CHAPTER 1

INTRODUCTION

Children who are at risk of developing delays later on will have greater prognosis if interventions are implemented at an early age. Identifying children in preschool and starting interventions before the child enters kindergarten can help the child have greater success in school as well as dealing with the disability. This is true for children with social and emotional delays.

In order to identify children at risk of developing delays, a measure is needed that can accurately distinguish these children. Play based assessment is a way of identifying children in a group who are developmentally behind their peers and are at risk. If this method is proved accurate, it can make screening easy, time efficient, and cheaper. This could decrease the number of children being missed during screening procedures before kindergarten.

The goal is to screen and identify the appropriate at risk children. This will allow the identified children to have a comprehensive evaluation conducted and then interventions implemented in a timely manner. This method has to be accurate to prevent missing children who need interventions and accordingly children who are not in need of special services are not being identified.

Review of the Literature

Social development is an important component of preparing children to enter kindergarten. Children who are at risk of being behind in their development at an early age will likely have difficulties all through their lives unless interventions are made. Having the interventions done at an early age will increase the success of the child having
age appropriate social skills. Several studies have looked at ways to assess preschool children on their ability to interact with other children.

After the passing of the Individuals with Disabilities Education Act (IDEA), children are now being assessed at a younger age. Part C created opportunities for preschool children to receive services in order to prevent later problems. The goal of early intervention is to implement “empirically based interventions that should lead to improved health, developmental, behavioral, and learning outcomes for young children, particularly those characterized as ‘at risk’” (VanDerHeyden & Snyder, 2006, p 522). If children are identified early, interventions can also help “prevent later academic failure, promote social-emotional competence, and reduce the occurrence of secondary disabilities” (VanDerHeyden & Snyder, 2006, p 522).

Response to Intervention

One way of ensuring interventions are addressing the correct children is to use the decision making model of Response to Intervention (RTI). RTI is defined as “an inadequate change in target behaviors as a function of intervention” (Gresham, 2005, p 331). This model helps identify children who are demonstrating skills at a lower level than their peers. There are several components to this model in order to identify students. These components include empirically sound interventions that are available to all students, decision making points to determine if a student is performing at a level significantly lower than their peers, monitoring the students progress, more intense interventions when there is no improvement on other interventions, and an evaluation for special education services if the child is still not responding (Fairbanks, Sugai, Guardino, & Lathrop, 2007).
RTI promotes referring children who are at risk, based on their response to interventions implemented in the general education classroom, to have a special education evaluation conducted if they have not made adequate progress. “The goal of all interventions is to produce a discrepancy between baseline and post-intervention levels of performance” (Gresham, 2005, p 331). Interventions are applied to students through three tiers where children are provided interventions in the general education classroom, which acts as the first tier. If the child does not respond to tier one interventions, the child receives more targeted interventions during tier two (Fairbanks, Sugai, Guardino, & Lathrop, 2007). Tier three is the most specific and intensive intervention. Identification for special education takes place in this tier along with conducting a Functional Behavioral Assessment (FBA) if necessary.

The emphasis of RTI has been on using it to identify students with academic needs. It was developed as an alternative to the IQ-Achievement discrepancy model used for identifying students with specific learning disabilities. However, some research has been done to show it is an appropriate method of identifying children with social concerns as well. “A social behavior model of RTI promises to be an extension and new application of the already substantial research base regarding positive behavioral interventions, functional behavior assessment, and early intervention” (Fairbanks, Sugai, Guardino, & Lathrop, 2007, p 289).

Benefits of using the RTI model for identifying at risk students include the ability to reach more children at a younger age who are currently not receiving any sort of intervention (VanDerHeyden & Snyder, 2006). Schools have presently been focusing on serving children who have already been identified as “at risk” or “with special needs;”
however, because of legislative acts such as No Child Left Behind, there are higher 
expectations for the success and available services for all children (VanDerHeyden & 
Snyder, 2006). This is especially true for preschool children. There are many preschool 
children who have not been identified as being delayed, but would qualify if they were 
assessed. RTI could help identify these children at an early age in order to help them be 
successful. If at risk children receive interventions to make them successful, there would 
be a better bond between the parent and school and a lower chance of school failure for 
the child (VanDerHeyden & Snyder, 2006).

Along with the benefits of RTI come limitations. When dealing with early 
childhood, there are significant changes in development of the child in regards to “brain 
growth, physiology, emotional regulation, and interactive capacities that occur in a 
relatively short period” of time (VanDerHeyden & Snyder, 2006, p 528). A child can 
appear to be delayed in tier one and need more interventions. Before the interventions are 
in place, it is possible for the child to develop more skills and no longer be in need of the 
tier two interventions.

Another challenge is the variability of the child’s behavior based on the people 
present and the context of the situation (VanDerHeyden & Snyder, 2006). A child might 
respond in a way to suggest delayed behavior when it could be due to resistance toward 
the examiner. On the other hand, this data can show not only present levels of 
performance, but also a potential for growth and development (VanDerHeyden & Snyder, 
2006).

*Early Cognitive Interventions*
RTI is one way of identifying children early in order to plan interventions and help them to be successful as early as possible. Preschool is a time when children begin developing skills, but it is imperative they do not fall behind. Functioning at this age can make a difference to how the child will function the entire way through school.

“Cognitive functioning measured at preschool and prior to kindergarten has been reported to predict elementary school success as well as high school completion” (Greenwood, Walker, Carta, & Higgins, 2006, p 536). Greenwood et al. (2006) also points out that assessments for infants and toddlers can be poor predictors of later functioning, not directly related to the interventions, and does not measure progress of the child toward important outcomes. It is important we have appropriate measures if we are identifying children in need of interventions to make them successful in their academic careers.

Greenwood et al. (2006) conducted a study of measures of growth in cognitive abilities in children one to four years of age. Thirty children participated in the study. The children under the age of four were administered the Bayley Scales of Infant Development, Second Edition (BSID-II). The two children who were four years old were administered the Wechsler Preschool and Primary Scale of Intelligence – Revised (WPPSI-R). All participants received the Early Problem-Solving Indicator (EPSI) in order to monitor growth in cognitive abilities over time.

The EPSI was conducted by having the staff provide toys the child was to play with in the classroom, unless the child was hesitant, in which case the parent or caregiver led the assessment. The child played with five toys for ten minutes each. After two minutes, the toy the child was playing with was put away.
Results of the EPSI showed it met all of Deno’s criteria and standards from the National Center for Progress Monitoring. It also shows how effective specific interventions are for promoting cognitive development in preschool children. The researchers stated the information gained through this study can be beneficial to teachers implementing RTI in their classrooms. EPSI was showed to be a valid way of monitoring progress. It can be used then to monitor the success of the interventions used in RTI to determine if more interventions are needed.

As Greenwood et al. showed, when working with young children, the best way to get information regarding their present level of performance is through play. Bray & Cooper (2007, p 37) defined play as being “self-initiated, intrinsically motivated, free from constraints of reality, pleasurable, and need-filling.” It is a way children can demonstrate skills they have and develop new skills. Play is also crucial for cognitive development, problem solving, social understanding, and coordinating motor skills (Bray & Cooper, 2007). By observing a child’s play, it is possible to identify the children who have special needs. Children with special needs typically have a reduced ability to engage in play (Bray & Cooper, 2007).

Importance of Play

Observing a child play can give different information based on the environment, toys available, and people present. Observers must be cautious of these factors before making judgments. The attitudes of the adults present, temperament of the child, and the child’s previous experiences with play-based programs can all influence how effective the play will be (Bray & Cooper, 2007).
Bray and Cooper (2007) conducted a study of play with children with special needs in both the mainstream and special education classrooms. Twelve children with special needs were observed for 15 minutes on the playgrounds during recess for both settings. The instruments used to observe the children were the Knox Revised Preschool Play Scale (Revised PPS) and the Lunzer Scale of Organization of Play Behavior (LSOPB).

Results of the LSOPB showed little difference in cognitive complexity of play behavior between the two settings. Scores on the PPS showed all the children demonstrated play that was significantly delayed from the child’s chronological age, which was expected due to the nature of the diagnosis the children received. However, the behaviors exhibited between the two settings were about the same. Slightly more symbolic play and material management were demonstrated in the mainstream setting. Also, gross motor play was the most common behavior observed. The significance of more gross motor play implies lower developmental functioning due to exhibiting behaviors that require less cognitive and social complexity.

The implications of this study show the importance of play in a child’s development. Play can be used not just as a developmental predictor of a child level of performance, but it can be incorporated into therapy and teaching as well (Bray and Cooper, 2007).

*Early Interventions for Literacy Skills*

Several studies have been conducted using play with preschool children to determine skills and need for early interventions. One study conducted by Missall et al. (2007) examined the predictive validity of early literacy skills. The importance of this
study stems from research showing when children enter school already behind their peers in language and early literacy development they are not likely to catch up and are at a higher risk of reading failure (Missall et al., 2007). If these children are identified early and provided interventions before they enter kindergarten, they might have a better chance at being successful in reading, which would increase school success.

In the study, 143 students that were recruited attended kindergarten in the district; however, only 116 were still in the district at the end of first grade. Early Literacy-Individual Growth and Development Indicators (EL-IGDIs) including picture naming, rhyming, and alliteration were administered three times a year. The Minneapolis Public Schools Kindergarten Assessments were administered in the fall and spring. Finally, curriculum-based measurements (CBM) were conducted in reading in the spring of kindergarten and first grade.

The results indicated a substantial growth in mean scores of IGDIs between preschool and the end of kindergarten. Several of the measures had non-normal distributions. As shown by the progress the participants made throughout the study, it is important to promote literacy development during this time period and to intervene whenever a child begins showing signs of reading difficulties in order to increase the chances of the child not falling behind. Increasing the student’s early literacy skills of language, rhyming, and alliteration will promote better reading skills later in the student’s life.

These measures can not only be beneficial to determining which students are at risk of falling behind, but also for developing interventions. The kindergarten assessments can be used to determine benchmarks for student performance. Benchmarks
have been linked to first grade oral reading and passing scores on the reading portion of state-mandated testing in the third grade (Missall et al., 2007).

**Social and Emotional Interventions**

Research has been done dealing with early interventions and social and emotional skills in young children. Key social and emotional skills necessary for children entering school include self-competence, development of positive relationships with peers and adults, concentration and persistence, ability to communicate emotions, listen to instructions, and skills to solve problems (Hemmeter, Ostrosky, and Fox, 2006). Studies have shown 10 to 40% of children were identified as having behavioral challenges in the National Early Intervention Longitudinal Study, which means there could be as many as one third of preschool children with significant behavior problems or at risk for such problems (Hemmeter, Ostrosky, and Fox, 2006). With that many children at risk, it is important to be able to identify these children as early as possible. However, we are not identifying all the children with behavior problems. Less than 10% receive appropriate services, which can lead the unaided child to be rejected by peers, receive less positive feedback from teachers, and be less likely to be successful in kindergarten, all of which can lead to future school failure (Hemmeter, Ostrosky, and Fox 2006).

Once these children have been identified as having problems or at risk, it is imperative that interventions are created. Along with the interventions, there should be clearly stated expected outcomes in order to have a goal of where the interventions will lead the child (Hemmeter, Ostorsky, and Fox, 2006). These interventions should target the key social and emotional skills. A multitiered model can potentially be beneficial to decrease challenging behavior in order to help the child be successful in school. The first
level of interventions should be geared toward building positive relationships with peers and adults, and especially the child’s family. The family can provide support of the individual which can help the child develop social and emotional skills along with decreasing challenging behaviors (Hemmeter, Ostrosky, and Fox, 2006).

The second level should begin designing supportive environments for the child (Hemmeter, Ostrosky, and Fox, 2006). A supportive environment can teach the child what to do and what not to do. Next, the child has to be taught social and emotional strategies to know how to appropriately express and identify their emotions. Through this, the child can hopefully lead to improved problem solving skills. The final level is individualized interventions in order to address specific problem behaviors.

In order for these interventions to be most helpful, they should be implemented in the early childhood setting (Hemmeter, Ostrosky, and Fox, 2006). However, this generally does not occur, which takes longer for the intervention to work because the child has to generalize the behavior. Another important component to making the interventions successful is for the teachers and staff to have appropriate training and experience (Hemmerter, Ostrosky, and Fox, 2006). Training and experience can help the teacher to know how to teach the child appropriate behaviors and how to deal with the inappropriate behaviors.

**Play Based Assessment**

Models have been created in order to provide structure to the observation of young children during play in order to identify the children who are at risk of being developmentally behind. One well developed model is transdisciplinary play-based assessment (TPBA). TPBA was created by Toni Linder to use with children who are
functioning between infancy and 6 years of age (Linder, 1993). This involves a team, consisting of parents and professionals with knowledge about the areas of development, to observe the child play with the facilitator for an hour (Linder, 1993). Each domain of cognitive, language, social-emotional, and sensorimotor is represented by a professional in order to get an overall idea of how the child is functioning.

Advantages to this approach are that the parents are involved, it is flexible and less stressful for the child, and produces meaningful information that goes directly into creating objectives and interventions (Linder, 1993). TPBA is an acceptable means of identifying young children with special needs rather than using norm-referenced assessments. Enough information can be gathered through the assessment to determine if the child has special needs.

Data does support TPBA as valid and reliable. Early childhood experts have used their professional judgments to confirm the content of the assessment is testing what it is intending to test. It has also been validated with norm-referenced tests on children with and without disabilities and identified the same children as eligible for services. Reliability has been studied by conducting a play-based assessment two separate times with 6 weeks in-between testing. Also, assessments have been videotaped and several professionals rated the child. Both of these incidences showed that TPBA is reliable (Linder, 1993).

TPBA can provide information not available from the traditional forms of assessments. One of these areas is mastery motivation, which is the child’s “drive to master or understand his or her environment as it appears to be a critical factor in developmental growth” (Linder, 1993, p 13). This leads the child to “experiment,
problem-solve, and ultimately to integrate new knowledge into his or her existing knowledge base” (Linder, 1993, p 13). This is important because mastery motivation can be a good predictor of school success.

One characteristic of mastery motivation to look for in the child’s play is goal-directed behaviors. Meier and Albrecht (2003) suggest most of our human behavior is goal-directed and follows from a formulated plan. Before a behavior occurs, there is an intention. This intention is the antecedent to the behavior and depending on the strength of the intention determines if the behavior will occur (Meier and Albrecht, 2003). The strength of the intention also determines how long the individual will engage in goal-directed behavior. The stronger the intention, the longer the child will engage in the behavior.

Children can engage in goal-directed behaviors either when playing by themselves or with peers. It is important to observe the child’s preference to playing with peers or alone. Play based assessments allow the researcher to observe this, which is something that is not part of the traditional assessments (Linder, 1993). Social skills are important for the child to have appropriate interactions with peers as well as adults.

While observing who the child is playing with, the researcher can also determine if the child has any attachments to the facilitator, parents or peers. By four years of age, a child can begin choosing friends and enter the social world beyond their family (Linder, 1993). This allows them to “initiate activities and play comfortably alone” (Linder, 1993, p 128). As a child gets older, they are able to remember the continued presence of their mother or father, even if they are not physically present (Linder, 1993). This allows the child to function when they are not with their parents.
The final thing to look for when observing a child for social and emotional needs using play based assessment indicators is the structure of the play the child engages in. Based on the structure, the observer can determine the thought process of the child. A child with emotional problems typically show illogical thought processes. This is seen when the “sequence of ideas appears fragmented or disjointed” (Linder, 1993, p 137).

Play based assessment can be used to identify preschool children at risk of developing developmental delays. Through observations, the researcher can identify the children who are behind their peers in the behaviors they are engaging in. An important domain to identify early in a child’s life is social and emotional needs of the child. Social and emotional needs can influence how successful the student will be later in school. It is important to identify the student early in order to begin interventions. When observing the social-emotional domain, important components to look for are mastery motivation and goal-directed behaviors.

*Research Purpose*

The purpose of this study is to determine if a play based indicators record sheet (PBIRS) is a valid way of screening children at risk of social developmental problems. Standardized tests can be time consuming and have to be individually administrated. However, if this study shows the play based indicators record sheet is a valid way of identifying children at risk of developing social problems, then it can be done in a group and will be less time consuming. Children could be compared with their peers in order to see if they are at an appropriate developmental level. The study will focus on identifying children entering kindergarten the following school year. Identifying young children before entering kindergarten allows interventions to be implemented early to prevent the
development of more severe problems. Another purpose of the study is part of a thesis requirement for completion of the Education Specialist program.

Hypotheses

The present study investigated the following hypotheses:

Hypothesis 1. The PBIRS will significantly correlate with the Personal-Social Scale of the Battelle Developmental Inventory.

Hypothesis 2. The PBIRS has a significant interrater reliability between classroom teachers and teacher’s aides.

Hypothesis 3. The PBIRS has significant test-retest reliability.
CHAPTER 2

METHOD

Participants

Twenty-six children were used from two local preschools in an urban Kansas town serving infants and toddlers. Ten children were from a preschool on a college campus. The remainder sixteen children for the study came from a private Christian preschool. All children were between the ages of 4 and 5 and entered kindergarten the following school year.

Measurements

Two different measurements were used. First, all children were assessed using play based assessment indicators in order to identify children who are at risk of being behind in developing social skills. The researcher created a list of behaviors a typically developing 4 or 5 year old child would engage in based on Linder’s guide. The teachers and aides then rated to what extent the child engaged in the behaviors on the Play Based Indicators Record Sheet (PBIRS). Table 1 shows how the factors of social and emotional development correspond to the questions on the PBIRS.

Then, all children were given the Personal-Social scale of the Battelle Developmental Inventory, 2nd edition (BDI-2). This was used to validate that the same children were identified as being behind in developing social skills. The BDI-2 is a “criterion-referenced, individually administered, standardized assessment used to measure the developmental skills in children aged birth through 7 years, 11 months” (Bliss, 2007, p 409).
Table 1

*Corresponding Factors to PBIRS*

<table>
<thead>
<tr>
<th>Question</th>
<th>Factor</th>
<th>Description of Factor</th>
<th>Reference to Literature Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Prefers challenging tasks when given a choice between relatively easy and difficult tasks.</td>
<td>Mastery Motivation</td>
<td>Observing mastery motivation allows the researcher to determine which domains the child is focusing their energy on. Research has shown this can predict later success on standardized tests. It is related to the cognitive development of the child.</td>
<td>Page 12</td>
</tr>
<tr>
<td>2. Engages in play that is goal-oriented, with children playing in an organized fashion.</td>
<td>Goal-Oriented Play</td>
<td>The importance of goal-oriented play is to see if the child engages in it when given the option and how he or she responds to the challenging task. Researchers should also observe if the child gives up easily or is persistent in problem-solving.</td>
<td>Page 13</td>
</tr>
<tr>
<td>3. Prefers playing with other children rather than playing</td>
<td>Social Relations</td>
<td>Social relations look at how the child interacts with peers, whether the child leads or imitates the peer and the level</td>
<td>Page 13</td>
</tr>
</tbody>
</table>
alone.

| 4. Can explore classroom unattended. | Attachment Independence should begin to be established in order for the child to choose friends and become social outside the family. | Page 13 |

| 5. The structure of play exhibits logical and fluent thought processes. | Structure of Play Children with emotional disturbances exhibit illogical or dysfunctional thought processes that can be seen when the sequence of ideas appears fragmented during dramatic play. | Page 13 |

**Procedures**

The PBIRS was completed by the classroom teacher and a teacher’s aide. They were handed a set of record sheets to fill out on each child. The child was assigned a random number that was written on the record sheet. The child’s name was stapled to the record sheet so the teacher and aide knew who to fill the sheet out on. The name was then removed before it is returned to the researcher in order for the name to not be associated with the data.

Each teacher and teacher’s aide filled out the record sheet based on their impression of the child they had this school year in the early childhood classroom. There were no instructions given as the record sheet should be self-explanatory. They were not able to communicate about responses, they just filled it out based on the knowledge they had.
Behaviors the teachers and aides looked for included goal directed behavior, cooperation, and attachment. The teachers and aides had a record sheet to record the degree to which the child engaged in the behaviors. They rated the children on a Lickert scale of 1-5. The researcher then calculated a score based on the responses to the Lickert scale.

After the record sheets had been completed, the researcher came into the classroom to complete the Personal-Social scale of the Battelle according to standardized procedures in order to assess the social development of the children. The majority of the items were completed for each child through an interview with the teacher. For items that had to be observed, the child was called over to the table and asked to complete the items until a ceiling was reached. The protocol was then scored according to the manual in order to obtain a scaled score for the social domain.

Approximately two weeks later, the teachers and teacher’s aides were handed another set of record sheets. They were not informed beforehand about completing another set. They were asked to fill each sheet out again for each child in order to establish test-retest validity of the PBIRS.

The teachers who will be filling out the PBIRS should be certified early childhood teachers who have had several years of experience working with preschool children. They should know the child for at least three months prior to filling out the record sheet. On the other hand, the teacher’s aides do not have to be certified teachers or have experience, but should also know the child for at least three months. The results of the record sheets were compared to determine the amount of education and experience needed to be able to accurately assess the social development of the child.
CHAPTER 3

RESULTS

In this study, two teachers and two teacher’s aides filled out a record sheet on all of the children in their early childhood class who had parental consent to participate. They answered five questions based on their impression of the child’s social skills. Next, the researcher came into the classroom to complete the Personal-Social section of the Battelle Developmental Inventory (BDI). This was completed through teacher interview and structured items with the child. Two weeks later, the teachers and teacher’s aides were asked to complete the record sheets again.

Sample

This study used 26 preschoolers who entered kindergarten the following year. Of the participants, ten were girls (38%) and sixteen were boys (62%). The mean age was 5 years, 1 month. The range of ages was 4 years, 1 month to 5 years, 9 months.

General Results for PBIRS

The data collected on the Play Based Indicators Record Sheet (PBIRS) was taken and analyzed using basic descriptive statistics to compare to the Battelle Developmental Inventory (BDI) on 26 subjects in order to obtain means and standard deviations on the three subtests of the Personal-Social domain; adult interaction (AI), peer interaction (PI), self-concept and social role (SR). Results are indicated below in Table 2.
Table 2

*Means and Standard Deviations of BDI and PBIRS Scores*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI AI</td>
<td>26</td>
<td>14.92</td>
<td>4.42</td>
</tr>
<tr>
<td>BDI PI</td>
<td>26</td>
<td>12.62</td>
<td>3.87</td>
</tr>
<tr>
<td>BDI SR</td>
<td>26</td>
<td>15.50</td>
<td>3.54</td>
</tr>
<tr>
<td>Teacher Initial</td>
<td>26</td>
<td>20.54</td>
<td>2.47</td>
</tr>
<tr>
<td>Teacher Delay</td>
<td>26</td>
<td>20.42</td>
<td>2.87</td>
</tr>
<tr>
<td>Teachers Aide Initial</td>
<td>26</td>
<td>22.31</td>
<td>3.23</td>
</tr>
<tr>
<td>Teacher Aide Delay</td>
<td>16</td>
<td>19.63</td>
<td>2.73</td>
</tr>
<tr>
<td>Sum Teacher</td>
<td>26</td>
<td>40.96</td>
<td>5.09</td>
</tr>
<tr>
<td>Sum BDI</td>
<td>26</td>
<td>43.04</td>
<td>11.13</td>
</tr>
</tbody>
</table>

**Hypothesis 1**

Hypothesis 1 stated that the PBIRS will significantly correlate with the Personal-Social Scale of the Battelle Developmental Inventory. After the researcher obtained a score on the PBIRS and the Battelle, the scores were compared using a Pearson R correlation, which determines if the results are significant. The Pearson R correlation showed all three scales of the BDI are highly correlated with each other. The Adult Interaction scale had the largest correlation with the overall score on the Personal-Social scale of the BDI ($r = .975, p < .001$). Peer Interaction ($r = .931, p < .001$) and Self-Concept and Social Role ($r = .935, p < .001$) were also significantly correlated with the overall Personal-Social scale and with each other. See Table 3 for the correlation matrix.
Table 3

**Correlations Between Battelle And Record Sheet Variables for 4-5 Year Olds (n=26)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. BDI AI</td>
<td>.83**</td>
<td>.86**</td>
<td>.42*</td>
<td>.53**</td>
<td>.32</td>
<td>.22</td>
<td>.50**</td>
<td>.96**</td>
<td></td>
</tr>
<tr>
<td>2. BDI PI</td>
<td></td>
<td>.80**</td>
<td>.39</td>
<td>.51**</td>
<td>.45*</td>
<td>.35</td>
<td>.48*</td>
<td>.93**</td>
<td></td>
</tr>
<tr>
<td>3. BDI SR</td>
<td></td>
<td></td>
<td>.28</td>
<td>.50**</td>
<td>.15</td>
<td>.05</td>
<td>.41*</td>
<td>.94**</td>
<td></td>
</tr>
<tr>
<td>4. Teacher Initial</td>
<td></td>
<td></td>
<td></td>
<td>.82**</td>
<td>.61**</td>
<td>.38</td>
<td>.95**</td>
<td>.39*</td>
<td></td>
</tr>
<tr>
<td>5. Teacher Delay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.49*</td>
<td>.51*</td>
<td>.96**</td>
<td>.55**</td>
<td></td>
</tr>
<tr>
<td>6. Teacher’s Aide Initial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.53*</td>
<td>.57**</td>
<td>.33</td>
<td></td>
</tr>
<tr>
<td>7. Teacher’s Aide Delay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.47</td>
<td>.23</td>
<td></td>
</tr>
<tr>
<td>8. Sum Teacher</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.50**</td>
<td></td>
</tr>
<tr>
<td>9. Sum BDI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. BDI = Battelle Developmental Inventory; AI = Adult Interaction; PI = Peer Interaction; SR = Social Relationships.

*p < .05

**p < .01

Hypothesis 2

Hypothesis 2 stated that that PBIRS rating has a significant interrater reliability between classroom teachers and teacher’s aides. The PBIRS, when filled out by the teacher, was moderately correlated with the BDI (r = .496, p = .010) according to the Pearson R correlation. However, when the teacher’s aides filled out the PBIRS, it was not significantly correlated with the BDI (r = .330, p = .100). Therefore, the PBIRS scores
are more significant when filled out by the teacher rather than the teacher’s aide. See Table 3 above for correlation matrix.

A t-test was also completed comparing the scores on the PBIRS of the teacher’s and teacher aide’s sheets, which determines if there are specific amounts of training required to accurately assess the social development of the child. A t-test indicated that the mean scores between the teachers’ response (t (25) = 40.994, p < .001) were different from the teachers’ aides’ responses (t (15) = 54.489, p < .001).

Hypothesis 3

Hypothesis 3 stated that the PBIRS has significant test-retest reliability. The Pearson R correlation showed that when the teachers filled out the PBIRS two weeks after they originally filled it out, the scores were significantly correlated (r = .818, p = < .001). See Table 3 above for correlation matrix.

A t-test was also completed comparing the test-retest data. When the teachers were given the PBIRS to fill out two weeks later (t (25) = 36.248, p < .001), the One-Sample Test showed no significant difference between the scores on the PBIRS from the first time it was filled out (t (25) = 42.408, p < .001). This means it is reliable over time, because the teacher’s ratings of the children did not change over the two week span.

The test-retest data was only collected for the teacher, because when the researcher returned after two weeks, one of the teacher’s aides was no longer employed by the preschool. Because there was only one data set for the teacher’s aides, the results are calculated for the complete data set on the teachers.
DISCUSSION

Research has shown the importance of early interventions in children with disabilities. If children are identified early and interventions put in place before kindergarten, they will be more likely to succeed in school. However, in order for this to take place, there has to be a way to identify those children who are at risk of having a disability.

_Hypothesis 1_

This study shows that the Personal-Social scale of the Battelle Developmental Inventory (BDI) is a very good screening measure for preschool children about to enter kindergarten. All three scales were statistically significant, which means any one of the three scales could be given as a screening tool to identify the appropriate children for a comprehensive evaluation. However, each subtest is more time consuming than the Play Based Indicators Record Sheet (PBIRS). The PBIRS is not as good of a tool as the BDI; however, it does capture enough of the variance to be a good screener, especially considering it is less time consuming and easier to assess an entire class. For example, the BDI takes approximately 20 minutes to complete on one child, while the PBIRS only takes 2 minutes for one child.

The PBIRS can be filled out on an entire classroom of preschool children in order to determine which children are at risk of developing social and emotional concerns. Then, either the BDI could be given as a more comprehensive screener or proceed to a comprehensive evaluation after the PBIRS on only the identified children. This will help to give teachers specific criteria to look at to determine at risk children in order to prevent them from not being identified.
Because the PBIRS assesses five broad factors from Play Based Assessment, it provides specific indicators to target for interventions. Hemmeter, Ostrosky, and Fox (2006) discussed the importance of interventions targeting key social and emotional skills. The PBIRS shows which factors should be targeted for effective interventions. Each question assesses a different factor, so the questions that are rated below a three should be targeted through the interventions.

Another implication of the PBIRS would be to use it in a RTI model as a means of monitoring an intervention. RTI requires someone to monitor the student’s progress over time in order to assess if the intervention is working. The PBIRS is a quick and easy way for a teacher to monitor progress over a long period of time for an entire classroom. A good progress monitoring tool shows small incremental changes in behavior, so this instrument is too limited to use for that purpose.

Hypothesis 2

Results showed there was a significant difference between the teacher and teacher’s aides who filled out the PBIRS, which could be a result of the level of education and experience necessary to fill out the PBIRS in a way to accurately assess the social and emotional concerns of the child. The teacher’s aides were tapping into a different construct that did not correlate with the Battelle. Therefore, the teacher should be a certified early childhood teacher and have several years of experience. They should also know the child at least three months prior to filling out the PBIRS on a child.

The teachers should also have appropriate training for implementing interventions in order to ensure they are executing a proper intervention, monitoring it, and are capable
of dealing with any inappropriate behavior that might occur while the intervention is taking place (Hemmeter, Ostrosky, and Fox, 2006).

Having the teacher fill out the PBIRS on the student would also eliminate the possibility of a child’s variability in behavior based on a new person or new situation. VanDerHeyden & Snyder (2006) discuss the problem of young children’s sensitivity to new situations. The Battelle does require the child to interact with another person doing something they might not be comfortable with. Therefore, the PBIRS would give a more accurate representation of the child’s typical interaction in a comfortable environment.

Hypothesis 3

When teachers were asked to fill out the PBIRS again two weeks after they completed them, they identified the same children as being at risk. This shows the PBIRS is a reliable measure of screening children.

Limitations

There was one piece of missing data in the study. When the researcher gave the teachers and teacher’s aides the second set of PBIRS to fill out two weeks later, it was determined that one of the teacher’s aides was no longer employed by the early childhood center. Therefore, only one teacher’s aide filled out the second set of record sheets.

The majority of the items on the Battelle were teacher interview questions. The same teacher also filled out a set of PBIRS on each child. It is possible that having the teacher answer the majority of the questions on the Battelle and PBIRS resulted in the higher correlation, since it was the perception of the same person.

The PBIRS record sheet was created on the assumption that each teacher and teacher’s aide would have a common understanding of the concepts presented on the
record sheets. Therefore, there was no description or examples given for each question as to what to look for when answering the question for a specific child. This could have been beneficial to include in order to ensure they were answering the question correctly. Another option would be to have benchmarks for four to five year old children listed in the instrument instructions. This additional approach would determine if the benchmarks for the normed children affects any change in results.

**Direction for Future Research**

It would be beneficial to add another five items to the PBIRS and give it to another sample. Then, a factor analysis can be done to determine which ones have the best concurrent validity. This will make a stronger screening measure that would be better correlated with the Battelle. Also, looking at the structure of the Battelle and taking some items from that instrument could help design a better screener. Pulling items from the Battelle could also allow future researchers to expand the use of the PBIRS to design a screener of all at risk areas. This measure only focused on the social emotional domain, but incorporating all domains would allow for a more comprehensive screener.

Another way to make the screening tool even better would be to establish content validity of the PBIRS. An expert panel would look at each item and determine if they feel it is a good item or not and if the wording is appropriate. If 80% of the panel agrees that it is a good question, then it would be included; however, if 80% did not agree, then the question would be eliminated.

A second future direction would be to look at the long-term reliability of the PBIRS. The current study had the teachers and teachers’ aides fill it out two weeks apart. A longer time period would be more beneficial to see if the instrument is truly reliable.
Raters filling the sheets out unconsciously try to replicate what they wrote down the last time rather than actually answering the question when given two weeks apart. Between four and eight weeks would be a better time-lapse period. However, researchers would not want to go over two months due to maturation of the child, which would make the instrument unreliable.

This study allows future research to make the instrument a criterion referenced measurement by taking this data and apply cut off scores for being at risk of social and emotional problems, and then pilot the study. This could be done as a longitudinal study in order to determine which of the at risk students do eventually end up in special education. The cut off would be 1.5 standard deviations below the mean raw score on the PBIRS. This will determine the predictive validity of the measure. Research would then show how accurately it is identifying children as at risk.

Data would show the hit rate of students identified, which if done over time would determine how many false negatives and false positives the measure has. A false negative would be not identifying a study as at risk on the PBIRS, but finding the study does have concerns later and the child is placed in special education. A false positive would be identifying a study as being at risk, when they really are not. This is not as severe of a problem as a false negative, but due to the limited number of resources for interventions, a low number is desired.

Based on the current study, there is no evidence for the reason of the results for Hypothesis 2. It is unclear if the teacher’s aides were not around the children as much as the teacher, or if it was due to actual training. This would be something that future research could investigate.
This study showed that the PBIRS is a good screening measure when teachers use it. It allows a fast way to screen an entire class to determine which children are in most need of early interventions for social emotional problems before entering kindergarten. The early interventions can help the child be more successful in school.
REFERENCES


Appendixes
Appendix A

Institutional Review Board Approval Letter and Permissions
Appendix B

Informed Consent for Parents
Informed Consent Form for Thesis Project

Introduction
This project is designed to fulfill the requirements of the Education Specialist (Ed.S) program at Emporia State University. The project will consist of the child’s teacher and teacher’s aide to answer five questions regarding social development of the child. Additionally, the Personal-Social scale of an individually administered Battelle Developmental Inventory will be completed on the child. This will involve interviewing the teacher and in some instances, administering up to a 3 minute test to the student in their classroom.

Risks and Benefits
The child could experience mild discomfort during the Battelle Developmental Inventory if asked an overly difficult question. No other risks have been identified. The benefits include contributing to useful research for educators in order to help create a screening instrument with the potential to help teachers recognize children who need extra coaching.

Cost to Parent and Student
The assessment will be conducted in the classroom for up to 3 minutes, so the child will not loose classroom time for that.

Confidentiality
The student will be assigned a random number that will be associated with the data collected. No names will be linked to the data after it has been collected. My three thesis committee members and I will be the only ones who have access to the data.

I have read this consent form, had the opportunity to ask questions, and received answers to any questions regarding the project my child will be participating in. I understand that if I have any additional questions, I may contact Kara Schuetz, the administrator of the project, or Dr. Persinger, the advisor to the project. Their contact information is listed below.

___________________________________________________
Child’s Name

_________________________________________  ____________
Parent’s Signature                              Date

Kara Schuetz
School Psychology Practicum Student
kschuetz@emporia.edu
(785) 741-2242

Dr. Jim Persinger, Assoc. Professor
Depart. of Psych. and Special Ed.
Visser Hall, Box 4031
Emporia State University
(620) 341-5428
jpersing@emporia.edu
Appendix C

Informed Consent for Preschool Site
March 26, 2008

Preschool Site
Emporia, KS 66801

Dear Director,

I am a second year graduate student in the school psychology program here at ESU. This semester I am working on completing my thesis as part of the degree requirements for an Education Specialists (Ed.S) degree in School Psychology. In order to complete my thesis, I need your help.

The project will involve having the teacher and teacher’s assistant fill out a record sheet of five questions regarding social development of the children. Additionally, the Personal-Social scale of an individually administered Battelle Developmental Inventory will be completed on each child. This will involve interviewing the teacher and in some instances, administering up to a 3 minute test to the student in their classroom.

Thank you for considering being a part of my project. Feel free to contact me or my advisor with any questions regarding this project. After the project has been completed, you may contact me if you are curious about the results of this study.

Sincerely,

Kara Schuetz
School Psychology Practicum Student
kschuetz@emporia.edu
(785)741-2242

Dr. Jim Persinger, Assoc. Professor
Dept. of Psych. and Special Ed.
Visser Hall Box 4031
Emporia State University
jpersing@emporia.edu
(620) 341-5428

I, ____________________, have read the above information and have decided to participate.

(please print name)

I understand that my participation is voluntary and that I may withdraw at any time without prejudice after signing this form should I choose to discontinue participation in this study.

____________________________  ____________________  ____________________
Signature of Director         Date                          Preschool Site
Appendix D

Letter to Parents
March 26, 2008

Early Childhood Preschool
Emporia, KS 66801

Dear Parent,

I am a second year graduate student in the school psychology program here at Emporia State University. This semester I am working on completing my thesis as part of the degree requirements for an Education Specialists (Ed.S) degree in School Psychology. In order to complete my thesis, I need your help. This project has been approved by the Director and the Board along with the Institutional Review Board of ESU.

The project will involve having the teacher and teacher’s assistant fill out a record sheet of five questions regarding social development of the children. Additionally, the Personal-Social scale of an individually administered Battelle Developmental Inventory will be completed on each child. This will involve interviewing the teacher and in some instances, administering up to a 3 minute test to the student in their classroom.

In order to be involved in my study, your child must be four years old and going to enter kindergarten next year. I am attaching two copies of an informed consent form for you to fill out one and return to your child’s teacher if you are willing to have your child participate. The other copy is for you to keep. Please return the signed consent form by April 4, 2008.

Thank you for considering being a part of my project. Feel free to contact me with any questions regarding this project. After the project has been completed, you may contact me if you are curious about the results of this study.

Sincerely,

Kara Schuetz
School Psychology Practicum Student
kschuetz@emporia.edu
(785)741-2242
Appendix E

Play Based Indicators Record Sheet
I, Kara Schuetz, hereby submit this thesis to Emporia State University as partial fulfillment of the requirements for an advanced degree. I agree that the Library of the University may make it available for use in accordance with its regulations governing materials of this type. I further agree that quoting, photocopying, or other reproduction of this document is allowed for private study, scholarship (including teaching) and research purposes of a nonprofit nature. No copying which involves potential financial gain will be allowed without written permission of the author.

__________________________________________
Signature of Author

__________________________________________
Date

Validity of Play Based Indicators Record Sheet as a Screening Tool for Preschool Children At Risk of Social-Emotional Problems
Title of Thesis

__________________________________________
Signature of Graduate Office Staff Member