sex, frstread = first reader, loc = reading location.

Conducting this type of analysis yields two main results: (1) the variance explained by a model (i.e., R^2) with multiple independent variables on a dependent variable, and (2) a regression coefficient (i.e., *b*: unstandardized, or β: standardized) which represents the individual contribution of each specific independent variable on the dependent variable, after controlling for the other variables in the model (Field, 2000).

Research Question 1b

To address research question *1b* regarding differences in the types of physically performative behaviors fathers and mothers demonstrate during SBR, a series of dependent and independent *t*-tests were performed. *T*-tests assess if two group means are different when there is continuous data (Field, 2009). For the analyses that compared one group of mothers with another group of mothers or one group of fathers with another group of fathers (e.g., to compare mothers who read first with mothers who read second, to compare fathers who read with a daughter with fathers who read with a son), independent samples *t*-tests were performed because these are two independent groups. For the analyses that compared mothers' overall behaviors with fathers' overall behaviors (e.g., mothers' use of pointing behaviors with fathers' use of pointing behaviors), dependent (paired) samples *t*-tests were

performed because these two groups do not represent independent groups (Field, 2009; Gravetter & Wallnau, 2014).

Comparisons Between Mothers and Fathers. The first set of *t*-test analyses (dependent *t*-tests) compared the overall frequencies of mothers' and fathers' behaviors for each type of physically performative behaviors (i.e., pointing, hand/body gestures: child, hand/body gestures: elsewhere, facial expressions, voice: inflection, voice: story sound), as well as for each of the proximity categories (i.e., shared space, near space contact, near space, and distal space).

Comparisons by Reading Order. The second set of *t*-test analyses (independent *t*-tests) compared the overall frequencies of behaviors for each type of physically performative behaviors (i.e., pointing, hand/body gestures: child, hand/body gestures: elsewhere, facial expressions, voice: inflection, voice: story sound), as well as for each of the proximity categories (i.e., shared space, near space contact, near space, and distal space) for mothers who were assigned to be the first reader with mothers who were assigned to be the second reader. The same type of *t*-test was performed to compare fathers who were assigned to be the first reader with fathers who were assigned to be the second reader. These analyses were conducted to determine if differences between mothers and fathers in the types of physically performative behaviors they demonstrate during SBR or the types of proximal space they engage in exist due to the order in which they read.

Comparisons by Child Sex. Finally, the third set of *t*-test analyses (independent *t*-tests) compared the overall frequencies of behaviors for each type of

physically performative behaviors (i.e., pointing, hand/body gestures: child, hand/body gestures: elsewhere, facial expressions, voice: inflection, voice: story sound), as well as for each of the proximity categories (i.e., shared space, near space contact, near space, and distal space) for mothers who read with a daughter with mothers who read with a son. The same type of *t*-test was performed to compare fathers who read with a daughter with fathers who read with a son. These analyses were conducted to determine if differences between mothers and fathers in the types of physically performative behaviors they demonstrate during SBR or the types of proximal space they engage in exist due to the sex of the child.

Research Question 2

To address research question *2*, regarding the relationship between the physically performative behaviors demonstrated by fathers and mothers during SBR and the quality of SBR experiences, an Actor-Partner Interdependence Model (APIM) was used (Kenny, Kashy, & Cook, 2006). In this study, mothers and fathers represent dyadic relationships. Because they share the child used for this research, they are viewed as having a dependent relationship in terms of statistical analyses. In other words, they do not represent independent samples. Therefore, it is assumed that the physically performative behaviors of mothers is highly correlated with the physically performative behaviors of fathers—that is mothers and fathers who are co-parents are more likely to demonstrate similar frequencies of physically performative behaviors than are mothers and fathers who are not co-parents. Because these two frequencies

are believed to be highly correlated, an APIM model was an appropriate model to use for this analysis.

For this research, three individual APIM models were run to assess the relationship between mothers' and fathers' physically performative behaviors and three separate reading quality variables. The original design of this research called for a single APIM to assess the relationship between mothers' and fathers' physically performative behaviors and a SBR quality composite score. The SBR quality composite score originally consisted of four separate components thought to be reflective of various aspects of a quality SBR experience (i.e., parental enjoyment ratings of the SBR task, parental ratings of perceived child enjoyment of the SBR task, parental affect ratings, and dialogic reading ratings). However, when a correlation matrix was run to determine if in fact these four separate components of quality were correlated and therefore representative of a latent construct of "quality", results revealed weak overall patterns of correlation and different patterns of correlation for mothers than for fathers. Due to these inconsistencies, and in consultation with the researcher's dissertation committee, a decision was made to no longer use a SBR quality composite score. Instead, the original components thought to be reflective of various aspects of a quality SBR experience (i.e., parental enjoyment ratings of the SBR task, parental ratings of perceived child enjoyment of the SBR task, parental affect ratings, and dialogic reading ratings) were separated into distinct outcome variables.

APIM model 1. Although the correlation matrix yielded weak overall patterns

of correlation and different patterns of correlation for mothers than for fathers, it did

result in parental levels of enjoyment and parental perceived levels of child enjoyment

specific to the video-recorded parent-child SBR task being significantly correlated for

both mothers (r(39) = .525, p = .001) and fathers (r(39) = .582, p = .000). Because

these two components were significantly correlated, a decision was made to combine

parent and child enjoyment scores into an "Enjoyment Composite Score" representing

level of enjoyment of the SBR task used for this research for each mother-child and

father-child dyad. The composite score was calculated by averaging each parent's

score for their level of enjoyment of the "reading activity just completed" with the

score they reported for their perceived level of child enjoyment of the "reading activity

just completed". Enjoyment Composite Scores ranged from one to three with both

mother-child dyads and father-child dyads having an average Enjoyment Composite

Score of 2.4. The Enjoyment Composite Scores served as the outcome variable used in

the first APIM to assess the relationship between mothers' and fathers' physically

performative behaviors during SBR and the quality of the SBR experience (*RQ2*).

   APIM model 2. The second outcome variable used to explore the relationship

between mothers' and fathers' physically performative behaviors during SBR and the

quality of the SBR experience (*RQ2*) was a measure of *parental affect* during the

parent-child SBR task. Because parental affect has been found to be a key indicator

both of quality SBR experiences (Frosch et al., 2001; Kassow, 2006; Logan, Justice,

Yumuş, & Chaparro-Moreno, 2019) and of relationships between parents and children

overall (Daly, 2003; Palkovitz, 2007), this was used as one of the quality outcome variables for this study. As explained previously, parental affect was determined by assigning a global affect rating to each video-recorded parent-child SBR task as follows: negative affect (0, no shared parent-child attention to the book, negative or harsh responses to the child's cues), neutral affect (1, no or neutral responses to child's cues), or positive affect (2, continual shared parent-child attention to the book, positive/warm responses to the child's cues). The parental affect score served as the outcome variable used in the second APIM to assess the relationship between mothers' and fathers' physically performative behaviors during SBR and the quality of the SBR experience (*RQ2*). When parental observations were coded for this study, there were no parental affect ratings of zero (indicating a negative affect). This changed the parental affect variable into a dichotomous variable (neutral affect or positive affect), and as a result, the second APIM model does not have a statistic for residual error variance on this outcome variable.

APIM model 3. The third outcome variable used to explore the relationship between mothers' and fathers' physically performative behaviors during SBR and the quality of the SBR experience (*RQ2*) was an assigned global rating of parents' use of dialogic reading behaviors. For the purposes of assessing the relationship between mothers' and fathers' physically performative behaviors during SBR and the quality of the SBR experience (*RQ2*), a dichotomous coding system was used. Dialogic reading use was determined by assigning a global dialogic reading rating to each video-recorded parent-child SBR task, with 0 indicating limited or no use of dialogic

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behaviors and 1 indicating consistent use of dialogic behaviors throughout the reading session. The dialogic reading behaviors considered for this rating included those discussed previously (i.e., asking open-ended questions and wh- questions, providing informative feedback to the child, repeating and expanding the child's responses using more sophisticated language, and providing feedback and praise to the child that matches their current abilities). The parental use of dialogic reading behaviors score served as the outcome variable used in the third APIM to assess the relationship between mothers' and fathers' physically performative behaviors during SBR and the quality of the SBR experience (*RQ2*). Similar to the second APIM model, this third APIM model uses an outcome variable that is dichotomous (use of dialogic behaviors or no use of dialogic behaviors) and as a result, this third APIM model also does not have a residual error variance on the outcome variable.

APIM model conceptualization. These APIM models consider the influence of mothers' physically performative behaviors on their own SBR outcome variables (i.e., mother-child dyad Enjoyment Composite Score, mothers' affect score, mothers' use of dialogic reading behaviors score), as well on fathers' SBR quality rating (i.e., father-child Enjoyment Composite Score, fathers' parental affect score, fathers' use of dialogic reading behaviors score), and vice versa—the influence of fathers' physically performative behaviors on their own SBR quality rating (i.e., father-child Enjoyment Composite Score, fathers' parental affect score, fathers' use of dialogic reading behaviors score), as well on mothers' SBR quality rating (i.e., mother-child dyad Enjoyment Composite Score, mothers' affect score, mothers' use of dialogic reading

behaviors score). That is, "an *actor effect* occurs when a person's score on a predictor variable affects that same person's score on an outcome variable; a *partner effect* occurs when a person's score on a predictor variable affects his or her partner's score on an outcome variable" (Kenny et al., 2006, p. 145).

Within these APIM models, the effect of the overall frequency of mothers' physically performative behaviors (converted to account for time as described previously) on their own SBR quality rating is the *actor effect*. Likewise, the effect of the overall frequency of fathers' physically performative behaviors (converted to account for time as described previously) on their own SBR quality is a separate *actor effect*. In contrast, the effect of the overall frequency of mothers' physically performative behaviors on their co-parents' (i.e., fathers') SBR quality is the *partner effect*. And again, the effect of the overall frequency of fathers' physically performative behaviors on their co-parents' (i.e., mothers') SBR quality is a separate *partner effect* (Kenny, 1996). Figures 3, 4, and 5 depict the path diagrams for the three APIM models.
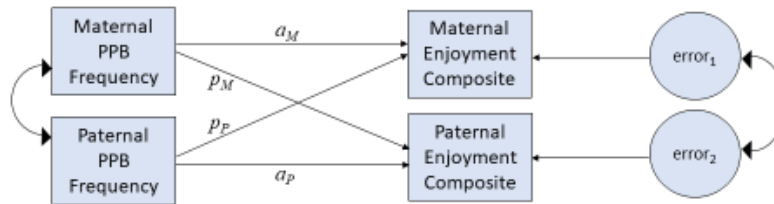
Figure 3. APIM model 1 where *a* is the actor effect and *p* is the partner effect.
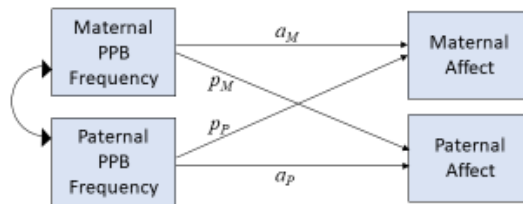
Figure 4. APIM model 2 where a is the actor effect and p is the partner effect.
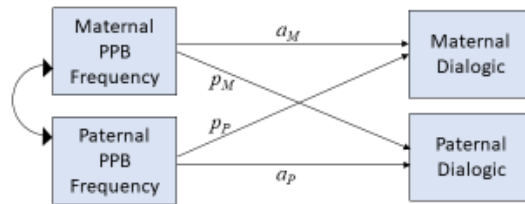
Figure 5. APIM model 3 where a is the actor effect and p is the partner effect.

APIM model procedures. To conduct analyses using the APIM, a model

similar to structural equation modeling was used (Kenny et al., 2006) for each of the

three APIM models. This approach simultaneously conducts two multiple regression

equations to estimate the APIM parameters. In the first multiple regression equation,

the outcome variable is the specific outcome variable for that APIM model (i.e.,

mother-child dyad Enjoyment Composite Score for APIM model 1, mothers' affect

score for APIM model 2, mothers' use of dialogic reading behaviors score for APIM

model 3). The two predictor variables will be the overall frequency of physically

performative behaviors demonstrated by mothers (converted to account for time as

described previously) and the overall frequency of physically performative behaviors

demonstrated by fathers (converted to account for time as described previously). In

other words, the outcome variables (i.e., the mother-child dyad Enjoyment Composite

Score for APIM model 1, mothers' affect score for APIM model 2, mothers' use of

dialogic reading behaviors score for APIM model 3) are individually regressed on

maternal and paternal frequencies of physically performative behaviors. This is the

same regression pattern used for each of the three APIM models, however, the specific

outcome variables changed depending on which APIM model was run (model 1, 2, or

3). Figure 6 depicts the path diagram for this multiple regression analysis.
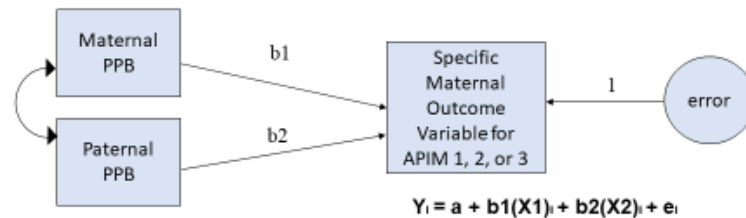
Figure 6. Path diagram of multiple regression for research question 2 (maternal

quality).

In the second multiple regression equation, the outcome variable is the specific

outcome variable for that APIM model (i.e., father-child dyad Enjoyment Composite

Score for APIM model 1, fathers' affect score for APIM model 2, fathers' use of

dialogic reading behaviors score for APIM model 3). The two predictor variables will

be the overall frequency of physically performative behaviors demonstrated by

mothers (converted to account for time as described previously) and the overall

frequency of physically performative behaviors demonstrated by fathers (converted to

account for time as described previously). In other words, the outcome variables (i.e.,

the father-child dyad Enjoyment Composite Score for APIM model 1, fathers' affect

score for APIM model 2, fathers' use of dialogic reading behaviors score for APIM

model 3) are individually regressed on maternal and paternal frequencies of physically

performative behaviors. This is the same regression pattern used for each of the three

APIM models, however, the specific outcome variables changed depending on which

APIM model was run (model 1, 2, or 3). Figure 7 depicts the path diagram for this

multiple regression analysis.

Maternal PPB
Paternal PPB
b1
b2
Specific Paternal Outcome Variable for APIM 1, 2, or 3
1
error

$$Y_i = a + b1(X1)_i + b2(X2)_i + e_i$$
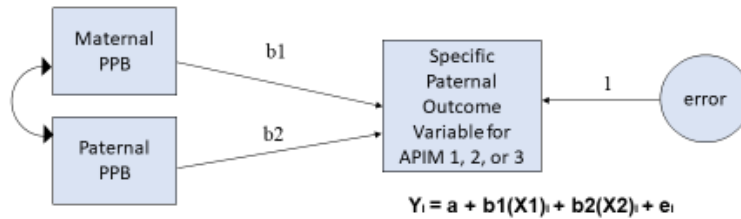
Figure 7. Path diagram of multiple regression for research question 2 (paternal quality).

The three APIM models will allow the researcher to explore the relationship between the physically performative behaviors demonstrated by fathers and mothers during SBR and the quality of SBR experiences, as measured by three variables (i.e., parent-child dyad Enjoyment Composite Score for APIM model 1, parental affect score for APIM model 2, parental use of dialogic reading behaviors score for APIM model 3).

APIM model data preparation. To conduct the APIM models, the researcher converted the SPSS data file into a .dat file so that the APIM analyses could be run in Mplus (Muthén & Muthén, 2012). All of the variables were transferred into Mplus and the predictor variables (i.e., mothers' and fathers' physically performative behavior

totals, accounting for time) were centered on the grand mean. This was done to set values that would allow the predictor variables to represent comparisons across the entire sample of fathers and mothers, rather than just across one group (i.e., the mother group and the father group) (Kenny et al., 2006).

Next, the specific variables needed for each APIM model were designated. For example, for APIM model 3, exploring the relationship between mothers' and fathers' physically performative behaviors during SBR (variable names: MTotPPBTIME; FTotPPBTIME) and parental use of dialogic reading behaviors (variable names: MPDig; FPDig) the following variables were entered into Mplus:

```
MODEL:
MPDig on MTotPPBTIME (a)
        FTotPPBTIME (p);
FPDig on MTotPPBTIME (p)
        FTotPPBTIME (a);
```

This represents the approach in which two regression equations are conducted simultaneously within the Mplus software. In this example, the two regression equations are mothers' use of dialogic reading behaviors score regressed on maternal and paternal frequencies of physically performative behaviors (equation 1) and fathers' use of dialogic reading behaviors score regressed on maternal and paternal frequencies of physically performative behaviors (equation 2).

Ethical Considerations

The researcher has considered the potential ethical issues associated with this observational study. The study design, including recruitment and observational procedures was approved through the sponsoring university's Institutional Review

Board (IRB). Additionally, all participation by children and parents was completely

voluntary and participants could choose to drop out of the research study at any time.

All interested participants who met the eligibility criteria for this research were

included in the research. The research outlined here presented limited to no risk to

participants and the potential benefits of this research outweighed any potential risks.

The researcher used the pilot procedures outlined above to ensure that the children's

book families read during the SBR task was age- and developmentally appropriate for

the target age group of children in this study. Additionally, while participating parents

completed the research questionnaires, the safety of participating children was

monitored by the researcher as needed. Finally, to protect against any potential ethical

issues regarding the confidentiality of participants' information and research materials,

the researcher employed each of procedures outlined above regarding the storage and

security of study materials.

Chapter 4

RESULTS

This chapter presents findings from an exploratory study of the physically performative behaviors fathers and mothers demonstrate during SBR, as well as the potential relationship between the frequency of parents' PPBs and various outcome variables previously associated with quality parent-child shared reading experiences. As described in previous chapters, the primary research questions are: (*1*) are there differences in the frequency and types of physically performative behaviors fathers and mothers demonstrate during shared book reading and (*2*) what is the relationship between the physically performative behaviors demonstrated by fathers and mothers during shared book reading and the quality of shared book reading experiences?

This chapter will first present preliminary descriptive analyses and will then address the research questions through a series of detailed analyses as follows: a multiple regression analysis for research question *1a*, *t*-test analyses for research question *1b*, and three APIM analyses for research question *2*.

Preliminary Descriptive Analyses

The results presented in this section describe several descriptive differences between mothers' and fathers' engagement during the SBR task. Those these descriptive findings did not reach statistical significance, reporting on these observed differences may help future researchers to more fully investigate potential differences

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in fathers' and mothers' behaviors during parent-child shared reading. It is possible that with a larger sample, these trends in observed differences would reach significance, but not necessarily.

Time Spent in Reading

Although not statistically significant, results indicate that fathers were engaged in the SBR task for slightly longer than were mothers. The average number of seconds fathers spent in the SBR task was 368 (6 mins, 8 sec), ranging from 143 seconds (2 mins, 23 sec) to 915 seconds (15 mins, 15 sec). The average number of seconds mothers spent in the SBR task was 357 (5 mins, 57 sec), ranging from 175 seconds (2 mins, 55 sec) to 990 seconds (16 mins, 30 sec).

Parental Affect

Although not statistically significant, results indicate that mothers were more likely to demonstrate a positive affect than were fathers. Seventy-three percent of mothers were scored as having a positive affect, compared to 55% of fathers. Additionally, 11 families had a mother with a positive affect and a father with a neutral affect, whereas four families had a father with a positive affect and a mother with a neutral affect. Furthermore, 18 families had both a mother and a father with a positive affect during reading. Seven families had both a mother and a father with a neutral affect.

Dialogic Reading Behaviors

Although not statistically significant, mothers were more likely to engage in dialogic reading behaviors during the SBR task than were fathers. Half of the mothers

demonstrated dialogic reading behaviors, while 38% of fathers engaged in this type of

behavior. Additionally, 11 families had a mother, but not a father, who used dialogic

reading behaviors. In comparison, six families had a father, but not a mother, who

used dialogic reading behaviors. Furthermore, nine families had both a mother and a

father who engaged in dialogic reading. Fourteen families had neither a mother nor a

father who used dialogic behaviors during the SBR task.

Results for Research Question 1a

Table 2 provides summary descriptive statistics for the multiple regression

analysis.

Table 2
Multiple Regression Analysis Summary Descriptive Statistics for Overall Difference in Maternal and Paternal PPB Frequency Regressed on Reading Location, Child Sex, and Reading Order

	Mean	*SD*	*Minimum*	*Maximum*
Reading Location				
Home	3.97	3.20	.64	10.54
Site 1	1.93	1.88	.18	3.91
Site 2	2.77	1.66	.42	6.25
Child Sex				
Female	3.43	2.95	.42	10.38
Male	3.73	2.95	.18	10.54
First Reader				
Mother	3.07	2.42	.18	10.34
Father	4.09	3.31	.42	10.54

Parents who read at home had the largest differences in their overall frequencies

of PPBs. Families who completed the SBR task at site two had the next largest

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difference in overall PPBs, while families who completed the SBR task at site one had the smallest overall differences in mothers' and fathers' PPBs. However, though these patterns were systemic, the results were not statistically significant. Parents differed in their overall frequency of PPBs to a larger extent if they participated in the SBR task with a son than for those parents who completed the task with a daughter. However, these results were also not statistically significant. Descriptive statistics for the multiple regression analysis also indicate that for the mother-father pairs in which fathers were assigned to be the first reader, the overall difference score in PPBs was larger than for the mother-father pairs in which mothers were assigned to be the first reader. Again, these results were also not statistically significant.

Results from the multiple regression analysis are summarized in Table 3. The overall association was not statistically significant, (F (3, 36) = 1.20, p = .324, R^2 = .09), indicating that the proportion of the variance in the outcome variable that was accounted for by the set of three independent variables was nine percent. Because these results were not statistically significant, the sex of the child, the order in which parents were assigned to read during the SBR task, and the location of the SBR task have no significant relationship with the overall difference score between mothers' and fathers' PPBs (p > .05).

Table 3

Multiple Regression Analysis Summary for Variables Predicting Overall Difference Score Between Mothers' and Fathers' PPBs

Variable	*B*	SE *B*	β	*sr*^{2}
Child Sex	.561	.924	.098	.009
First Reader	1.287	.932	.224	.048
Reading Location	-.847	.578	-.237	.054
Constant	3.056	.833		

Note: $R^2 = .091$ ($N = 40$, $p = .324$), sr^2 = squared semi-partial coefficient

Results for Research Question 1b

T-test Results for Physically Performative Behaviors

First, descriptive analyses were run to ensure the data met the four main assumptions of independent and dependent samples *t*-tests, including that (a) the dependent variable is continuous, (b) the observations are independent from one another, (c) the dependent variable is approximately normally distributed, and (d) the dependent variable does not contain outliers (Field, 2009; Gravetter & Wallnau, 2014). All analyses met these assumptions except for Gesture: Child and Gesture: Elsewhere, in which the descriptive data histograms yielded non-normal distributions. Despite these non-normal distributions, however, continuing with independent and dependent samples *t*-tests, was appropriate because research has indicated that t-tests are robust enough to allow for accurate results even when data in not normally distributed (Stonehouse & Forrester, 1998; White & Thompson, 2003). Nevertheless,

the researcher proceeded with conducting subsequent non-parametric analyses

appropriate for non-normally distributed data (i.e., the Wilcoxon signed-rank test for

the dependent *t*-tests and the Mann–Whitney test for the independent *t*-tests) to ensure

t-test results were both appropriate and accurate. All results of the non-parametric tests

conducted yielded similar results to those of the standard dependent and independent

t-tests performed, and as such, the results of the dependent and independent *t*-tests

were used.

Dependent *t*-tests Comparing Mothers' and Fathers' Behaviors: Overall

Frequencies. A set of dependent *t*-tests was conducted to compare the overall

frequencies of mothers' and fathers' behaviors for each type of physically

performative behavior (e.g., pointing, hand/body gestures: child, hand/body gestures:

elsewhere, facial expressions, voice: inflection, and voice: story sound). See Table 4.

The results comparing the overall frequency of mothers' and fathers'

hand/body gestures elsewhere in space was significant ($t(39) = 3.52$, $p = .001$), with

mothers demonstrating significantly more hand/body gestures elsewhere in space than

fathers. The effect size was large ($d = .79$) and represents a large difference between

the overall frequency of hand/body gestures elsewhere in space between mothers and

fathers. The dependent *t*-test for mothers' and fathers' facial expressions was also

significant ($t(39) = 2.78$, $p = .008$), with mothers demonstrating significantly more

facial expressions than fathers. The effect size was medium to large ($d = .66$) and

represents a moderate to large difference between the overall frequency of facial

expressions between mothers and fathers. Finally, the dependent *t*-test for mothers'

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and fathers' overall total of physically performative behaviors was significant ($t(39)$ = 2.33, p = .025), with mothers demonstrating significantly more physically performative behaviors overall than fathers. The effect size was moderate (d = .51) and represents a moderate difference between the overall total of physically performative behaviors between mothers and fathers.

Results of this set of dependent t-tests revealed no significant differences in the overall frequencies between mothers and fathers on pointing, hand/body gestures on the child, voice: inflection, and voice: story sound behaviors.

Dependent t-tests Comparing Mothers' and Fathers' Behaviors: Proximity Categories. A set of dependent t-tests was conducted to compare the overall proportional time mothers and fathers spent in each of the proximity categories (e.g., shared space, near space contact, near space, and distal space). See Table 4, Figure 8, and Figure 9.

The dependent t-test for mothers' and fathers' overall proportional time spent in shared space was significant ($t(39)$ = -2.67, p = .011), with fathers spending significantly more time in shared space than mothers. The effect size was moderate (d = -.48) and represents a moderate difference between the overall proportional time spent in shared space between mothers and fathers. The dependent t-test for mothers' and fathers' overall proportional time spent in near space contact was also significant ($t(39)$ = 3.21, p = .003), with mothers spending significantly more time in near space contact than fathers. The effect size was moderate (d = .63) and represents a moderate

difference between the overall proportional time spent in near space contact between

mothers and fathers.

Results of this set of dependent *t*-tests revealed no significant differences in the

overall proportional time mothers and fathers spent in near space nor in distal space.

Table 4
Comparisons of Mothers' and Fathers' Frequency of Physically Performative
Behaviors (PPBs) and Time in Proximity Categories (Dependent Samples)

PPBs and Proximity Categories	Mothers		Fathers		$t(39)$	p	Cohen's d
	M	*SD*	*M*	*SD*			
Pointing	3.01	1.58	3.08	2.03	-.21	.839	
Gestures: On child	.15	.27	.20	.32	-.65	.517	
Gestures: Elsewhere	.89	.64	.42	.49	3.52	.001***	.79
Facial Expressions	1.86	1.22	1.19	.77	2.79	.008**	.66
Voice: Inflection	2.44	.99	2.13	.96	1.89	.066	
Voice: Story sound	.91	.47	.83	.52	.74	.462	
Total PPBs	9.26	3.39	7.66	2.84	2.33	.025*	.51
Shared Space	41.83	46.84	64.38	46.91	-2.67	.011**	-.48
Near Space Contact	48.43	46.07	21.55	38.19	3.21	.003**	.63
Near Space	9.08	26.83	9.77	25.63	-.18	.862	
Distal Space	.68	2.17	5.2	19.70	-1.51	.139	

* $p \leq 0.05$, **p ≤ 0.01, ***p ≤ 0.001
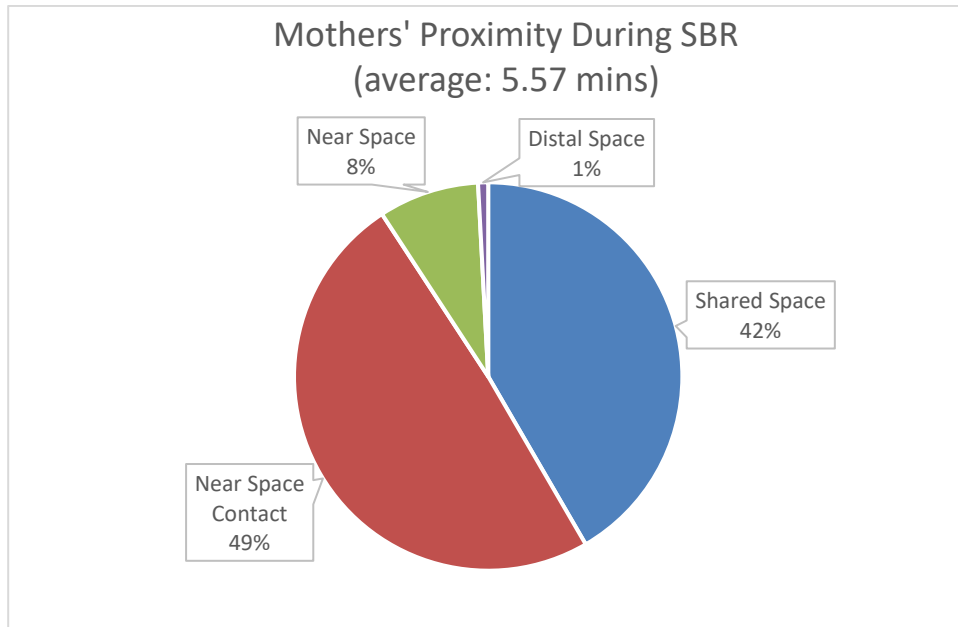
Figure 8. Proportional time spent in proximity categories for mothers during the SBR

task.

Fathers Proximity During SBR
(average: 6.08 mins)

- Distal Space 6%
- Near Space 14%
- Near Space Contact 25%
- Shared Space 55%
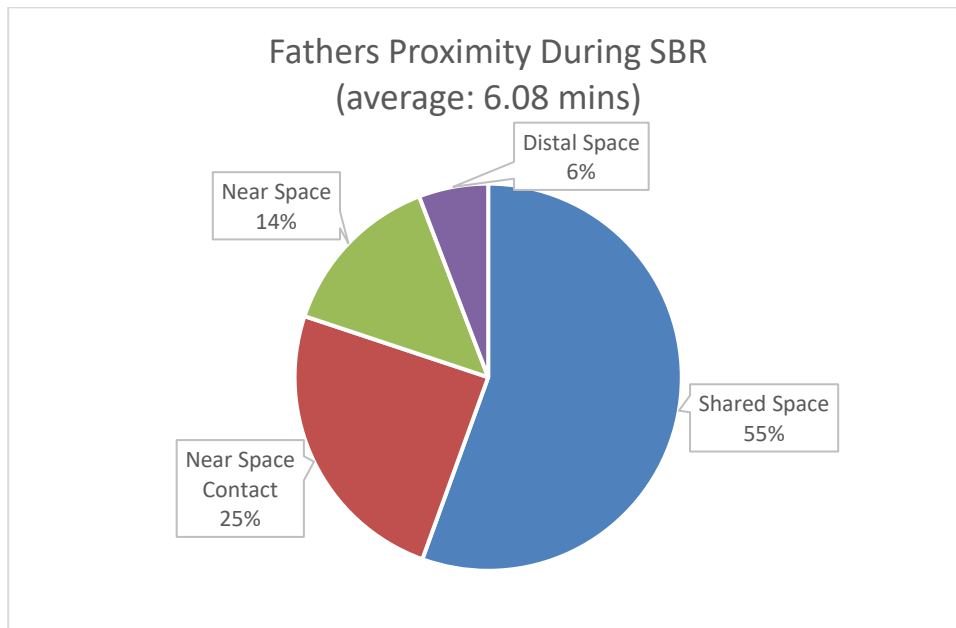
Figure 9. Proportional time spent in proximity categories for fathers during the SBR task.

Independent *t*-tests Comparing Overall Frequencies: Reading Order. A set of independent *t*-tests was conducted to compare the overall frequencies of behaviors for each type of physically performative behavior (e.g., pointing, hand/body gestures: child, hand/body gestures: elsewhere, facial expressions, voice: inflection, and voice: story sound) for mothers who were assigned to be the first reader with mothers who were assigned to be the second reader, and for fathers who were assigned to be the first reader with fathers who were assigned to be the second reader. See Table 5.

Results of this set of independent *t*-tests revealed no significant differences in the overall frequencies between mothers who read first and mothers who read second on any of the physically performative behaviors, indicating that reading order did not influence the frequency with which mothers engaged in the various PPBs used for this analysis.

Results comparing differences in the overall frequencies between fathers who read first and fathers who read second yielded one statistically significant difference. The independent *t*-test comparing the overall frequency of voice: story sound behaviors by fathers who were assigned to be the first reader with fathers who were assigned to be the second reader was significant ($t(38) = 2.23$, $p = .032$), with fathers who read first demonstrating significantly more voice: story sound behaviors than fathers who read second. The effect size was medium to large ($d = .71$) and represents a moderate to large difference in the overall frequency of voice: story sound behaviors between fathers who read first and fathers who read second.

Independent *t*-tests Comparing Proximity Categories: Reading Order. A set of independent *t*-tests was conducted to compare the overall proportional time spent in each of the proximity categories (e.g., shared space, near space contact, near space, and distal space) for mothers who were assigned to be the first reader with mothers who were assigned to be the second reader, and for fathers who were assigned to be the first reader with fathers who were assigned to be the second reader. See Tables 5 and 6.

Results of this set of independent *t*-tests revealed no significant differences in the overall proportional time spent in each of the proximity categories between mothers who read first and mothers who read second, as well as for fathers who read first and fathers who read second. This indicates that reading order did not influence the amount of proportional time in which mothers and fathers engaged in the various proximity categories used for this analysis.

Table 5
Comparisons of Mothers who Read First and Mothers who Read Second: Frequency of Physically Performative Behaviors (PPBs) and Time in Proximity Categories (Independent Samples)

PPBs and Proximity Categories	First		Second		*t*(38)	*p*
	M	*SD*	*M*	*SD*		
Pointing	2.96	1.34	3.06	1.82	-.19	.849
Gestures: On child	.15	.28	.15	.26	-.02	.982
Gestures: Elsewhere	.81	.70	.98	.58	-.85	.399
Facial Expressions	1.62	.89	2.10	1.47	-1.25	.218
Voice: Inflection	2.13	.88	2.75	1.01	-2.05	.061
Voice: Story sound	.86	.51	.96	.43	-.713	.480
Total PPBs	8.52	2.83	10.00	2.84	-1.39	.172
Shared Space	44.55	47.22	39.10	47.52	.36	.718
Near Space Contact	49.60	46.73	47.25	46.58	.16	.874
Near Space	5.30	22.33	12.85	30.81	-.89	.380
Distal Space	.55	1.36	.80	2.71	-.369	.714

Table 6

Comparisons of Fathers who Read First and Fathers who Read Second: Frequency of Physically Performative Behaviors (PPBs) and Time in Proximity Categories (Independent Samples)

PPBs and Proximity Categories	First		Second		*t*(38)	*p*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Pointing	2.73	1.71	3.44	2.30	-1.11	.273	
Gestures: On child	.24	.36	.15	.27	-.90	.372	
Gestures: Elsewhere	.49	.59	.36	.36	.91	.371	
Facial Expressions	1.34	.83	1.03	.70	1.32	.195	
Voice: Inflection	2.30	1.10	1.97	.79	1.07	.292	
Voice: Story sound	1.00	.58	.66	.39	2.23	.032[*]	.71
Total PPBs	8.12	3.19	7.20	2.45	1.02	.313	
Shared Space	59.00	47.53	69.75	46.86	-.72	.476	
Near Space Contact	22.20	36.41	20.90	40.69	.11	.916	
Near Space	10.50	23.71	9.05	28.03	.18	.861	
Distal Space	10.05	26.35	.35	1.57	1.64	.117	

**p ≤ 0.05

Independent *t*-tests Comparing Overall Frequencies: Child Sex. A set of independent *t*-tests was conducted to compare the overall frequencies of behaviors for each type of physically performative behavior (e.g., pointing, hand/body gestures: child, hand/body gestures: elsewhere, facial expressions, voice: inflection, and voice: story sound) for mothers who read with a daughter with mothers who read with a son, and for fathers who read with a daughter with fathers who read with a son.

Results of this set of independent *t*-tests revealed no significant differences in the overall frequencies of behaviors for each type of physically performative behavior between mothers who read with a daughter and mothers who read with a son, as well

as for fathers who read with a daughter and fathers who read with a son. This indicates that child sex did not influence the frequency with which mothers and fathers engaged in the various physically performative behaviors used for this analysis.

Independent *t*-tests Comparing Proximity Categories: Child Sex. A final set of independent *t*-tests was conducted to compare the overall proportional of time spent in each of the proximity categories (e.g., shared space, near space contact, near space, and distal space) for mothers who read with a daughter with mothers who read with a son, and for fathers who read with a daughter with fathers who read with a son. See Tables 7 and 8.

Results of this set of independent *t*-tests revealed no significant differences in the overall proportional time spent in each of the proximity categories between mothers who read with a daughter and mothers who read with a son, as well as for fathers who read with a daughter and fathers who read with a son. This indicates that child sex did not influence the amount of proportional time in which mothers and fathers engaged in the various proximity categories used for this analysis.

Table 7

Comparisons of Mothers who Read to a Son and Mothers who Read to a Daughter: Frequency of Physically Performative Behaviors (PPBs) and Time in Proximity Categories (Independent Samples)

PPBs and Proximity Categories	Son		Daughter		t(38)	p
	M	*SD*	*M*	*SD*		
Pointing	3.20	1.99	2.82	1.05	.77	.445
Gestures: On child	.15	.27	.16	.27	-.12	.908
Gestures: Elsewhere	.88	.77	.92	.49	-.25	.807
Facial Expressions	1.56	1.35	2.15	1.04	-1.53	.134
Voice: Inflection	2.36	.93	2.52	1.06	-.54	.596
Voice: Story sound	.98	.54	.84	.40	.89	.379
Total PPBs	9.12	4.03	9.41	2.71	-.26	.793
Shared Space	35.35	44.32	48.30	49.51	-.87	.389
Near Space Contact	54.00	44.89	42.85	47.70	.76	.451
Near Space	9.55	28.46	8.60	25.83	.11	.913
Distal Space	1.10	2.86	.25	.79	1.28	.214

Table 8

Comparisons of Fathers who Read to a Son and Fathers who Read to a Daughter: Frequency of Physically Performative Behaviors (PPBs) and Time in Proximity Categories (Independent Samples)

PPBs and Proximity Categories	Son		Daughter		t(38)	p
	M	*SD*	*M*	*SD*		
Pointing	3.34	2.10	2.84	1.98	.77	.445
Gestures: On child	.20	.36	.20	.27	.05	.961
Gestures: Elsewhere	.42	.48	.43	.51	-.09	.926
Facial Expressions	1.17	.79	1.21	.78	-.14	.887
Voice: Inflection	2.00	1.02	2.26	.91	-.86	.396
Voice: Story sound	.71	.51	.95	.51	-1.52	.137
Total PPBs	7.76	3.08	7.57	2.66	.21	.834
Shared Space	59.00	47.53	69.75	46.86	-.72	.476
Near Space Contact	23.10	35.96	20.00	41.04	.25	.801

Table 8 *(continued)*

Near Space	14.30	28.41	5.25	22.33	1.12	.270
Distal Space	5.40	16.70	5.00	22.36	.07	.948

Summary of Findings for Research Question *1*

Overall findings from *RQ1*, comparing the frequencies and types of mothers'
and fathers' physically performative behaviors and proximity categories during the
SBR task, indicate that mothers demonstrated significantly more hand/body gestures
elsewhere in space, facial expressions, and total frequency of physically performative
behaviors than did fathers. Results also indicate that mothers spent significantly more
time in near space contact with their children than did fathers and that fathers spent
significantly more time in shared space with their children than did mothers. No
significant differences were found in the overall frequencies between mothers and
fathers on pointing, hand/body gestures on the child, voice: inflection, and voice: story
sound behaviors, nor were there significant differences between the time mothers' and
fathers' spent in near space and distal space during the SBR task.

Findings also indicate that reading order did not significantly influence the
frequency with which mothers and fathers engaged in the various proximity categories
used for this analysis, nor did it significantly influence the types of physically
performative behaviors mothers demonstrated during the SBR task. However, one
statistically significant difference was found between fathers who read first and fathers

who read second, with fathers who read first demonstrating significantly more story

sounds than fathers who read second.

Finally, results from RQ1 demonstrate that child sex and location of the SBR

task did not significantly influence the types of physically performative behaviors

fathers and mothers demonstrated during the SBR task, nor did these factors

significantly influence the amount of proportional time in which mothers and fathers

engaged in the various proximity categories used for this analysis.

Results for Research Question *2*

Results for *RQ2* will be presented in the following order: APIM model 1,

exploring the relationship between mothers' and fathers' physically performative

behaviors during SBR and parental enjoyment composite scores; APIM model 2,

exploring the relationship between mothers' and fathers' physically performative

behaviors during SBR and parental affect; and APIM model 3, exploring the

relationship between mothers' and fathers' physically performative behaviors during

SBR and parental use of dialogic reading behaviors.

For APIM model 2 and APIM model 3, the outcome variables are dichotomous

variables. This means that these regressions are logistic regressions, and as such, the

regression coefficients were converted to odds ratios (Cohen, Cohen, West, & Aiken,

2003; Field, 2009). The regression coefficients were entered into Microsoft Excel and

the exponential formula [=EXP(regression coefficient value)] was used to transform

the regression coefficient to an odds ratio. For example, the regression coefficient of

.40 (representing the relationship between maternal PPBs and maternal affect in APIM

2) was converted to an odds ratio of 1.50. This odds ratio is interpreted in relation to the higher of the dichotomous values (i.e., the 1; as in neutral affect = 0, positive affect = 1) (Cohen et al., 2003). Therefore, an odds ratio of 1.50 is interpreted as follows, "For every one unit increase on maternal PPBs, there is a 1.5 increase in log odds in having a positive affect." In other words, mothers were more likely to have a positive affect if their PPBs increased. Odds ratios can also then be converted to percentages, so that they are easier to interpret in everyday language. The formula for this is as follows: $[100*(OR - 1)]$, where OR = odds ratio (Cohen et al., 2003). A positive percentage indicates an increase in odds and a negative percentage indicates a decrease in odds. Again, for the example above, the procedure for converting an odds ratio of 1.50 to a percentage is, $[100*(1.50 - 1)]$, which equals $[100*.50]$, which equals [50%]. This would be interpreted as follows, "Mothers with higher frequencies of PPBs were 50% more likely to demonstrate a positive affect."

APIM Model 1

Figure 10 shows the results of APIM model 1.
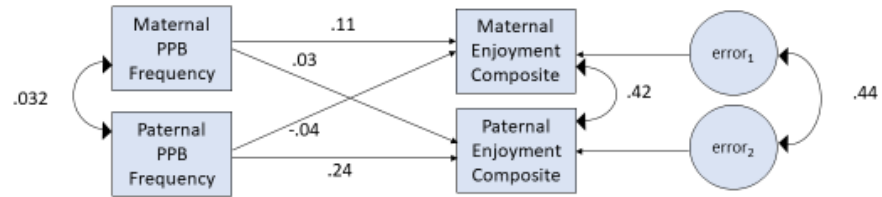
Figure 10. Results of APIM model 1.

Table 9 provides both the centered mean and grand mean, as well as the variances, for predictor and outcome variables used for APIM Model 1.

Table 9
Means and Variances for APIM Model 1 (Enjoyment Composite Score) Variables

Variable	M	s^2
Mother-Child Enjoyment Composite		
Grand Mean	2.438	.290
Centered Mean	2.438	.290
Father-Child Enjoyment Composite		
Grand Mean	2.375	.322
Centered Mean	2.375	.322
Maternal PPB Frequency		
Grand Mean	0.309	.012
Centered Mean	0.000	.012
Paternal PPB Frequency		

Table 9 *(continued)*

Grand Mean	0.255	.009
Centered Mean	0.000	.009

Table 10 provides the regression parameters for APIM Model 1.

Table 10
Regression Parameters for APIM Model 1 Variables

Variable	Estimate	*S.E.*	*p*
Mother-Child Enjoyment Composite			
Maternal PPB Frequency	0.114	0.156	0.464
Paternal PPB Frequency	-0.044	0.157	0.781
Father-Child Enjoyment Composite			
Maternal PPB Frequency	0.032	0.153	0.834
Paternal PPB Frequency	0.240	0.149	0.108

Results of APIM model 1 reveal no significant relationship between the

frequency of parental (neither maternal nor paternal) PPBs and parental-child

enjoyment composite scores. This means that the frequency of mothers' PPBs did not

have a significant effect on the mother-child enjoyment composite score (no actor

effect), nor did the frequency of mothers' PPBs have a significant effect on the father-

child enjoyment composite score (no partner effect). This also means that the

frequency of fathers' PPBs also did not have a significant effect on the father-child

enjoyment composite score (no actor effect), nor did the frequency of fathers' PPBs

have a significant effect on the mother-child enjoyment composite score (no partner

effect).

APIM Model 2

Figure 11 shows the results of APIM model 2.

Figure 11. Results of APIM model 2, with odds ratios (*OR*) in parentheses.

Table 11 provides the regression parameters for APIM Model 2.

Table 11

Regression Parameters for APIM Model 2 Variables

Variable	Estimate	*S.E.*	*p*	*OR*
Maternal Affect*				
Maternal PPB Frequency	0.403	0.206	0.050*	1.50
Paternal PPB Frequency	-0.183	0.180	0.309	.83
Paternal Affect*				
Maternal PPB Frequency	-0.016	0.175	0.928	.98
Paternal PPB Frequency	0.563	0.153	0.000***	1.76

*p ≤ .05, ***p ≤ .001

Results of APIM model 2 reveal a significant relationship between the frequency of maternal PPBs and mothers' affect ($F(1, 36) = .40$, $p = .05$). This means that the frequency of mothers' PPBs did have a statistically significant effect on mothers' affect ratings (actor effect). The regression coefficient of .40 was converted to an odds ratio of 1.50 and a percentage of 50%, indicating that mothers with higher frequencies of PPBs were 50% more likely to demonstrate a positive affect. There was not a relationship between the frequency of maternal PPBs and fathers' affect, indicating that a partner effect does not exist for frequency of maternal PPBs.

Results of APIM model 2 also reveal a significant relationship between the frequency of paternal PPBs and fathers' affect ($F(1, 36) = .56$, $p = .00$). This means that the frequency of fathers' PPBs did have a statistically significant effect on fathers' affect ratings (actor effect). The regression coefficient of .56 was converted to an odds ratio of 1.76 and a percentage of 76%, indicating that fathers with higher frequencies of PPBs were 76% more likely to demonstrate a positive affect. There was not a

relationship between the frequency of paternal PPBs and mothers' affect, indicating

that a partner effect does not exist for frequency of paternal PPBs. The overall results

of APIM model 2 indicate that actor effects, but not partner effects, exist between

parental PPBs and parental affect.

APIM Model 3
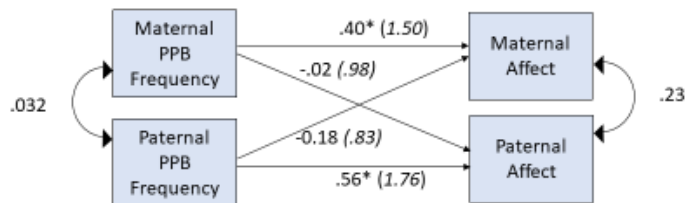
Figure 12 shows the results of APIM model 3.
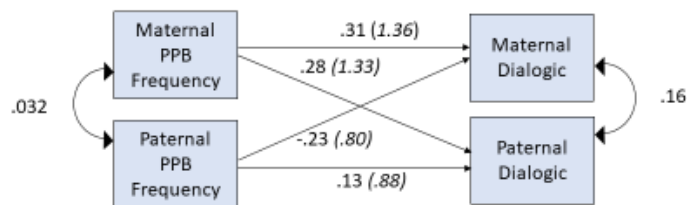
Figure 12. Results of APIM model 3, with odds ratios (OR) in parentheses.

Table 12 provides the regression parameters for APIM Model 3.

Table 12

Regression Parameters for APIM Model 3 Variables

Variable	Estimate	*S.E.*	*p*	*OR*
Maternal Dialogic Behaviors				
Maternal PPB Frequency	0.308	0.171	0.073	1.36
Paternal PPB Frequency	-0.228	0.175	0.192	.80
Paternal Dialogic Behaviors				
Maternal PPB Frequency	0.284	0.173	0.101	1.33
Paternal PPB Frequency	0.131	0.176	0.458	.88

Results of APIM model 3 reveal no significant relationship between the frequency of parental (maternal nor paternal) PPBs and parental use of dialogic reading behaviors. This means that the frequency of mothers' PPBs did not have a significant effect on mothers' use of dialogic reading behaviors (no actor effect), nor did the frequency of mothers' PPBs have a significant effect on fathers' use of dialogic reading behaviors (no partner effect). This also means that the frequency of fathers' PPBs also did not have a significant effect on fathers' use of dialogic reading behaviors (no actor effect), nor did the frequency of fathers' PPBs have a significant effect on mothers' use of dialogic reading behaviors (no partner effect).

Summary of Findings for Research Question *2*

Overall findings from *RQ2*, exploring the frequencies of mothers' and fathers' physically performative behaviors and various outcome variables related to quality shared book reading experiences, demonstrate that a statistically significant relationship does exist between the frequency of parental PPBs and parental affect. Actor effects were found for both maternal and paternal behaviors, suggesting that

parental behaviors influenced their own personal affects, but not those of their co-parents.

Results from *RQ2* also indicate that no relationship exists between the frequency of parental PPBs and parental enjoyment ratings nor between the frequency of parental PPBs and parental use of dialogic reading behaviors. Finally, no partner effects were found for any of the APIM models, suggesting that the frequency of PPBs demonstrated by mothers and fathers had no influence on their co-parents' demonstration of the outcome variables used for this analysis.

Chapter 5

DISCUSSION

Parent-child shared book reading is consistently viewed as a highly-facilitative developmental activity in early childhood (Bennett et al., 2002; Bus et al., 1995; Ortiz et al., 2001) and, as such, families are frequently encouraged to engage in shared reading with their children (Cox Gurdon, 2019; Rasinski & Fredericks, 1990; Trelease, 2013). Researchers have also dedicated considerable efforts to exploring various aspects of parent-child shared book reading, including the kinds of extra-textual talk parents use while reading (Anderson et al., 2012), the types of questions parents ask their children during reading (Rowe et al., 2004), the amount of language input parents provide (Baker et al., 2015), and the types of literacy-related guidance parents offer to their children while reading (Vandermaas-Peeler et al., 2012). Findings from this research reveal both similarities and differences in the ways that fathers and mothers engage with their children during shared reading experiences and provide valuable information regarding the types of interactions that occur while parents and children are reading together.

However, the extant literature examining parent-child SBR predominantly focuses on the language- and communication-based exchanges that occur between parents and children while reading (Bennett et al., 2002; Cabrera et al., 2004; Duursma, 2016). Little research has investigated the kinesthetic and proxemic

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interactions that take place during parent-child shared reading. Therefore, in order to create a complete picture of the parent-child SBR experience, it is critical to build upon the rich literature that exists exploring the language used by mothers and fathers during SBR to also examine the types of physical behaviors they exhibit during these activities.

As such, the purpose of the current study was to explore the "third dimension" of parent-child shared book reading—the physicality demonstrated by mothers and fathers during shared reading. This study investigated the frequencies and types of physically performative behaviors parents demonstrate during shared book reading with their preschool aged child. In addition, the research presented here explored the potential relationship between parents' physically performative behaviors and various outcome variables that have previously been linked to quality shared book reading experiences (i.e., parental and child enjoyment, parental affect, and parental use of dialogic reading behaviors).

Results of this study will be discussed in order of the research questions. The first research question explored similarities and differences in fathers' and mothers' demonstration of physically performative behaviors during a shared book reading task with their preschool-aged child, including the overall frequency of physically performative behaviors *(RQ1a)* and the types of physically performative behaviors parents demonstrated *(RQ1b)*. The second research question *(RQ2)* explored the potential relationship between parents' physically performative behaviors and various outcome variables that have previously been linked to quality shared book reading

experiences (i.e., parental and child enjoyment, parental affect, and parental use of dialogic reading behaviors).

Research Question 1: Differences in Maternal and Paternal Behaviors During SBR

The first goal of this exploratory study was to investigate potential differences in fathers' and mothers' demonstration of physically performative behaviors during a shared book reading task with their preschool-aged child. This included examinations of both the overall frequency of and the types of physically performative behaviors parents demonstrated during the shared book reading activity.

Research Question 1a

First, to determine how much of the variability in overall frequency scores between mothers and fathers was due to actual differences between mothers and fathers, and not due to other possible factors, this research explored the relationship between three variables (i.e., child sex, parental reading order, and reading location) and parents' overall frequency score. Findings of this multiple regression analysis reveal that the overall association between these three variables was not statistically significant and accounted for less than ten percent of the variance in the overall difference in frequency of parental PPBs. These results are in support of the hypothesis for this analysis, which predicted that child sex, parental reading order, and reading location would account for less of the variance in overall parental frequency scores than did the actual difference in mothers' and fathers' behaviors.

Although these results indicate that these three specific variables do not significantly influence the overall frequency of parental behaviors during shared book reading, they are just a few of the many variables that could have been considered for this investigation. It is possible that a myriad of other potential factors, such as parents' personal reading habits, a parent being the primary reader in the home, or even the specific books parents and children read together, could account for differences in mothers' and fathers' behaviors. The specific variables were chosen for the present analysis because they have been used in previous research assessing differences between mothers and fathers in other aspects of parent-child shared book reading, such as language use, (Duursma & Pan, 2011; Duursma et al., 2008; Swain et al. 2017) and as well as in other domains of parent-child interactions such as play (Kazura, 2000; Tamis-LeMonda et al., 2000). The results of the analysis presented here, however, indicate that these variables did not influence the overall frequency of physically performative behaviors demonstrated by mothers and fathers.

Research Question 1b

Comparisons Between Mothers and Fathers. The second goal of this exploratory study was to investigate the types of physically performative behaviors parents demonstrated during the shared book reading activity. This was done through a series of *t*-tests which examined potential differences between mothers' and fathers' behaviors, between parents who had been assigned to read first to those who were assigned to read second, and between parents who read with a daughter to those who read with a son.

Contrary to expectations, this study did not find the more intense, physically demanding behaviors fathers demonstrate while engaging with their children during play-based activities in prior research (Fletcher, St. George, & Freeman, 2012; Kazura, 2000) to translate to the types of physically performative behaviors they demonstrate during shared book reading activities. In fact, where significant differences were found between frequencies of mothers' and fathers' behaviors, it was mothers who demonstrated significantly more behaviors than did fathers. This was the case for frequencies of total behaviors, for hand/body gestures elsewhere in space, and for facial expressions. Such findings support existing literature which has found mothers to take on a more active role during shared book reading activities with their children than do fathers (Anderson et al., 2012; Tomasello et al., 1990). Perhaps mothers were more familiar with the activity of reading with their children and therefore used the SBR task as an opportunity to include physical behaviors above and beyond simply reading the text. It is also possible that fathers viewed the SBR task, or shared reading in general, as a more educationally based activity, rather than a playful experience where physicality could be included as a key feature. The findings presented here suggest that fathers did not view shared reading as time to be physically demanding with their children, as they traditionally do during more play-based activities. Future research which includes comparisons of parental behaviors and survey responses regarding familial literacy habits, such as the frequency with which mothers and fathers reported reading with their children, which parent identified as the primary reader in the home, and the reasons parents gave for why they engage in

reading activities with their child, may provide additional insight into the differential patterns found between mothers and fathers.

In addition to being more physical than were fathers, mothers were also more likely to engage in physical contact with their child during the shared reading experience. Just over 90% of mothers' time spent in the SBR task was spent in physical contact with their child, compared to 80% of fathers' time. However, it is important to note, that fathers were significantly more likely than mothers to engage in shared space contact with their child, meaning they were more likely to be engaged in close, interlocking physical contact with their child than were mothers. This finding could indicate that fathers viewed the shared book reading experience as a time to physically bond with their child or as a means for maintaining or enhancing the father-child relationship. Fathers who engage in shared book reading report that doing so enhances feelings of emotional synchronicity they share with their child and that participating in shared reading experiences serves as a mechanism for fostering the father-child relationship (Nichols, 2000; Swain et al., 2017). It may be the case that fathers in the study presented here also viewed the SBR task as an opportunity to foster the emotional bond between themselves and their child and used close, interlocking physical contact as a means for doing so.

Alternatively, it is possible that these sets of distinct findings (i.e., those related to the types and frequencies of PPBs demonstrated by mothers and fathers and the proxemic categories in which parents engaged in during SBR) may, in fact, be related. The findings presented here potentially indicate the existence of an inverse

relationship between the frequency of parental PPBs and the amount of time parents spent in each of the proxemic categories. It is possible that fathers were found to be less physical during the SBR task than were mothers because fathers spent significantly more time in close, interlocking physical contact with their child than did mothers. Perhaps this shared space engagement prevented fathers from demonstrating physical behaviors because their hands/bodies were instead engaged in interlocking contact with their child. The opposite may also be true—perhaps mothers were found to be more physical with their children during the SBR task because they engaged in significantly less shared space contact than did fathers, and therefore, potentially, had more opportunity to demonstrate physically performative behaviors than did fathers. These findings indicate that additional research is warranted which systemically investigates the potential relationship between the frequency of parental PPBs and the amount of time parents spend in each of the proxemic categories.

There are several results of this research which, although not statistically significant, are worth mentioning, as they provide valuable information regarding the ways in which mothers and fathers in this sample differed during the shared reading activity. Findings of this study indicate that mothers were more likely than fathers to demonstrate a positive affect (73%, 55%, respectively) and to demonstrate dialogic reading behaviors (50%, 38%, respectively). Furthermore, regarding the physical contact between parents and children during the SBR task, fathers were more likely to have no physical contact with their children during reading, than were mothers. Twenty percent of fathers' time spent in reading included no physical contact between

themselves and their child. This was the case for only 9% of mothers. Although, it may be that the particular finding specific to parent-child physical contact was not statistically significant because the amount of time parents spent in proximity categories that did not include physical contact (i.e., near space and distal space) was relatively small compared to time spent in those which did include physical contact (i.e., shared space and near space contact). Additionally, regarding each of the non-significant results, it is possible that the sample size used for this study was not large enough to detect significant differences between fathers and mothers. Future research designed to further explore these potential mother-father differences with larger sample sizes may offer additional insight into the diverse ways fathers and mothers engage with their children during shared book reading.

Overall, the results of this study indicate that, though many similarities exist, in some ways, mothers and fathers do have different styles of physical engagement during shared book reading activities. Although these patterns are inverse of those traditionally found in literature regarding mother and father engagement styles during play (Kazura, 2000; Tamis-LeMonda et al., 2000), they do indicate that mothers and fathers approached the SBR task used for this research in several divergent ways.

Though the findings discussed above provide information regarding the unique ways in which fathers and mothers engaged with their children during shared reading, the exploratory nature of this research also calls for discussion of the ways in which mothers and fathers approached the SBR task similarly. Addressing these null findings

is crucial for gaining a complete understanding of the types of parental physicality that occur during shared reading experiences.

There are several findings that indicate that fathers and mothers in this study were similar in their approach to the SBR task. Mothers and fathers were comparable in the frequency with which they demonstrated pointing, hand/body gestures on the child, and the use of both components of voice—inflection and story sounds. Additionally, the amount of total time mothers and fathers spent engaged in the shared reading activity was also similar. There were also no differences in the parental enjoyment composite score, indicating that mothers and fathers were just as likely to enjoy the shared reading activity and were just as likely to indicate that their child enjoyed the experience. One possible explanation for the similarities found between fathers and mothers is the design decision to have parents read the same book during the SBR task. It may be that since parents were reading the same book, they demonstrated similar physically performative behaviors throughout reading. Future SBR research should consider counterbalancing two books across father-child and mother-child dyads to determine the potential influence that book choice could have on parental behaviors during parent-child shared reading activities. However, despite this potential explanation, these findings, taken together, demonstrate the many ways in which parents' shared reading experiences were comparable and support previous research which has demonstrated similarities in fathers' and mothers' interactions during shared book reading (Duursma & Pan, 2011; Pancsofar et al., 2010).

Comparisons by Reading Order. Despite differences found between the behaviors of mothers and fathers, analyses assessing parental reading order and child sex indicate that these factors did not influence the types or frequencies of behaviors parents engaged in during shared reading. These results mirror those discussed previously, in which a multiple regression analysis was used to assess child sex and parental reading order as possible variables that would account for differences in the overall frequency score of parental PPBs.

Regarding parental reading order, results demonstrate that mothers who read first and mothers who read second did not differ on their physically performative behaviors, nor in their proximity to the child while reading. Parental reading order also did not influence the types of proxemic behaviors fathers engaged in while reading. Results do indicate, however, one difference between fathers who read first and fathers who read second—their use of story sounds, with fathers who read first demonstrating more story sounds than fathers who read second. However, since no other differences were found between fathers who read first and fathers who read second, there does not appear to be a clear explanation for this single difference. Perhaps fathers who read second were under the assumption that their female co-parent had highlighted these story sounds and therefore did not need to do so themselves. However, despite this one difference, it does not appear that reading order, in general, had a substantial influence on the types of behaviors fathers demonstrated during the SBR task.

Overall results regarding parental reading order demonstrate that counterbalancing the order in which parents read to their child did not have any significant impact on the types of behaviors parents exhibited during the SBR task. This finding indicates that parents did not adjust their physical behaviors or proximity to the child in response to if they were the first or second reader. For example, parents who read second did not appear to purposefully engage in more physical behaviors as a potential strategy for maintaining their child's engagement during the second reading of the same book. These findings also suggest that potential differences between the types of behaviors mothers and fathers demonstrated during the SBR were due to actual mother-father differences, rather than to reading order.

Comparisons by Child Sex. Findings indicate that child sex had no influence on the behaviors mothers and fathers engaged in during the SBR task. Fathers and mothers who read with daughters showed no differences from fathers and mothers who read with sons in their demonstration of physically performative behaviors, nor in their proximity to the child while reading. These results are surprising considering previous research has indicated that mothers and fathers engage in various aspects of shared book reading differently for sons than for daughters (Duursma et al., 2008; Duursma & Pan, 2011; Ortiz et al., 2001; Raikes et al., 2006; Swain et al., 2017). For example, in their investigation of the types of guidance behaviors provided by mothers and fathers to their 3-year old-children, Vandermaas-Peeler et al. (2012) found that fathers provided significantly more literacy related guidance (e.g., behaviors specific to reading a book–commenting on an illustration, discussing print concepts) to

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daughters than to sons during shared reading. Results also indicated that fathers provided higher rates of guided participation (e.g., behaviors that extended the shared reading experience–connecting the story to personal experiences, providing feedback) while reading with daughters, while mothers engaged in such guidance more frequently with sons.

It is important to note, however, that the research presented here did not compare sons and daughters within the same family. It may be possible that if parents were asked to read to both sons and daughters within the same family, differential results for sex of child would have occurred. However, since this data is not available, the results for the research presented here (which focuses on sons and daughters from different families) indicate that child sex did not influence the types of physical behaviors parents demonstrated during shared reading. It may be that the families who participated in this study engage in more contemporary parenting styles in which the convergence of traditional male and female gendered behaviors is accepted and encouraged (Pyne, 2016; Smock & Schwartz, 2020) and reading is no longer viewed only as a feminine activity (Duursma et al., 2008; Ortiz et al., 2001), as it has been in previous decades. This may be especially true for the highly educated sample used for this study, as higher educational attainment is often associated with more egalitarian parenting behavior toward boys and girls (Dodson & Di Borders, 2006; Endendijk, Groeneveld, Bakermans-Kranenburg, & Mesman, 2016). It is possible that such beliefs would have led parents to engage in similar behaviors during shared reading, regardless of their child's sex.

Additionally, the choice of book used for this study may have influenced the finding that child sex did not affect the types of physical behaviors parents demonstrated during shared reading. The intentional design decision to select a book that could potentially appeal to both boys and girls and that therefore did not include traditional gender-stereotypical content or images (e.g., a princess story), may have created a shared reading experience that was similar for both girls and boys.

Research Question *2*: The Relationship Between Parental PPBs and Aspects of SBR Quality

The third goal of this exploratory study was to investigate the potential relationship between parents' physically performative behaviors and various outcome variables that have previously been linked to quality shared book reading experiences including parental and child enjoyment (Janes & Kermani, 2001; Ortiz, 2004; Park, 2008), parental affect (Bus, 2001; Bus & van Ijzendoorn, 1997; Fletcher & Reese, 2005; Partridge, 2004), and parental use of dialogic reading behaviors (Han & Neuharth-Pritchett, 2014; Reese, 2012). This was done through three separate APIM models, each using one of the outcome variables listed above. Results of these analyses will be discussed in the following order, APIM model 1, APIM model 2, and APIM model 3.

APIM Model 1

Findings of APIM model 1, exploring the relationship between mothers' and fathers' physically performative behaviors during SBR and parental enjoyment

composite scores indicate that no significant relationship exists between the frequency of parental PPBs and parental enjoyment ratings. Although previous research has demonstrated a close link between parental enjoyment and the quality of parent-child shared reading experiences (Janes & Kermani, 2001; Ortiz, 2004; Park, 2008), these findings suggest that the physical behaviors parents demonstrate during reading are not associated with how they rate their own enjoyment nor are they related to parental perceptions of their child's enjoyment. It may be that parents do not consider the physicality that occurs during shared reading as one of the factors that contributes to the enjoyment of the reading experience. The finding that no relationship exists between parents' PPBs and their enjoyment ratings also suggests that, for the parent-child dyads in this specific study, the "third dimension" of shared reading may not be a crucial component to parental and child enjoyment of shared reading. Alternatively, it may be that the measures used for this study were not sensitive enough to fully capture the effects of parents' physically performative behaviors on this particular aspect of SBR quality, or that these effects were relatively smaller than anticipated. Future research that employs a larger sample size may reveal the modest contributions that parental PPBs have on participants' enjoyment of shared reading experiences.

APIM Model 2

Findings of APIM model 2, exploring the relationship between mothers' and fathers' physically performative behaviors during SBR and parental affect demonstrate that a significant relationship does exist between the frequency of parental PPBs and parental affect. Actor effects were found for both maternal and paternal behaviors

indicating that parental behaviors influenced their own personal affects, but not those of their co-parents. These findings are in support of previous research which has established parental affect as a key indicator both of quality SBR experiences (Frosch et al., 2001; Kassow, 2006; Logan, Justice, Yumuş, & Chaparro-Moreno, 2019) and of relationships between parents and children overall (Daly, 2003; Palkovitz, 2019). One explanation for the relationship found between parental PPBs and parental affect is that parental affect was partially determined by assessing parental facial expressions and overall parental body language as it related to their child—behaviors that were also measured as part of the overall PPB frequency score. Specifically, parental facial expressions and use of hand/body gestures both on the child and elsewhere in space were physical behaviors which were part of the observational procedures used for this research. These specific behaviors are closely related to parental affect and could help to explain why a relationship was found between parental PPBs and parental affect.

Beyond the possible explanations for why APIM model 2 resulted in significant maternal and paternal actor effects, it is also important to address the actual methodology used by the researcher when conceptualizing parental affect ratings for this study. Although this conceptualization was multi-faceted and based, in part, on previous research regarding parental affect (Bus, 2001; Fletcher & Reese, 2005; Partridge, 2004), it is important to note the possibility that this study's conceptualization of parental affect was unintentionally based on a gendered interpretation of affect, in which traditionally feminine behaviors and qualities (e.g., nurturance, affection, tenderness, etc.) were used to determine positive parental affect

ratings. Perhaps this gendered conceptualization focused more on characteristics of feminine and masculine behaviors than on actual sex differences (males and females) and that the conceptualization of affect was not sensitive to the differing ways in which traditional masculine qualities (e.g., assertiveness, expressivity, instrumentality, etc.) can also represent positive affect. This biased conceptualization could have prevented masculine behaviors that were demonstrated by both fathers and mothers from being considered as indicators of a positive affect and may explain why fathers were less likely than mothers to be rated as having a positive affect.

However, despite this potentially biased conceptualization of parental affect, the findings from APIM model 2 suggest that, for the study presented here, the frequency with which parents demonstrate physical behaviors during shared reading activities matters for the affective climate of the reading experience—the warmth and connection found between parent and child while reading together (Palkovitz, in press). This is an especially promising finding, as it indicates that the physicality that occurs during reading is related to the overall quality of shared reading experiences.

APIM Model 3

Findings of APIM model 3, exploring the relationship between mothers' and fathers' physically performative behaviors during SBR and parental use of dialogic reading behaviors reveal no significant relationship between the frequency of parental PPBs and parental use of dialogic reading behaviors. Although dialogic reading is commonly used a as measure of quality in shared reading experiences (Han and Neuharth-Pritchett, 2014; Reese, 2012; Reese & Cox, 1999), the research presented

here demonstrates that the physical behaviors parents engaged in during shared reading had no association to this specific aspect of SBR quality. Perhaps no relationship existed between these two components of SBR because dialogic reading is commonly conceptualized as a language- and communication-based style of interaction (Arnold et al., 1994; Valdez-Menchaca & Whitehurst, 1992; Whitehurst et al., 1988) and does not include physical behaviors in its implementation. As such, it is possible that parents conceptualized the physical behaviors they demonstrated during the SBR task and the types of dialogic reading behaviors they engaged in as mutually exclusive methods of engagement. Additionally, as was suggested for APIM model 1, these results may indicate that the measures used in this research were not sensitive enough to assess the effects of parents' physically performative behaviors on this particular aspect of SBR quality, or that these effects were smaller than anticipated. Again, additional research with larger sample sizes may reveal the potential contributions that parental PPBs have on participants' use of dialogic reading behaviors during SBR.

Summary of APIM Model Analyses

Overall results of APIM models used for this study indicate that no significant partner effects exist between the frequency of parental PPBs and parental enjoyment ratings, parental affect, and parental use of dialogic reading behaviors. These findings seem to suggest that for shared book reading, the behaviors demonstrated by one's co-parent do not substantively influence various outcomes previously associated with

quality parent-child shared reading experiences. These patterns are in contrast to research exploring other types of co-parenting influences, such as that which investigates gate keeping between co-parents (Puhlman & Pasley, 2013; Roy & Dyson, 2005), in which the behaviors of one parent significantly influence the behaviors of the other parent. The lack of mother-father partner effects in the current research may suggest that children do not have to have a set of male-female co-parents who both engage in literacy experiences for such experiences to be meaningful, enjoyable, and developmentally facilitative for children. This is a promising finding for families who do not follow the traditional American family structure (e.g., same-sex couples, single parent families, kin families, intergenerational families, etc.) and further promotes research which focuses on the importance of adults engaging children in reading activities, regardless of the specific familial relationship that adult has with the child (Cox Gurdon, 2019; Rasinski & Fredericks, 1990; Trelease, 2013). Alternatively, as was mentioned when discussing the findings of APIM model 1 and APIM model 3, it is possible that no significant partner effects were found for the APIM analyses conducted for this research because the sample size used was only large enough to detect large effect sizes. Perhaps medium or small significant partner effects do in fact exist between the frequency of parental PPBs and parental enjoyment ratings, parental affect, and parental use of dialogic reading behaviors, but the sample used for these analyses was not large enough to detect these smaller effects.

Limitations and Implications for Future Research

There are several limitations of this study that are important to note. First, the sample for this study consisted primarily of White, very highly educated, and employed mothers and fathers. Although there was a wide variation in the frequencies and types of behaviors adult participants in this sample demonstrated, it is important to consider the demographic homogeneity of the sample when interpreting study findings. Although efforts were made to create a diverse sample by recruiting from child care sites that enroll families from a wide variety of ethnic, racial, and socioeconomic backgrounds and also by employing snowball sampling, it is probable that the homogeneity of the study sample is due to the convenience sampling methods used for this research. The sample homogeneity limits the generalizability of the findings related to parents' behaviors during shared book reading and continues to demonstrate the importance of including diverse samples in research regarding shared book reading and parent-child relationship quality. Future studies should focus on using a more ethnically, racially, and demographically diverse sample to explore if findings from this investigation can be replicated with a more nationally representative sample.

Secondly, despite the invitation for non-traditional heterosexual co-parents to participate in this research (e.g., non-romantic living apart couples, multigenerational co-parents, etc.), the majority of the sample who participated in this study were co-habitating, married couples. It is also important to consider the family structure homogeneity of the sample when interpreting study findings, as the current research's

inclusion of heterosexual co-parents only limits the generalizability of findings. Again, future research should focus on including a wider range of family structures (e.g., same-sex couples, non-cohabitating couples, etc.) as a means for developing a more robust understanding of the frequencies and types of physically performative behaviors parents demonstrate during shared book reading experiences.

Another potential limitation of this study is that most of the data collection sessions were conducted in families' homes. This type of setting has the potential to introduce variance into the research (e.g., external distractions from daily living responsibilities such as cooking, from other children in the home, etc.). However, although results indicate that parents demonstrated higher frequencies of PPBs when reading at home than compared to parents who read at child care site 1 and child care site 2, these results were not statistically significant. This indicates that reading location did not significantly influence parental behaviors during the SBR activity. Additionally, most of the research investigating SBR between parents and children has been conducted in families' homes (Baker at al., 2015: Duursma, 2016; Hindman et al., 2014; Vandermaas-Peeler et al., 2012), as this environment has the potential to create a more naturalistic, comfortable, and familiar setting for participants. The research presented here followed in this tradition by offering families' homes as an option for data collection.

The design decision to use only one book across both co-parents is another potential limitation of this study. Although this procedure has been used in some previous SBR research (Anderson et al., 2004; Anderson et al., 2012; Shapiro et al.,

1997), other research has used two books and employed a two-leveled counterbalance design that includes a counterbalancing of the order in which fathers and mothers participate in the SBR task, as well as a counterbalancing of the book they read during the task (Martin & Reutzel, 1999; Shapiro et al., 1997; Vandermaas-Peeler et al., 2011). As mentioned previously, it is possible that having both mother-child and father-child dyads read the same book influenced the frequency and types of behaviors fathers and mothers demonstrated in this study, resulting in several similarities being found between co-parents. Future research investigating the kinesthetic and proxemic interactions that take place during parent-child shared reading should consider including multiple books as part of the SBR task design.

A final limitation of this research is its reliance on parental perceived ratings of their children's enjoyment of the shared book reading activity. Although asking parents to report on behalf of their children is common in research exploring parent-child shared reading (Levy, Hall, & Preece, 2018; Vandermaas-Peeler et al., 2012), it does not give children the opportunity to self-report. There is potential for children's self-report ratings to vary from their parents' perceived ratings, which could lead to different findings, particularly in the analysis exploring the relationship between mothers' and fathers' physically performative behaviors during SBR and the enjoyment composite scores (APIM model 1). Although the research presented here does not have child self-report data, it does have video-taped observations of the parent-child shared book reading task. In the future, the researcher can use these videos to analyze the children's affective behaviors for signs of enjoyment (e.g., facial

expressions, engagement in the activity, joint attention to the story, etc.) and compare these to parents' ratings of their children's enjoyment. Analyzing data such as this is another step ahead in looking at parent-child shared book reading experiences and parent-child relationship quality.

In addition to future research which explores children's affective behaviors, subsequent studies of parent-child shared reading could potentially be strengthened by also including a qualitative interview with families after each of the SBR sessions. Gathering interview data directly from participants could provide additional information regarding the shared book reading experience from both the parents' and the children's perspectives and may offer further insight into participants' lived experiences during the reading task. Future studies may want to consider including this type of mixed-methods approach as part of the research design.

Furthermore, as suggested previously, future research investigating parent-child shared book reading should aim to recruit a larger sample which includes more ethnically, racially, and socioeconomically diverse participants, as well as a sample that includes a wider range of family structures, to explore if findings from this investigation can be replicated with a more nationally representative sample. Future research may also consider incorporating several design decisions that are different than those used for this study, including using multiple books as part of the SBR task procedure and addressing additional potential variables that could influence parental behaviors during shared reading activities, such as parents' personal reading habits, a parent being the primary reader in the home, or book choice.

In addition to recruiting a larger sample as a means for establishing a more representative group of participants, a larger sample may also offer further insight into several of the research findings presented here. As mentioned previously, the researcher was not able to recruit a sample size large enough to detect medium or small effect sizes. As a result, it is possible that this study was underpowered in that the sample used for analyses was only large enough to detect large effect sizes. Due to the exploratory nature of this research and the novelty of investigating the physicality that occurs during SBR, it is not feasible to expect large effect sizes to exist for the specific research questions and subsequent analyses conducted in research presented here. Thus, it is possible that a larger sample size would allow for more sensitive analyses that would observe medium or small effect sizes, and that some of the non-significant results of the research presented here (e.g., APIM models 1 and 3, lack of APIM partner effects, etc.) would result in significant findings with a larger sample.

Despite the limitations presented here, the exploratory research presented here contributes to the literature on parent-child shared book reading and parent-child relationship quality in many ways. By examining a previously unexplored area of shared book reading—the physically performative behaviors demonstrated by mothers and fathers during shared reading activities—this research provides a more complete view of the shared reading experience. It offers information specific to the relationship between parents' physical behaviors during reading and parental enjoyment, affect, and use of dialogic reading behaviors, and also provides information pertaining to the similarities and differences between mothers and fathers during a shared reading task

with their preschool-aged child. By investigating each of these aspects of parent-child shared book reading, this research serves to extend the current literature on parental engagement in shared reading activities.

Additionally, this research has several strengths which are worth mentioning. First, the design of this study focused on including both mothers and fathers in all aspects of data collection, including the use of self-report measures gathered directly from mothers and fathers (rather than indirectly through co-parent reporting measures). As discussed previously, much of the literature on parent-child shared book reading uses data from mother-child samples only (McArthur et al., 2005; Raikes et al., 2006; Rodríguez et al., 2009; Shapiro et al., 1997) or includes only a small portion of father-child dyads (Anderson et al., 2012; Bracken & Fischel, 2008; Lynch et al., 2006). In contrast, the research presented here includes equal numbers of mother-child and father-child dyads, providing more robust information regarding parental engagement in shared book reading experiences.

Furthermore, although a sample size of 40 families may appear relatively small, this sample is quite large in comparison to other literature examining shared book reading practices between parents and children (Anderson et al., 2004; Shapiro et al., 1997; Vandermaas-Peeler et al., 2012) and serves as a strong foundation from which to explore the physically performative behaviors demonstrated by mothers and fathers during shared book reading activities.

Finally, this novel research provides information about a previously unexplored area of parent-child SBR—the physicality that occurs during these

activities, as well as the physical proximity that parents and children engage in during shared reading. Each of these research areas offers additional information about parent-child shared reading experiences and responds to the continued call by scholars for more diverse and broader measures of parental engagement that goes beyond the traditional "ticks and clicks" of assessing parental involvement (Adamsons & Johnson, 2013; Day & Lamb, 2004; Hawkins & Palkovitz, 1999; Schoppe-Sullivan & Fagan, 2020).

A Final Comment: The Elusiveness of Empirically Conceptualizing Quality

The researcher would be remiss to not use this opportunity to discuss one of the more intangible findings resulting from the research presented here—the elusiveness of empirically conceptualizing, measuring, and observing for "quality". The research presented here offers a rigorous observational design combined with a thorough and careful operationalization of factors that could potentially influence the quality of SBR experiences and yet, empirically, these aspects of SBR quality were not strongly validated. As such, the researcher suggests that perhaps one of the most substantial contributions of the research presented here is that "quality" remains a challenge in empirical investigations designed to explore the nuanced exchanges between individuals, including those that occur between parents and children during shared reading.

There are a variety of possible explanations for the disconnect found in the research presented here. Perhaps the specific variables thought to be important aspects of quality—parent and child enjoyment ratings, parental affect, and the use of dialogic

reading behaviors—may not actually be representative of the quality of those experiences. Perhaps it is that these specific factors were viewed as important by the researcher, but they may represent biased conceptualizations of quality. Furthermore, they may not be thought of as important by other researchers, or by the participants themselves. As mentioned previously, qualitative interviews could potentially offer additional insights into what each parent-child dyad considered important aspects in determining the quality of their individual reading experiences. Furthermore, it is possible that other unobserved variables, such as the rituals parents and children have around the sharing of books or the familiarity of engaging in SBR experiences, would be more predictive of the quality of the SBR experience than the observed variables used for this analysis.

A final explanation for the issue regarding quality is that perhaps these more discrete, objective characteristics of shared reading are a relatively poor proxy for SBR quality and that, instead, the more nuanced, subjective, characteristics would be better indicators of what determines quality reading exchanges. Perhaps in attempting to operationalize quality in an empirical way, the extant research base misses the opportunity to fully explore what truly makes some parent-child reading exchanges more enjoyable or memorable than others. This is not to say that quality itself is not an important consideration to make during parent-child SBR—certainly harsh or overly demanding exchanges during reading are not enjoyable or productive for either parent or child. Instead, perhaps reconsidering the *ways* in which quality is conceptualized is most pertinent for future research. Even though the research presented here attempted

to move away from the traditional "ticks and clicks" of quantitative SBR research, this study challenges the field to shift even further away from these types of narrow quality conceptualizations to more nuanced conceptualizations which could provide an even more comprehensive understanding of parent-child SBR.

Conclusion

There are several key findings of this study. First, both similarities and differences were found in the stylistic approaches mothers and fathers used when engaging in the shared book reading task. Mothers were found to be more physical, overall, than were fathers, although fathers were found to engage in more interconnected physical contact with their children than were mothers. Secondly, parental reading order and child sex did not influence the frequency or types of behaviors male and female co-parents demonstrated while reading. Finally, frequency of parental PPBs was related to parental affect, but not to parental enjoyment ratings nor to parental use of dialogic reading behaviors.

Each of these findings offer novel information about the kinesthetic and proxemic interactions that take place during parent-child shared reading and demonstrate the importance of including both mothers and fathers in research exploring parent-child shared book reading. The research presented here also emphasizes the importance of taking a family systems approach (Cox & Paley, 1997; Schacht et al., 2009) when examining parent-child SBR by highlighting the unique contributions of fathers and mothers to the shared reading experience. Additionally, information gathered using the *Physically Performative Behaviors Checklist* can be

treated as baseline data for future studies attempting to assess the reliability and validity of this measure.

The study presented here takes the first critical step in exploring the physicality of SBR experiences by investigating the types of physical behaviors mothers and fathers demonstrate during SBR activities with their preschool-aged children. Future research on this topic should look to expand this initial investigation to families from more diverse ethnic, racial, and socioeconomic backgrounds, as well as to families from various family structures. Continuing to explore the nuanced exchanges that occur between parents and children during SBR, such as the physical positioning of parents and children during reading, the gestures used, and the voices imitated by the reader will provide a more comprehensive view of shared reading and will contribute to our understanding of the "negative spaces" (Daly, 2003) of parent-child shared book reading experiences.

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Appendix A

PARTICIPANT DEMOGRAPHIC QUESTIONNAIRE: PARENT VERSION

PARTICIPANT DEMOGRAPHIC QUESTIONNAIRE: PARENT VERSION

Please complete the following information about <u>YOURSELF</u>.

1. What is your age?
    _____

2. What is your sex?
    _____Male

    _____Female

3. I identify as *(select all that apply)*:

    _____ White

    _____ Hispanic, Latino, or Spanish origin

    _____ Black/African American

    _____ Asian

    _____ Native American/Alaska Native

    _____ Native Hawaiian/Other Pacific Islander

    _____ Middle Eastern/North African

    _____ Some other race, ethnicity, or origin

4. What is your highest level of education?
    _____ Less than High School

    _____ High School/Equivalent (i.e., GED)

    _____ Some college/Trade school

    _____ Associate's Degree (i.e., AA, AS)

    _____ Bachelor's Degree (i.e., BA, BS)

    _____ Graduate Degree (i.e., Master's Degree, Ph.D., etc.)

5a. Are you currently in paid employment (this includes self-employment)?

_____ Yes, full-time

_____ Yes, part-time

_____ No

     5b. If yes, what is your occupation?

_____

6. What is your relationship to your child's co-parent (the other parent who is participating in this research with you) (e.g., married, living together, divorced/separated, co-parents only, etc.)?

_____

7. What is your residential status in relation to your child who is participating in this research with you?

_____ My child lives with me all of the time.

_____ My child lives with me some of the time.

_____ My child lives with me none of the time.

Appendix B

PARTICIPANT DEMOGRAPHIC QUESTIONNAIRE: CHILD VERSION

PARTICIPANT DEMOGRAPHIC QUESTIONNAIRE: CHILD VERSION

Please complete the following demographic information about <u>YOUR CHILD</u>.

1. What is your child's date of birth:

_____

2. What is your child's sex?

_____Male

_____Female

3. I identify my child as *(select all that apply)***:**

_____ White

_____ Hispanic, Latino, or Spanish origin

_____ Black/African American

_____ Asian

_____ Native American/Alaska Native

_____ Native Hawaiian/Other Pacific Islander

_____ Middle Eastern/North African

_____ Some other race, ethnicity, or origin

4a. Has your child been identified with a disability?

_____Yes

_____No

4b. If yes, please select the type of disability that your child has been identified with (*select   all that apply***):**

_____A sensory impairment (vision or hearing)

_____A mobility impairment

_____A learning disability (e.g., ADHD, dyslexia)

_____A mental health disorder

_____A disability/impairment not listed above: _____

(please list the disability/impairment here)

Appendix C

PARENT-CHILD SBR SURVEY

Parent-Child Shared Book Reading Survey

<u>SECTION 1</u>
The following questions ask you to indicate how much you agree or disagree with the statements below. Please circle one response for each question.

1. Teaching a child to recognize individual words is a good way to teach him/her to read.

  Strongly Disagree   Disagree   Agree   Strongly Agree

2. To learn how to read, a child needs workbooks that teach specific reading skills.

  Strongly Disagree   Disagree   Agree   Strongly Agree

3. A child benefits from hearing favorite stories read over and over.

  Strongly Disagree   Disagree   Agree   Strongly Agree

4. You should not encourage a child to join in when you are reading a book with them because it is better if they listen to the story without interruption.

  Strongly Disagree   Disagree   Agree   Strongly Agree

5. You will be teaching a child a bad habit if you point to the print as you read.

  Strongly Disagree   Disagree   Agree   Strongly Agree

6. You are helping a child learn to read by encouraging him/her to discuss what is being read.

  Strongly Disagree   Disagree   Agree   Strongly Agree

7. It is necessary to check a child's understanding by asking him/her questions at the end of each story.

Strongly Disagree   Disagree   Agree   Strongly Agree

8. It is a good idea to allow your child to "read" familiar books by retelling the story from memory using the pictures.

Strongly Disagree   Disagree   Agree   Strongly Agree

9. Schools should be primarily responsible for teaching children to learn to read and write.

Strongly Disagree   Disagree   Agree   Strongly Agree

10. It is important that children see their parents reading and writing.

Strongly Disagree   Disagree   Agree   Strongly Agree

11. Children have to be a certain age before they can begin to learn to read and write.

Strongly Disagree   Disagree   Agree   Strongly Agree

The following questions ask about your beliefs related to reading with your child.

12. What is your <u>main</u> reason(s) for reading with your child (*select all that apply*):

_____ My child asks me to.

_____ My co-parent asks me to.

_____ It helps me support my child's social/emotional development.

_____ I want my child to enjoy reading.

_____ It is a way for my child to learn new things.

_____ I want to help my child to do well in school.

_____ It is a way to impart morals or lessons to my child.

_____ I want to help my child to learn to read.

_____ It helps me to build a closer relationship with my child.

_____ I typically do not read with my child.

_____ Other (please specify): _____

13. What might stop you from reading with your child (*select all that apply*)**:**

_____ I think it is the job of school teachers and staff to read with my child.

_____ My work schedule prevents me from having the time to read with my child.

_____ I don't see my child often enough to read with them.

_____ I feel too tired to read with my child.

_____ My co-parent (or someone else) does the reading instead.

_____ I am not a very confident reader myself.

_____ There is no appropriate place at home to read.

_____ I am unsure what books to read with my child.

_____ I do not know how I should read with my child.

_____ I do not like reading out loud.

_____ There are not many books available at home for me to read with my child.

_____ I do not like the books that are available to read with my child.

_____ My child does not want to be read to.

_____ None of the above.

_____ Other (please specify): _____

The following questions ask about <u>your</u> reading and writing habits. Please circle one response for each question.

14. How often do you read <u>*paper*</u> books, magazines, or articles at home (for pleasure, for information, for work, etc.)?

| Never/Rarely | A few times per month | About once a week | Several times per week | Daily |

15. How often *does your child see you* reading <u>*paper*</u> books, magazines, or articles at home (for pleasure, for information, for work, etc.)?

| Never/Rarely | A few times per month | About once a week | Several times per week | Daily |

16. How often do you read books, magazines, or articles using <u>*electronic devices*</u> at home (for pleasure, for information, for work, etc.) (e.g., Amazon Kindle©, smart phones, tablets, etc.)?

| Never/Rarely | A few times per month | About once a week | Several times per week | Daily |

17. How often *does your child see you* reading books, magazines, or articles using <u>*electronic devices*</u> at home (for pleasure, for information, for work, etc.) (e.g., Amazon Kindle©, smart phones, tablets, etc.)?

| Never/Rarely | A few times per month | About once a week | Several times per week | Daily |

18. How often do you write at home using a <u>*pen/pencil and paper*</u> (e.g., making hand-written lists, writing birthday or thank-you cards, etc.)?

| Never/Rarely | A few times per month | About once a week | Several times per week | Daily |

19. How often *does your child see you* writing at home using a *pen/pencil and paper* (e.g., making hand-written lists, writing birthday or thank-you cards, etc.)?

Never/Rarely	A few times per month	About once a week	Several times per week	Daily

20. How often do you write at home using *electronic devices* (e.g., typing on a computer/laptop, creating social media posts, sending emails, etc.)?

Never/Rarely	A few times per month	About once a week	Several times per week	Daily

21. How often *does your child see you* writing at home using *electronic devices* (e.g., typing on a computer/laptop, creating social media posts, sending emails, etc.)?

Never/Rarely	A few times per month	About once a week	Several times per week	Daily

----

The following questions ask about the reading and writing activities you engage in with your child. Please circle one response for each question.

22. How often do you <u>sing or recite rhymes</u> to your child?

Never/Rarely	A few times per month	About once a week	Several times per week	Daily

23. How often do you <u>tell stories out loud</u> with your child? (this does not include reading)

Never/Rarely	A few times per month	About once a week	Several times per week	Daily

24. How often do you <u>play</u> with your child?

Never/Rarely	A few times per month	About once a week	Several times per week	Daily

25. How often do you <u>write</u> with your child (e.g., practice letters, name writing, write stories)?

| Never/Rarely | A few times per month | About once a week | Several times per week | Daily |

26. How often do you read <u>*paper*</u> books or magazines with your child?

| Never/Rarely | A few times per month | About once a week | Several times per week | Daily |

27. How often do you read books or magazines with your child using <u>*electronic devices*</u> (e.g., Amazon Kindle©, smart phones, tablets, etc.)?

| Never/Rarely | A few times per month | About once a week | Several times per week | Daily |

28. How old was your child when you started to read to him/her or look at books or magazines together?

_____ 0-6 months   _____ 7-12 months   _____ 13 months to 1 ½ years

_____ 1 ½ years to 2 years   _____ later than second birthday

29. Who does most of the reading with your child at home? *(select only one response)*

_____ Me
_____ My co-parent (the other parent participating in this research with me)
_____ My co-parent and I read about the same amount.
_____Their sister/brother
_____Their grandparents
_____ Someone else (please specify): _____

SECTION 3
The following questions ask about <u>your child's</u> reading and writing habits. Please circle one response for each question.

30. How often does your child read or look at <u>*paper*</u> books or magazines on his/her own?

| Never/Rarely | A few times per month | About once a week | Several times per week | Daily |

31. How often does your child read or look at <u>*electronic*</u> books or magazines on his/her own?

| Never/Rarely | A few times per month | About once a week | Several times per week | Daily |

32. How often does your child use <u>*apps or technology*</u> on his/her own that reads books or magazines to him/her (e.g., Epic!™©, MeeGenius©, Starfall©, etc.)

| Never/Rarely | A few times per month | About once a week | Several times per week | Daily |

33. How often does your child write on his/her own (e.g., letters, their name, "pretend writing")?

| Never/Rarely | A few times per month | About once a week | Several times per week | Daily |

34. How often does your child ask to be read to?

| Never/Rarely | A few times per month | About once a week | Several times per week | Daily |

35. How often does your child visit a public library?

| Never/Rarely | A few times per month | About once a week | Several times per week | Daily |

36. About how many children's books does your child have in your home now, including library books? Please only include books that are for children.

SECTION 4

The following questions ask about your level of enjoyment of reading with your child. Please circle one response for each question.

37. How much do you *typically* enjoy reading with your child or looking at books or magazines together?

| I try to avoid it. | I don't enjoy it. | I enjoy it. | I enjoy it very much. |

38. How much did you enjoy reading with your child during the *reading activity you just completed*?

| I didn't enjoy it at all. | I mostly didn't enjoy it. | I enjoyed it. | I enjoyed it very much. |

The following questions ask about your child's level of enjoyment of reading with you. Please circle one response for each question.

39. How much does your child *typically* enjoy reading with you or looking at books or magazines together?

| He/she tries to avoid it. | He/she doesn't enjoy it. | He/she enjoys it. | He/she enjoys it very much. |

40. How much did your child enjoy reading with you during the *reading activity you just completed*?

| He/she didn't enjoy it at all. | He/she mostly didn't enjoy it. | He/she enjoyed it. | He/she enjoyed it very much. |

----

41. How familiar was your child with the book used for the reading activity you just completed? *Please circle one response for this question.*

| Not at all familiar | Somewhat familiar | Very familiar |

_____ I don't know.

Thank you for completing this survey!
end of survey

Appendix D

PHYSICALLY PERFORMATIVE BEHAVIORS CHECKLIST (PPBC)

200

Participant:	Dyad: MC FC		Total Time:
Coder:	Date:		Location: S1 S2 H O

Event Sampling, Each column represents 30 seconds of coding (current table allows for 10 mins of reading)
Each occurrence is marked with a tally

PPB	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	T
Pointing																					
Hand/body Gestures																					
On child																					
Elsewhere																					
Facial Expressions																					
Voice																					
Inflection																					
Story Sound																					
Proximity (SS, NSC, NS, DS) (time increments)	SS: / NSC: / NS: / DS:																				
Total																					

Parental Affect	Negative: 0	Neutral: 1	Positive: 2	
Parental Dialogic Behaviors	Not Present: 0		Present: 1	

Appendix E

PARTICIPANT RECRUITMENT FLYER

SEEKING VOLUNTEERS FOR A RESEARCH STUDY

Study Title: Parent-Child Shared Book Reading

Principal Investigator: Laura Cutler , University of Delaware, Department of Human Development & Family Sciences

The purpose of this research study is to investigate what mothers and fathers do while reading books with their children.

To participate in this research, you must:

- Have a child who is 3- or 4-years old
- Be willing to complete a brief survey and be videotaped reading with your child
- Have a co-parent who is also willing to complete a brief survey and be videotaped reading with the child

Participation in this study involves:

- A time commitment of about 1 hour
- A $10 gift card to a local bookstore for participation

UNIVERSITY OF DELAWARE.

To find out more information about this study, please contact Laura Cutler at [   ], or email at [   ]

Appendix F

SAMPLE RECRUITMENT SCRIPT

Sample Recruitment Script

My name is Laura and I am currently a Ph.D. student in the Department of Human Development and Family Sciences at UD. I am interested in finding out more about what parents do while they are reading with their children, so I designed a research study that will use observations of mothers and fathers reading with their children. I am looking for both mothers and fathers to participate in this research because both parents make important contributions to their children's development. The target age for this research is children 3 or 4 years old. Participants will be asked to complete a short survey (it takes less than 10 minutes to complete) and to be video-taped separately reading with their children (first with one parent, then with the other parent). The videos will be stored in a secure location and only the researcher and the research team will have access to these videos. Participants will receive a small incentive as a thank you for participating (*a $10 gift card to a local book store*). I am hoping to use what I learn to help families make the most of the time they spend reading together.

I would love for you to contact me if you are interested in participating in this research! I can be reached at XXX-XXX-XXXX or via email at XXX.edu.

Appendix G

PARTICIPANT WRITTEN CONSENT FORM: PARENT

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Title of Study: Parent-Child Shared Book Reading: An Observational Study
Principal Investigator(s): Laura Cutler

KEY INFORMATION

Important aspects of the study you should know about first:

- **Purpose:** The purpose of the study is to learn more about what parents and children do while reading books together.
- **Procedures**: If you choose to participate, you will be asked to (a) complete a brief demographic survey, (b) complete a brief survey about children's reading and writing development, and (c) agree to be videotaped reading with your child.
- **Duration:** The procedure for this research will take about one hour and will be completed during one session.
- **Risks**: The research team does not expect that your participation in this study will expose you to any risks different from those you would normally encounter in daily life.
- **Benefits:** The main benefit to you from this research is having the opportunity to read one-on-one with your child.
- **Alternatives:** There are no known alternatives available to you other than not taking part in this study.
- **Costs and Compensation:** If you decide to participate there will be no additional cost to you and your family will be compensated with a $10 gift card to a local bookstore.
- **Participation:** Participating in this study is entirely your decision. You can stop participating at any time without penalty.

Please carefully read the entire document. You can ask any questions you may have before deciding If you want to participate.

You are being invited to participate in a research study. This consent form tells you about the study including its purpose, what you will be asked to do if you decide to take part, and the risks and benefits of being in the study. Please read the information below and ask us any questions you may have before you decide whether or not you want to participate.

PURPOSE OF THE STUDY

The purpose of this study is to learn more about what parents and children do while reading books together. This research will be used in a student dissertation that explores what happens during parent-child shared book reading activities.

WHO IS BEING ASKED TO PARTICIPATE?

You will be one of about 75 families participating in this study.
You are being asked to participate because…

- You have a child who is currently three- or four-years old (36-59 months old)
- You have a heterosexual co-parent who is also considering participation in this study
- You read English at a level of proficiency that allows you to complete consent forms, research surveys, and read a children's picture book aloud with your child
- You could/would be excluded from volunteering for this study if you do not meet the participation requirements outlined above.

PROCEDURES: WHAT WILL YOU BE ASKED TO DO?

As part of this study you will be asked to…….

- Participation in this study requires a one-time, 1-hour session where you will complete all demographic and research surveys and will complete a video-recorded shared book reading task with your child. The study will take place at either the child care program your child attends (e.g., the University of Delaware Early Learning Center-Newark, the University of Delaware Laboratory Preschool, etc.), at your home, or at the researcher's office located at the University of Delaware. Participants will select the location that is most preferable to them.
- To participate in this research, you will first be asked to complete a brief demographic questionnaire. Then, you will be video-recorded reading a researcher-provided children's picture book with your child. The children's book will be age- and developmentally-appropriate and will not contain any illustrations or text judged to be scary or harmful to you or your child. After you have completed the shared reading task, you will be asked to complete a brief survey about children's reading and writing development.

WHAT ARE POSSIBLE RISKS AND DISCOMFORTS?

- The research team does not expect that your participation in this study will expose you to any risks different from those you would normally encounter in daily life.

WHAT ARE POTENTIAL BENEFITS FROM THE STUDY?

- The main benefit to you from this research is having the opportunity to read one-on-one with your child. The knowledge gained from this study may contribute to our understanding of what happens during parent-child shared reading activities.

- Potential future benefits to you possibly include learning how results of this study can inform what you do while reading with your child and help you to make the most of the time you spend reading with your child. These benefits are not a guarantee.

- Future benefits to society may include using results of this study to help families make the most of time spent reading with children and the incorporation of study findings in programs designed to support parent-child shared book reading and parental involvement in children's reading and writing development.

CONFIDENTIALITY: WHO MAY KNOW THAT YOU PARTICIPATED IN THIS RESEARCH?

Your study data will be handled as confidentially as possible. If results of this study are published or presented, individual names and other personally identifiable information will not be used.

- To minimize the risks to confidentiality, all participant data will be securely stored in a locked cabinet in the Principal Investigator's university-based office. Each participant will be assigned a code number. A list linking participant code numbers to participants' identities will be maintained separately from all other participant data, in a password-protected, encrypted file on a secure University of Delaware server. Only the Principal Investigator will have access to this file.

- Results from this research will be reported in aggregate (grouped) form, with no individually identifying information reported.

- The research team will make every effort to keep all research records that identify you confidential. The findings of this research may be presented or published. If this happens, no information that gives your name or other personally identifying details will be shared.

- This study includes video-taped recordings of you reading a book with your child. Only the Principal Investigator and potential research team personnel will be able to see or hear these recordings. To protect your identity, your name, or any other additional personally identifying information will not be included on these video-taped recordings. Only your participant identification number will be used to label these video-taped recordings. These video-taped recordings will be held throughout the duration of the research project in a locked cabinet in the Principal Investigator's university-based office. Recordings will be kept indefinitely by the Principal Investigator to be used for research purposes only.

- The research team will keep your study data as confidential as possible, with the exception of certain information that must be reported for legal or ethical reasons, such as child abuse, or intent to hurt yourself or others. If required, your records may be inspected by authorized personnel in the University of Delaware Institutional Review Board.

- The research team must also let you know that if during your participation in this study, a member of the research team was to observe or suspect, in good faith, child abuse or neglect, we are required by Delaware state law to file a report to the appropriate officials at the State of Delaware's Division of Family Services, 1-800-292-9582.

USE OF DATA COLLECTED FROM YOU IN FUTURE RESEARCH:
Identifiers about you will be removed from the identifiable private information and after such removal, the information could be used for future research studies by the Principal Investigator without additional informed consent from you or your legally authorized representative.

COSTS AND COMPENSATION
- There are no costs associated with participating in this study.

- For their time and effort, participants will be compensated. Compensation for this study is a $10 gift card to a local bookstore. One gift card per family will be issued as compensation.
- Participants will be given compensation after they complete their study session.

DO YOU HAVE TO TAKE PART IN THIS STUDY?

Taking part in this research study is entirely your decision. You do not have to participate in this research. If you choose to take part, you have the right to stop at any time. If you decide later not to participate, or if you decide to stop taking part in the research, there will be no penalty or loss of benefits to which you are otherwise entitled.

Your decision to stop participation, or not to participate, will not influence current or future relationships with the University of Delaware or any University-affiliated child care program (i.e., the University of Delaware Early Learning Center-Newark, the University of Delaware Laboratory Preschool, etc.).

- Though we do not anticipate any events occurring that would warrant this, the Principal Investigator reserves the right to remove you from the study without your consent at such time that she feels it is in the best interest of you or your child.
- If, at any time, you decide to end your participation in this research study please inform our research team by telling the Principal Investigator. If you or the Principal Investigator stop your participation in the study, you have the right to decide what the research team does with any data collected of you up until that point (e.g., destroy it, give it to you, the research team keeps it, etc.). If you do not complete all procedures listed in this form, there will be no penalty to you.

INSTITUTIONAL REVIEW BOARD

This research study has been reviewed and approved by the University of Delaware Institutional Review Board (UD IRB), which is a committee formally designated to approve, monitor, and review biomedical and behavioral research involving humans. If you have any questions or concerns about your rights as a research participant, you may contact the UD IRB at hsrb-research@udel.edu or (302) 831-2137.

CONTACT INFORMATION

If you have any questions about the purpose, procedures, or any other issues related to this research study you may contact the Principal Investigator, Laura Cutler at (XXX) XXX-XXXX or at XX@udel.edu**. Additionally, you may contact the Principal Investigator's academic advisors, Dr. Rob Palkovitz at (XXX) XXX-XXXX or at** XX@udel.edu **or Dr. Rena Hallam at (XXX) XXX-XXXX or at** XX@udel.edu**.**

CONSENT TO PARTICIPATE IN THE RESEARCH STUDY:
I have read and understood the information in this form and I agree to participate in the study. I am 18 years of age or older. I have been given the opportunity to ask any questions I had and those questions have been answered to my satisfaction. I understand that I will be given a copy of this form for my records.

_____   _____   _____
Printed Name of Participant   Signature of Participant   Date
(PRINTED NAME)   (SIGNATURE)

_____   _____   _____
Person Obtaining Consent   Person Obtaining Consent   Date
(PRINTED NAME)   (SIGNATURE)

OPTIONAL CONSENT TO BE CONTACTED FOR FUTURE STUDIES:

Do we have your permission to contact you regarding participation in future studies? If you agree to being contacted in the future, we will keep your contact information. Please write your initials next to your preferred choice.

_____ YES   _____ NO

OPTIONAL CONSENT FOR ADDITIONAL USES OF IDENTIFIABLE VIDEO RECORDINGS/PHOTOGRAPHS

I voluntarily give my permission to the researchers in this study to use videos and photographs of me (and/or my child) collected as part of this research study for publications, presentations, and/or educational purposes. I understand that no identifying information beyond that contained in the video recording will be provided to educational/scientific audiences; however my facial features (and/or those of my child) may be seen.

_____   _____   _____
(Printed Name of Participant OR   (Signature)   (Date)
Parent/Guardian)

Appendix H

PARTICIPANT WRITTEN CONSENT FORM: CHILD

PARENTAL PERMISION FOR CHILD TO PARTICIPATE IN A RESEARCH STUDY

Title of Study: Parent-Child Shared Book Reading: An Observational Study
Principal Investigator(s): Laura Cutler

KEY INFORMATION
Important aspects of the study you should know about first:

- **Purpose:** The purpose of the study is to learn more about what parents and children do while reading books together.
- **Procedures**: If you choose to allow your child to participate, your child will be asked to be videotaped reading with you one time and reading with your co-parent one time (back to back readings).
- **Duration:** The procedure for this research will take about one hour and will be completed during two back to back sessions (once reading with you, once reading with your co-parent).
- **Risks**: The research team does not expect that your child's participation in this study will expose him/her to any risks different from those he/she would normally encounter in daily life.
- **Benefits:** The main benefit to your child from this research is having the opportunity to read one-on-one with you and your co-parent.
- **Alternatives:** There are no known alternatives available to your child other than not taking part in this study.
- **Costs and Compensation:** If you agree for your child to participate there will be no additional cost to you and your child and your family will be compensated with a $10 gift card to a local bookstore.
- **Participation:** Allowing your child to participate or not in this research study is entirely your decision. You can stop your child's participation in this study at any time without penalty. Even if you agree for your child to participate, we will ask him/her if he/she wants to participate and his/her wishes will be respected.

Please carefully read the entire document. You can ask any questions you may have before deciding If you agree for your child to participate.

Your child is being invited to participate in a research study. This form tells you about the study including its purpose, what your child will be asked to do if you decide for your child to take part, and the risks and benefits of being in the study. Please read the information below and ask us any questions you may have before you decide whether or not you want your child to participate.

PURPOSE OF THE STUDY

The purpose of this study is to learn more about what parents and children do while reading books together. This research will be used in a student dissertation that explores what happens during parent-child shared book reading activities.

WHO IS BEING ASKED TO PARTICIPATE?

Your child will be one of about 75 child-participants in this study.
Your child is being asked to participate because…

- He/she is currently three- or four-years old (36-59 months old).
- He/she is willing to be videotaped reading with you and with your co-parent.
- Your child could/would be excluded from volunteering for this study if he/she does not meet the participation requirements outlined above.

PROCEDURES: WHAT WILL MY CHILD BE ASKED TO DO?

As part of this study your child will be asked to…….

- Participation in this study requires a one-time, 1-hour session where your child will complete two back-to-back video-recorded shared book reading activities. One of the reading activities will be for your child to read a researcher-provided children's picture book with you and the other will be for your child to read the book with your co-parent. The children's book will be age- and developmentally-appropriate and will not contain any illustrations or text judged to be scary or harmful to you or your child. It is expected that each reading activity will take no longer than 15 minutes to complete.
- The study will take place at either the child care program your child attends (i.e., the University of Delaware Early Learning Center-Newark, the University of Delaware Laboratory Preschool, etc.), at your home, or at the researcher's office located at the University of Delaware. Participating families will select the location that is most preferable to them.

WHAT ARE POSSIBLE RISKS AND DISCOMFORTS?

- The research team does not expect that your child's participation in this study will expose him/her to any risks different from those your child would normally encounter in daily life.

WHAT ARE POTENTIAL BENEFITS FROM THE STUDY?

- The main benefit to your child from this research is having the opportunity to read one-on-one with you and your co-parent. The knowledge gained from this study may contribute to our understanding of what happens during parent-child shared reading activities.

- Future benefits to society may include using results of this study to help families make the most of time spent reading with children and the incorporation of study findings in programs designed to support parent-child shared book reading and parental involvement in children's reading and writing development.

CONFIDENTIALITY: WHO MAY KNOW THAT YOUR CHILD PARTICIPATED IN THIS RESEARCH?

Your child's study data will be handled as confidentially as possible. If results of this study are published or presented, individual names and other personally identifiable information will not be used.

- To minimize the risks to confidentiality, all participant data will be securely stored in a locked cabinet in the Principal Investigator's university-based office. Each participant will be assigned a code number. A list linking participant code numbers to participants' identities will be maintained separately from all other participant data, in a password-protected, encrypted file on a secure University of Delaware server. Only the Principal Investigator will have access to this file.

- Results from this research will be reported in aggregate (grouped) form, with no individually identifying information reported.

- The research team will make every effort to keep all research records that identify your child confidential. The findings of this research may be presented or published. If this happens, no information that gives your child's name or other personally identifying details will be shared.

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- This study includes video-taped recordings of your child reading a book with you and your co-parent. Only the Principal Investigator and potential research team personnel will be able to see or hear these recordings. To protect your child's identity, your child's name, research identification number, or any other additional identifying information will not be included on these video-taped recordings. Only your family's participant identification number will be used to label these video-taped recordings. These video-taped recordings will be held throughout the duration of the research project in a locked cabinet in the Principal Investigator's university-based office. Recordings will be kept indefinitely by the Principal Investigator to be used for research purposes only.

- The confidentiality of your child's records will be protected to the extent permitted by law. Your child's research records may be viewed by the University of Delaware Institutional Review Board, which is a committee formally designated to approve, monitor, and review biomedical and behavioral research involving humans. Records relating to this research will be kept for at least three years after the research study has been completed.

- The research team will keep your child's study data as confidential as possible, with the exception of certain information that must be reported for legal or ethical reasons, such as child abuse, or intent to hurt themselves or others. If required, your child's records may be inspected by authorized personnel in the University of Delaware Institutional Review Board.

- The research team must also let you know that if during your child's participation in this study, a member of the research team was to observe or suspect, in good faith, child abuse or neglect, we are required by Delaware state law to file a report to the appropriate officials at the State of Delaware's Division of Family Services, 1-800-292-9582.

USE OF DATA COLLECTED FROM YOUR CHILD IN FUTURE RESEARCH:

Identifiers about your child will be removed from the identifiable private information and after such removal, the information could be used for future research studies by the Principal Investigator without additional permission from you.

COSTS AND COMPENSATION

- There are no costs associated with participating in this study.
- For their time and effort, participating families will be compensated. Compensation for this study is a $10 gift card to a local bookstore. One gift card per family will be issued as compensation.
- Participants will be given compensation after they complete their study session.

DOES MY CHILD HAVE TO TAKE PART IN THIS STUDY?

Taking part in this research study is entirely your and your child's decision. Your child does not have to participate in this research. If you choose for your child to take part, you have the right to stop your child's participation at any time. If you decide later for your child not to participate, or if you decide for your child to stop taking part in the research, there will be no penalty or loss of benefits to which your child and you are otherwise entitled.

Your decision for your child to stop participation, or not to participate, will not influence current or future relationships with the University of Delaware or any University-affiliated child care program (e.g., the University of Delaware Early Learning Center-Newark, the University of Delaware Laboratory Preschool, etc.).

- Though we do not anticipate any events occurring that would warrant this, the Principal Investigator reserves the right to remove your child from the study without your consent at such time that she feels it is in the best interest of you or your child.
- If, at any time, you decide to end your child's participation in this research study please inform our research team by telling the Principal Investigator. If you or the Principal Investigator stop your child's participation in the study, you have the right to decide what the research team does with any data collected of your child up until that point (e.g., destroy it, give it to you, the research team keeps it, etc.). If your child does not complete all procedures listed in this form, there will be no penalty to your child.

INSTITUTIONAL REVIEW BOARD

This research study has been reviewed and approved by the University of Delaware Institutional Review Board (UD IRB). If you have any questions or concerns about your child's rights as a research participant, you may contact the UD IRB at hsrb-research@udel.edu or (302) 831-2137.

CONTACT INFORMATION

If you have any questions about the purpose, procedures, or any other issues related to this research study you may contact the Principal Investigator, Laura Cutler at (XXX) XXX-XXXX or at XX@udel.edu**. Additionally, you may contact the Principal Investigator's academic advisors, Dr. Rob Palkovitz at (XXX) XXX-XXXX or at** XX@udel.edu **or Dr. Rena Hallam at (XXX) XXX-XXXX or at** XX@udel.edu**.**

I have read and understood the information in this parental permission form. I agree for, and allow, my child to participate in the study. I understand that I will be given a copy of this form for my records.

_____   _____   _____

(Printed Name of Parent/Guardian)   (Signature of Parent/Guardian)   (Date)

_____   _____   _____

Person Obtaining Consent   Person Obtaining Consent   Date
(PRINTED NAME)   (SIGNATURE)

OPTIONAL CONSENT FOR ADDITIONAL USES OF IDENTIFIABLE VIDEO RECORDINGS/PHOTOGRAPHS

I voluntarily give my permission to the researchers in this study to use videos and photographs of my child collected as part of this research study for publications, presentations, and/or educational purposes. I understand that no identifying information beyond that contained in the video recording will be provided to educational/scientific audiences; however my child's facial features may be seen.

_____   _____   _____

(Printed Name of Participant OR   (Signature)   (Date)
Parent/Guardian)

OPTIONAL CONSENT TO BE CONTACTED FOR FUTURE STUDIES:

Do we have your permission to contact you regarding your child's participation in future studies? If you agree to being contacted in the future, we will keep your contact information. Please write your initials next to your preferred choice.
Please write your initials next to your preferred choice.

_____ YES   _____ NO

Appendix I

CHILD ASSENT FORM

ASSENT TO PARTICIPATE IN RESEARCH

Title of Study: Parent-Child Shared Book Reading: An Observational Study
Principal Investigator(s): Laura Cutler

ASSENT SCRIPT

Today you are going to read books with your grownups, and I am going to use a video camera to tape you reading together. The reading won't take too long but you can stop if you want to. Your grownups know how to tell me if the reading needs to stop. Are you ready to read with your grownups?

_____
Printed Name of Participant

_____ Participant Indicates Assent

_____ Participant Declines Assent

_____   _____   _____
Noted by: (Printed Name)   Noted by: (Signature)   Date

Appendix J

IRB/HUMAN SUBJECTS APPROVAL

DATE: June 28, 2019

TO: Laura Cutler
FROM: University of Delaware IRB

STUDY TITLE: [1436774-1] Parent-Child Shared Book Reading: An Observational Study
SUBMISSION TYPE: New Project

ACTION: APPROVED
EFFECTIVE DATE: June 28, 2019
NEXT REPORT DUE: June 27, 2020

REVIEW TYPE: Expedited Review
REVIEW CATEGORY: Expedited review category # *(6,7)*

Thank you for your New Project submission to the University of Delaware Institutional Review Board (UD IRB). The UD IRB has reviewed and APPROVED the proposed research and submitted documents via Expedited Review in compliance with the pertinent federal regulations.

As the Principal Investigator for this study, you are responsible for, and agree that:

- All research must be conducted in accordance with the protocol and all other study forms as approved in this submission. Any revisions to the approved study procedures or documents must be reviewed and approved by the IRB prior to their implementation. Please use the UD amendment form to request the review of any changes to approved study procedures or documents.

- Informed consent is a process that must allow prospective participants sufficient opportunity to discuss and consider whether to participate. IRB-approved and stamped consent documents must be used when enrolling participants and a written copy shall be given to the person signing the informed consent form.

- Unanticipated problems, serious adverse events involving risk to participants, and all non-compliance issues must be reported to this office in a timely fashion according with the UD requirements for reportable events. All sponsor reporting requirements must also be followed.

The UD IRB REQUIRES the submission of a PROGRESS REPORT DUE ON June 27, 2020. A continuing review/progress report form must be submitted to the UD IRB at least 45 days prior to the due date to allow for the review of that report.

If you have any questions, please contact the UD IRB Office at (302) 831-2137 or via email at hsrb-research@udel.edu. Please include the study title and reference number in all correspondence with this office.

INSTITUTIONAL REVIEW BOARD

www.udel.edu

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