Preschoolers' leadership-followership communication in outdoor pretend play
on a child care playground

by

Soomin Kim

B.A., Handong Global University, 2012
M.S., Kansas State University, 2018

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Applied Human Sciences
College of Health and Human Sciences

KANSAS STATE UNIVERSITY
Manhattan, Kansas

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Abstract

Leadership begins to develop during early childhood, positively impacting children's leadership trajectory. Social pretend play provides enriched environments for multiple cognitive and social purposes. The quality and sustainability of children's social pretend play depends on the process including children's back and forth proposals and responses about the play frames. Proposing and responding to play ideas with metacommunication use, leadership-followership interactions during pretend play engagement are required in which the leaders and followers are interdependent to effectively move play frames forward. The purpose of this study was to examine the use of metacommunication strategies and leadership/followership processes expressed in social pretend play. A conceptual framework was built on the works by Murphy and Johnson (2011) and Liu et al. (2020) on leadership development and Vygotsky's work of pretend play during early years, describing the dynamic nature of leadership process within social pretend play. Results indicated that children's use of metacommunication in social pretend play varies by what contents and to whom they are communicating. Results also showed how much the factors of interest – children's use of metacommunication, group characteristics for gender, and the role of followership - may impact children's successful pretend play.

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Major Professor
Dr. Deborah Norris

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Dedication

To my loving parents. I could never have done this without your faith, support, and constant encouragement. You taught me to be who I am today and have always been shining examples for me. I appreciate everything that you have done for me.

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Chapter 1 - Introduction

Leadership begins to develop during early childhood, positively impacting children's leadership trajectory (Bailey et al., 2017). In peer interaction during early childhood, a leader who initiates, gives directions, creates the rules or assigns the roles emerges naturally (Garvey, 1984; Maccoby, 1988; Mawson, 2011). Early social learning experiences with peers are an important aspect of children's development (Bisland, 2004; Black, 1992; Hensel, 1991; Mashburn & Pianta, 2006; Mawson, 2011; Trawick-Smith, 1988; Shin et al., 2004).

The most prevalent experience that children engage in during preschool years is social play that provides children with opportunities for practicing social moves such as taking initiative, solving problems, negotiating social relationships, taking turns, and collaborating (Ghafouri & Wien, 2005; Liu et al., 2020). Children develop their social skills as they try out "different strategies to engage with, influence, or become influenced by peers, and to develop leadership skills" (Shin et al., 2004, p. 314).

Pretend play – one of the most frequent forms of social play that preschool-aged children engage in, encompasses characteristics such as the use of negotiation and verbalization of thoughts through metacommunication (Pellegrini & Galda, 1990; Sawyer, 2002; Whitebread & O'Sullivan, 2012). Pretend play provides enriched environments for multiple cognitive and social purposes such as transforming the real into the imaginative or communicating with peers to successfully move play forward (Elias & Berk, 2002).

Because pretend play is improvisational, momentary language communication is used for planning what to play and how to play as well as enactment of play scripts, and sharing ideas with others (Pellegrini & Galda, 1990; Sawyer, 1997). This aligns with the suggestions from previous research to view children's leadership as a relational process between leaders and

followers (Lee et al., 2005; Li et al., 2007; Mawson, 2011; Shin et al., 2004). Specifically, children use metacommunicative language to initiate and manage play frames, interpret messages, develop effective rules, maintain harmony, and negotiate conflicts (Ghafouri & Wien, 2005; Mawson, 2011). The quality and sustainability of children's social pretend play depends on the 'process' including children's back and forth proposals and responses about the play frames (Sawyer, 2003). Proposing and responding to play ideas with metacommunication use, leadership-followership interactions during play engagement are required in which the leaders and followers are interdependent to effectively move play frames forward.

Purpose and Research Questions

The purpose of this study was to explore children's leadership-followership process in the outdoor social pretend play context and how it is influenced by different factors. Video data coding were used to assess whether children's metacommunicative use in outdoor pretend play relates to leadership-followership process of children. Research questions for the current proposed study included:

Question 1: How are metacommunication strategies used by preschoolers in social pretend play?

    a. How does the use of metacommunication strategies vary by the pretend play components?

    b. How are the metacommunication strategies associated with the follower responsivity?

    c. How does the follower responsivity to pretend play components vary depending on the metacommunication strategies?

Question 2: How are gender differences presented in children's leadership-followership exchanges in social pretend play?

    a. Within leadership-followership exchanges, how does the use of metacommunication strategies vary by the leadership and followership gender in pretend play?

    b. Within leadership-followership exchanges, how does the follower responsivity of implicit and explicit metacommunication strategies vary depending on the leadership gender?

    c. Within leadership-followership exchanges, how does the follower responsivity of implicit and explicit metacommunication strategies vary depending on the followership gender?

Question 3: How do the use of implicit metacommunication strategies, follower acceptance responsivity, and gender composition of play groups affect the sustainability of pretend play?

Significance of the Current Study

This study contributes to the early leadership and pretend play literature in several facets. First, although leadership development has been widely studied, research has mostly focused on adults and adolescents and there have been only few studies exploring the development of leadership skills in early childhood (Bailey et al., 2017; Liu et al., 2020; Mullarkey et al., 2005; Murphy, 2011; Murphy & Johnson, 2011; Trawick-Smith, 1988). The few research efforts with leadership development have focused on early childhood, but they have primarily examined leadership as characteristics, actions, or traits of individual children. The existing studies of leadership development during early childhood have been mostly descriptive in nature as well

(e.g., identifying young leaders and describing their characteristics). Quantitatively examining children's leadership as a process and exploring the relationship between play communication and leadership in the current dissertation provides new knowledge and perspectives of leadership development in social pretend play.

Children's use of metacommunication in social pretend play has been previously studied (e.g., Pellegrini & Galda, 1990; Sawyer, 2003; Whitebread & O'Sullivan, 2012). The previous studies have claimed that the use of metacommunication is necessary in pretend play as children use it to communicate the meanings of play frames such as the play roles and play rules in order to move their play frames forward. The current dissertation examined the use of metacommunication strategies as evidence of children's leadership-followership process in social pretend play, expanding the literature by linking the discussions between leadership in pretend play as a process and use of metacommunication for both successful leadership and pretend play sustainability.

Definitions of the Key Terms

The key terms used in the current study as well as the operationalized definitions/descriptions of the terms are presented in Table 1.

Table 1. Key Terms and Definitions for the Terms.

Terminology	Definition/description derived from extant literature
Play episode	A unit of play activity based on the nature of children's engagement in which the children play coherently on the same play theme (Vedeler, 1997)

Leadership exchange	A co-constructed event that includes a leader's metacommunication usage about play frames which is followed by responses from one or more followers
Metacommunication	'Communication about communication' used to comment on, clarify, and negotiate play frames (Bateson, 1972; Sawyer, 2003)
Explicit metacommunication	Metacommunicative strategy while stepping out of the play frame and speaking in a narrator's or director's voice (Sawyer, 2003)
Implicit metacommunication	Metacommunicative strategy while remaining in-frame and enacting an imaginative role (Sawyer, 2003)
Leadership	When a child attempts to initiate or suggests a new play idea, conceptualizes and directs activities. Examples are the child gives direction, command, order, request, or persuasion, etc. to other children (Fu, 1979; Li et al., 2007; Trawick-Smith, 1988)
Followership	When a child provides following responsivity to other peers' leadership communication including follows the directions and orders from another child or children, and accepts, does not seek dominance, and allows others to contribute (Fu, 1979; Trawick-Smith, 1988)
Play group	Two or more children engaging in the same play episode (adapted from Fu 1977)
Preschool	Ages three to five
Pretend play	Play activity with an imaginary situation accompanied by imaginary roles and rules (Vygotsky, 1967)

This dissertation consists of five chapters. Chapter 1 discusses the introduction and the background of the significance of the proposed study. Chapter 2 reviews the theoretical and empirical literature for the problem and purpose of the proposed study. Chapter 3 describes the methodologies in the proposed study including data collection methods, measurements, coding schemes, study design, and analysis plans. Chapter 4 presents findings and results from data analyses. Chapter 5 presents the associated discussion of the findings of the current study.

Chapter 2 - Review of the Literature

To better examine leadership processes among preschoolers during outdoor pretend play context, it is important to examine previous theoretical and empirical literature on leadership development, children's pretend play, and communication occurring within both of them. The following review and synthesis of theoretical and empirical literature provides a foundation for the current study. The purpose of this chapter is to provide an overview of the current literature related to leadership development and pretend play. The first section of this chapter discusses the existing theoretical literature and explores how they together shape the foundation for the current study. The second section reviews the current empirical literature associated with leadership development and pretend play study fields.

Review of the Theoretical Literature

The theoretical framework for the current study was informed by theories from leadership development, pretend play, and dialogic process. In this section, relevant components from each theoretical background are explored, along with the discussion of relationships between components of these theories and the proposed research.

Leadership Development in Early Childhood

Leadership studies have primarily focused on leadership development in adulthood while studies on leadership development throughout the life stages have not been as prominent (Reitan & Stenberg, 2019). Responding to this limitation, researchers (e.g., Liu et al., 2020; Murphy & Johnson, 2011; Reitan & Stenberg, 2019; Zaccaro et al., 2018) have recently proposed frameworks that view leadership development throughout the lifespan from early childhood through adulthood. These models recognize that leadership abilities emerge in the preschool

years when children interact with their peers and provide a foundation for leadership development throughout life (Liu et al., 2020; Murphy & Johnson, 2011; Zaccaro et al., 2018).

Zaccaro et al.'s (2018) recent conceptual framework of leader development across the life stages from early childhood to adulthood articulates the important components. Leader development emerges in early childhood as the foundational traits of leaders appear to predispose a child to engage in leadership behaviors that developmental experiences afford (Reitan & Stenberg, 2019; Zaccaro et al., 2018). Some of these foundational leadership traits include intelligence, competence, extraversion, and openness (Zaccaro et al., 2018) and are beyond the scope of this study. Physical traits such as gender and age also serve as salient foundational leadership traits and were considered in this study.

The most significant developmental experience for leader development in early childhood is social play with peers, especially pretend play (Liu et al., 2020). More than everyday experiences, developmental experiences present the emerging leader with opportunities to assess the play situation, offer ideas to shape and sustain the play, and support for continuing to contribute ideas when followers accept the leader's suggestions (Liu et al., 2020). In social pretend play, leaders are provided continual opportunities to define and co-construct the imaginary play situation as well as the roles and rules embedded in the play (Vygotsky, 1978).

Leadership situations embedded within pretend play support the development of such leadership capacities as cognitive flexibility, metacommunication, social competence and individual leadership styles (Fox et al., 2015; Zaccaro et al., 2018). Early childhood leaders in social pretend play use implicit and explicit metacommunication to shape the storyline and sustain the play (Whitebread & O'Sullivan, 2012). Socially competent preschoolers in pretend play use both prosocial and social dominance behaviors to encourage peer involvement in the

play (Liu et al., 2020; Murphy & Johnson, 2011). Gender differences in children's leadership styles in play exist with females more of a director and males more of a dictator (Mawson, 2010).

Successful leadership, regardless of particular leadership style or capacities, is dependent upon the responses of the other. Recent leadership theories have recognized this relational process perspective on leadership (Liu et al., 2020; Zaccaro et al., 2018). Both leaders' actions and followers' responses impact the sustainability and success of the play in this view of relational process (Lee et al., 2005; Shin et al., 2005; Zaccaro et al., 2018).

Pretend Play – Primary Context of Children's Leadership Development

Researchers who view leadership development from early childhood have recognized peer play as a primary context for leadership development. In order to explore leadership development in play during early childhood, this section provides further discussion about children's play. The current study adopted a sociocultural perspective viewing child development as embedded in social experiences. The conceptualizations build on the Vygotskian perspective of play specifically. The Vygotskian perspective views children's play as the leading activity of the preschool and primary school period (Bodrova & Leong, 2007; Elkonin, 2005; Vygotsky, 1967, 1978). Also, the Vygotskian view defines play very specifically as pretend play (also known as dramatic play, symbolic play, make-believe play, fantasy play, or imaginary play) because children always create an imaginary situation in play (Bodrova et al., 2013; Vygotsky, 2016).

Social pretend play

Pretend play is bound by social interaction even in its early forms (Whitebread & O'Sulivan, 2012). Players mutually talk within their play for the purpose of successful play (e.g.,

play scenarios, enacting the roles). Vygotsky (1967) provided a specific definition of pretend play, stating

> whenever there is an imaginary situation in play, there are rules – not rules that are
> formulated in advance and change during the course of the game, but rules stemming
> from the imaginary situation. Therefore, to imagine that a child can behave in an
> imaginary situation without rules, i.e., as he behaves in a real situation, is simply
> impossible. If the child is playing the role of a mother, then she has rules of maternal
> behavior. The role the child plays, and her relationship to the object if the object has
> changed its meaning, will always stem from the rules, i.e., the imaginary situation will
> always contain rules (p. 10).

Vygotsky contended that children's mental functions depend on socially shared meanings which is referred to as intersubjectivity. Intersubjectivity is defined as the act of establishing shared understanding of the activity between individuals towards a shared goal (Göncü, 1993; Wink & Putney, 2002). It provides a context of shared and mutual understanding by which individuals jointly engage and participate in shared activities such as social pretend play.

According to the dialogic theory of Sawyer (1996, 2002), play is "a complex discourse genre, and its complexity results from the absence of explicit, predetermined rules" (Sawyer, 1996, p. 290). Within this type of play interaction, intersubjectivity of play episodes is important for children to successfully keep their play scenarios moving forward with others. In pretend play, an imaginary situation separated from the real world, children need to communicate with play partners to explicitly explain or implicitly project their imaginary ideas so that other players can understand the meanings of the shared play context.

As illustrated in the definition of pretend play by Vygotsky, pretend play consists of three major components: imaginary situation, roles to act out, and rules embedded within the roles in the imaginary situations. These three components need to be communicated among players in play engagement for successful play continuation. Each component is discussed in detail below.

Imaginary situation. In an imaginary situation, the child is freed from the constraints of the real-life situations, because those external constraints no longer have their functions to the child in the imaginary situation (Vygotsky, 2016). For example, in an imaginary situation, a wooden stick can be a train that gives it another meaning different from the meaning in reality. Therefore, in pretend play, children learn to separate thoughts and actions, in which they direct their own actions or behaviors based on the meaning of the imaginary situation.

The separation of thoughts and actions is considered one aspect of abstract/symbolic thinking. As play is gradually converted into internal processes, it enables children to obtain the ability of abstract thinking, which is also represented in the internalization process. Therefore, children have their own abstract ideas about the imaginary situation they create for play scenarios that are internalized. To move their play forward, they need to provide certain explanations to other play members so that they all are aware of the imaginary context that they are in. In line with this, de Haan et al. (2020) argued that involvement in pretend play helps children to develop a better understanding of the representational aspects of play that is linked with the use of explicit metacommunication (i.e., communication of communication).

While providing new ideas for an imaginary situation in pretend play, young leaders tend to generate more creative play ideas and use the materials more creatively. For example, Shin et al. (2004) found that the imaginative ideas that young leaders provide are more desirable and draw more attention to play partners, which set the pattern of the play episodes. These children

tended to use more directive and commanding words (e.g., "Let's play like kitties.") with advanced verbal abilities. Lee et al. (2005) also noted that one of the main features of young leaders is that they have more elaborated dramatic ideas and initiate play episodes while directing others about their own ideas.

Roles. An imaginary situation created in children's pretend play is separate from the real situation, and children use their imagination to expand their "new world." In this imaginary situation, just like an object turns into something different, the child also turns into a different "person" – acting out the roles of others. Coordinating different roles in play scenarios is helpful for children to develop leadership skills because they need to learn how to successfully negotiate what roles they and their play partners are taking so that they can successfully move the play scripts forward. For example, Fu (1979) provided several language examples that young leaders may use during play with regards to role assignment such as "You can be the mommy," or "You are my little baby."

The role-taking strategy also allows children to develop the ability of "decentration," which is the ability to take other people's perspectives (Bodrova & Leong, 2007, 2015; Vygotsky, 1978). Children need to look at objects via the perspective of other play partners, which eventually leads to the development of reflective thinking (Bodrova & Leong, 2007) that helps children with the leadership abilities to move play forward. Shin et al. (2004) found that young leaders demonstrated a higher level of awareness and tended to get a full sense of what is going on with other peers around them and were conscious of others' feelings (e.g., scolds a peer taking something from another peer and gives it back). These characteristics enabled them to be powerful and influential in peer play interaction, which in turn enabled them to successfully extend their play ideas as well as to enhance the quality of play (Shin et al., 2004).

Rules. According to Vygotsky (2016), any type of play that involves an imaginary situation and roles does itself always contain rules stemming from that imaginary situation. It may sound strange to consider play as a 'free' activity as well as 'governed by rules' at the same time. However, Vygotsky's (2016) notion lies in the transitional nature of pretend play. In his thinking, play falls as an intermediate between the full constraints under a real situation and the freedom of thoughts under an imaginary situation. Therefore, the rules in pretend play are "rules of self-constraint and self-determination" (Vygotsky, 1967, p. 10).

The roles children act out in the imaginary situation require children to follow social rules accompanied by the roles. Following the rules is important for children to successfully accomplish their play. It is more likely that children are satisfied with their play by following the rules rather than not, indicated by Vygotsky's words (1967) contending that "a child experiences subordination to a rule in the renunciation of something he wants, but here subordination to a rule and renunciation of acting on immediate impulse are the means to maximum pleasure" (p. 14).

Therefore, children need to successfully negotiate with others to act out and move forward to the goal of their play. In fact, Pellegrini and Galda (1990) suggested that children use linguistic verbs to clarify meanings when they need to establish the rules in play (e.g., "You can't do that because you are a baby."). Young leaders are likely to be better at understanding the social rules accompanied by the roles and verbally communicate and enforce them to peers (Shin et al., 2004).

Communication and Leadership in Pretend Play

In pretend play communication, children's narratives are improvisational requiring the moment-to-moment contingency (i.e., the consequence of the dialogue is dependent on the one

just before) (Sawyer, 1997). Children in this improvisational play do not know what comes in the next sequence because their narratives within play are all non-scripted and the outcome is non-predictable (Sawyer, 1997). Because of this improvisational characteristic, social pretend play requires frequent metacommunication for understanding moment by moment actions (Whitebread & O'Sullivan, 2012).

Narratives in improvisation are embedded in the social context. Sawyer (1997) viewed children's play narratives as collaborative because play scripts are not dependent on only one play participant. Rather, play narratives emerge within the collective contributions of each participant and their interactions. Narratives during social pretend play are co-constructed in group improvisations, and they need to be understood and examined by focusing on the group conversation not merely on the individual's narratives. For instance, the individual who proposes something will not know how other play partners will respond to his or her proposal. It does not depend on individual mental representation levels but on the negotiated social process between play members.

Similarly, leadership has also been deemed as an ongoing process that is affected largely by the social cognitive process between interdependent leaders and followers and their behaviors (Hogg, 2001; Liu et al., 2020). In this view, leadership is considered along with time and context (Hogg, 2001; Liu et al., 2020), emphasizing the effects of social systems within which individuals are embedded. Therefore, while children engage in leadership roles in social pretend play, the results (e.g., effectiveness, successfulness) of their leadership behaviors may not be determined without the existence or the responses of other play members.

To be able to view leadership as a process, it requires consideration of the context, the involved members, and their mutual interaction. The social context such as characteristics of

other play peers or responses of play partners is important to this notion. Regarding the play discourse/negotiation process as the social cognitive process, play leadership is affected by the reciprocal play interaction that children have during the negotiation of the imaginary situation, play roles, and associated play rules as well as enacting within the context of pretend play. Therefore, leadership needs to be viewed as an interaction between the leaders and followers, where the language or behaviors, or the overall leadership attempts of leaders should be acknowledged or appropriated by the followers.

Metacommunication

Metacommunication, 'communication about communication,' is a process that occurs when players think, converse about, or negotiate make-believe with play partners (Trawick-Smith, 1998; Williamson & Silvern, 1992). Metacommunication in social pretend play helps children to establish the needed intersubjectivity in order to sustain the play (Sawyer, 1997; Whitebread & O'Sullivan, 2012).

While communicating about the imaginary situation, role, and rule in social pretend play, children engage in different levels of discourse that can help children with metacommunicative conversational skills (Sawyer, 2003). Sawyer (1996) suggested two levels of metacommunication in pretend play – one level of real-life interaction with peers and the other level of dramatic fantasy. He argued that the duality of participating levels provides children with different levels of talking within the play frames. He also utilized the term role voicing to refer to the way a child enacts a play role and argued that "in play, role voicing requires at least two analytic levels: that of the speaker, or animator, and that of the dramatic role being voiced" (p. 292).

Among the two-levels of communication in play presented by Sawyer, the 'speaking in-character' is referred to as implicit metacommunication and 'out-of-character' as explicit metacommunication. In explicit metacommunication, children are aware of and explicitly acknowledge that they are pretending (e.g., "Let's pretend she is the mommy") (Sawyer, 1997) and are explicitly proposing their ideas by using words such as 'let's pretend' or 'let's play.' While out-of-frame metacommunication is like talking as a storyteller or director outside of the play episode, in within-frame (or implicit) metacommunication, children are implicitly projecting their play ideas to others while remaining in the characters that they are acting (e.g., directly speaking to others "baby, come here") (Sawyer, 1997, 2003). No matter whether it is within or outside of the play frame, metacommunication functions to establish, manage and alter the play frame (Whitebread & O'Sullivan, 2012).

Conceptual Framework

In conclusion, leadership development begins in early childhood. During preschool years, children engage in social pretend play most frequently and that requires constant communication with others regarding the imaginary situation, roles as well as the rules. These features of pretend play serve as a great naturally occurring context for children to develop leadership skills because children involve in a discourse process via both implicit and explicit metacommunication with others during play. Within the process, the examination of leadership does not merely depend on the leader's individual leadership traits but requires considering the interactions with others. Bossy children may probably seem to be good leaders but if they only can suggest or direct play ideas that are never accepted or followed by other play peers, these children may not actually be effective leaders.

Borrowing from the above models, I proposed a conceptual framework. The proposed

conceptual framework, building on work by Murphy and Johnson (2011) and Liu et al. (2020) on

leadership development and Vygotsky's work of pretend play during early years, described the

dynamic nature of leadership process within social pretend play. Figure 1 contains an overview

of the elements of the conceptual model that I proposed as well as the relationships between

elements. These aspects of leadership and pretend play as a process are further explored in next

section along with the evidence from empirical literature.
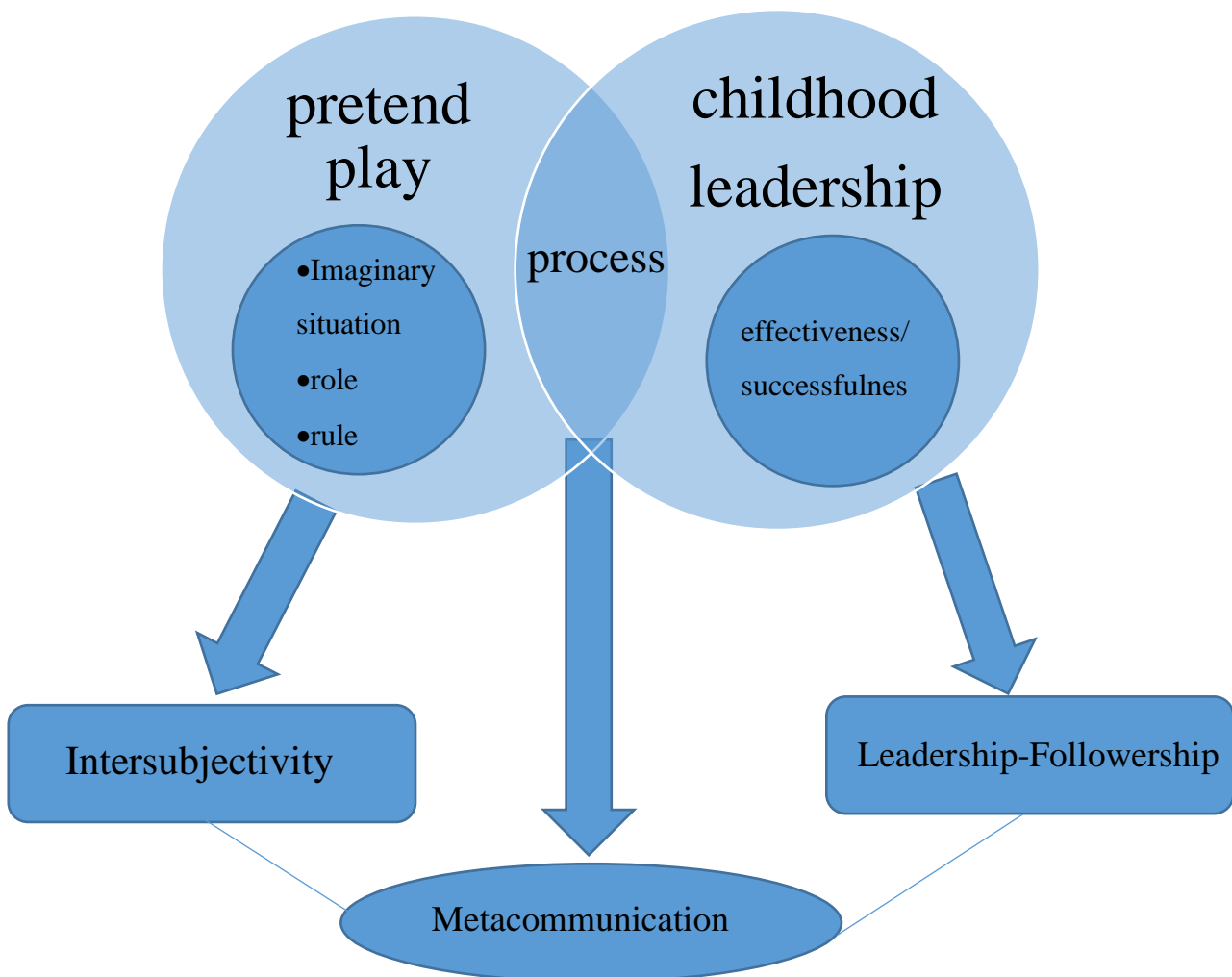
Figure 1. Conceptual Framework.

Review of the Empirical Literature

To have a better understanding of the foundational logic of the current study on leadership development and use of metacommunication within the pretend play context, this section explores empirical literature in the fields of leadership development, pretend play, and communication.

Childhood Leadership Development

Leadership traits and behaviors

Researchers have examined young children's leadership from different perspectives and the definitions of leadership have focused on different aspects of leadership dimensions (e.g., Hensel, 1991; Shin et al., 2004). For instance, Fox et al. (2015) synthesized the existing literature portraying cognitive, social, emotional, and physical domains of characteristics of young leaders.

There have been mainly two strands of childhood leadership literature: to view leadership as a trait and to view it as a behavior. For example, Lee and others (2005) identified and summarized various leadership-related traits from the existing literature such as social, cognitive, and language capabilities, and independence. Shin et al. (2004) argued that young leaders possessed dynamic and powerful personalities. Fox et al. (2015) illustrated some behavioral aspects using descriptions such as problem solving, being responsive, or organizing. Fu (1977) developed a coding scheme of 18 leadership behaviors (e.g., directing, suggesting, commanding, and assigning) along with coding them as successful or unsuccessful behaviors. Fukada et al. (1994) developed a leadership scale of a 15-item leadership behaviors checklist (e.g., initiating play, directing play rules). Further through a factor analysis of those leadership behaviors, they came up with two behavioral leadership dimensions - facilitation of play and consideration of playmates. Facilitation of play is related to behaviors such as initiating or monitoring the

direction of play, and consideration of playmates is related to behaviors such as giving directions and helping or protecting other players.

Researchers have also divided leadership into various categories based on children's use of different leadership strategies. These different categories include four roles as director, free spirit, manager, and power man (Lee et al., 2005), two dichotomous dimensions of diplomat and bully (Parten, 1933), or two strategy-based categories of physically aggressive strategies (e.g., pushing, threatening) and relational assertiveness (e.g., cooperation, helping) (Mawson, 2011). These leadership styles have been associated with verbal capabilities, social competence, and dynamic characteristics.

However, to view leadership only using the categorical view is not sufficient to fully understand child leadership. Shin et el. (2004) suggested that children's leadership skills can exhibit both positive and negative aspects and should be understood with an interwoven and multidimensional view, aligning with the suggestion of Fukada and other (1994) to use more than one dimension to measure children's leadership. Similarly, Trawick-Smith (1988) contended that leadership is a complex concept and cannot be merely considered an act of one behavior. He points out that leadership among preschoolers is considered as a mixture of leading and following, where young leaders also demonstrate a high level of diplomacy and social understanding, including accepting, not seeking dominance, and allowing others to contribute.

Leadership as a process

As mentioned above, previous studies exploring children's leadership have relied on observation or measurement of individual traits or behaviors related to leadership (Lee et al., 2005; Li et al., 2007). Little research has looked at leadership emerging naturally within

children's groups moment by moment (Li et al., 2007) or within relational data (Reitan & Sterberg, 2019).

However, leadership cannot be simply treated as a set of context-free individual construct (Shin et al., 2004). Rather, it is a socially relational construct that should be deemed as an interactional relationship jointly generated through the interactions between leaders and followers, in which both the leaders and followers have impact on the quality of their relationship (Li et al., 2007; Murphy & Johnson, 2011; Reitan & Sterberg, 2019; Shin et al., 2004). As it is a dynamic and iterative process that evolves within a group (Murphy & Johnson, 2011; Shin et al., 2004), it is important to consider the context within which leadership interaction takes place influencing the process or dynamic (Lee et al., 2005; Li et al., 2007; Shin et al., 2004). By defining leadership as a 'reciprocal social process,' Li et al. (2007) put it this way:

> leaders initiate actions; their initiatives can be accepted or not by others. This condition is especially true for leaders who have emerged informally, instead of being elected or appointed. Their legitimacy depends on followers and can be withdrawn by them, too. (p. 77).

In other words, children 'become' leaders only when other peers willingly follow them (Shin et al., 2004).

In collaborative play, defined as an activity in which two or more children are involved in with a common understanding of the purpose and joint interest of maintaining the play episode, children's leadership can be either individual or shared (Mawson, 2011). Mawson (2011) suggested that when children share leadership in play episodes, they together offer suggestions and negotiate the direction of play scripts. When there is a clear individual leader in play groups,

it is likely that more of their leadership attempts are followed by other group members. If the

leadership is shared, then there is likely more negotiation process happening in the play

interaction. Whitebread and O'Sullivan (2012) provided similar discussion using the term co-

regulation of play episodes. Ongoing interaction between players in social pretend play help

children to co-regulate the play episodes by collectively establishing play frames and solving

problems arising during the play enactment.

Social Pretend Play: A Context for Leadership Development

Defined as "play in which children begin to communicate their transformations and

collectively transform objects, people and situations in order to create non-literal 'as if'

situations" (Whitebread & O'Sullivan, 2012, p. 198), social pretend play is a type of social play

in which children have a shared common goal. Social pretend play requires play members to

communicate with each other effectively to negotiate – control or compromise - back and forth

for the successful continuation of the play activity (Ashiabi, 2007; Black, 1992; Howes et al.,

1992). Germeroth et al. (2019) provided a summary of observable characteristics of mature

social pretend play based on the work of Vygotskian views: use of objects that little resemble the

real object, well-defined imaginary roles, well-communicated reasons for rules, and metaplay.

Pretend play happens frequently on the outdoor playground (Trawick-Smith, 2010), a

vast majority of which is spent in more complex forms of play such as abstract and social

pretend play (Li et al., 2016; Shim et al., 2001). Outdoor play settings can facilitate the

enactment of complex sociodramatic play themes (Davies, 1996) and offer opportunities for

children to learn how to initiate an interaction with peers, how to talk about a plan, and how to

negotiate along the way during enactment (Perry, 2003). The flexibility of outdoor environments

without undue direction and structure from adults facilitates children's use of their own

imagination and adaptability for different self-directed dramatic play themes (Davies, 1996; Zamani, 2017), thus promoting more frequent and complex pretend play (Maxwell et al., 2008; Morrissey et al., 2017; Shim et al., 2001; Trawick-Smith, 2010; Zamani, 2017).

Social pretend play has been mostly found to be associated with language development such as language acquisition or use of more complex linguistic forms (e.g., non-present tense verbs, quasi-modal verb forms, temporal expressions) (Garvey & Kramer, 1989; Lillard et al., 2013; Quinn et al., 2018), and social skills such as understanding of other people's emotions (Linsey & Colwell, 2003) and assertiveness (Li et al., 2016). In describing social aspects of pretend play, Black (1992) emphasized two features. The first is the frequent renegotiation of episodes for mutually accepted rules of play. The second feature is the need of social demands such as being able to cue each other about shared play themes and to clarify the communications of each other to explain their own play ideas. Black (1992) argued that in order to become co-actors, children need to demonstrate responsiveness and reciprocity to make relevant contributions to the play.

Social pretend play in outdoor settings

Outdoor free play for preschoolers simultaneously provides opportunities for more child engagement and less teacher involvement (Kendrick et al., 2012). Many early childhood teachers view their roles during outdoor play as a safety monitor and supply manager (McClintic & Petty, 2015) leading to a more hands-off approach to children's play. This stance affords children the opportunity to engage more fully in play of their own choosing. Preschoolers showed more positive task and peer engagement during outdoor play (Vitiello, et al., 2012). Research has shown that the affordances of outdoor environments promote more frequent and complex pretend play (Henniger, 1993; Maxwell et al., 2008; Morrissey et al., 2017; Shim et al., 2001; Trawick-

Smith, 2010; Zamani, 2017). The 'affordances' (Gibson, 1979) or 'functional significance' (Heft, 1988) are presented across different settings for children's play. Hirose et al. (2012) found that child activities are influenced by different types of affordances (i.e., equipment and materials) provided in indoor and outdoor play. For example, the natural space for children's play and activity include varied physical uses (i.e., running, climbing), social uses (i.e., solitary, parallel, and group play), as well as varied play uses (i.e., imaginative, role play, fantasy play) (Waters & Maynard, 2010).

The outdoor play setting, with its environments that facilitate the enactment of complex sociodramatic play themes (Davies, 1996), can offer opportunities for children to learn how to initiate an interaction with peers, how to talk about a plan, and how to negotiate along the way during enactment (Perry, 2003). Movable materials and equipment in playgrounds can benefit children to have a greater effect on their pretend play contexts. The flexibility of outdoor settings without undue direction and structure from adults facilitates children's use of their own imagination and adaptability for different self-directed dramatic play themes (Davies, 1996; Zamani, 2017). In fact, studies have found that children are more likely to engage in social and complex pretend play on the playground than indoors (e.g., Shim et al., 2001; Trawick-Smith, 2010).

Successful play and leadership

Sustaining play episodes successfully is an important factor for children to truly enjoy and engage in play, which requires a common understanding between play members regarding the details of play scripts. Children engaging with peers in an ongoing manner is important for their competencies to engage in play effectively (Mawson, 2011). Children's ability to facilitate the transmission of inter-subjectivity among peers is important in maintaining the collective

pretense and not resulting in dispersive social interaction (Black, 1992; Whitebread & O'Sullivan, 2012).

Children establish a play context including boundaries for appropriate and inappropriate verbal/non-verbal behaviors (Bateson, 1955). They use the boundaries of the play action they set to create the effective sense of "we"-ness inside the play episodes and successfully sustain the play (Ghafouri & Wien, 2005). Also, children in pretend play sequences follow explicit and implicit rules and are aware of the rules and try to not violate them to successfully move play forward (Curran, 1999).

"The complexity of maintaining group cohesion and focus on the theme of the play encourages the emergence and acceptance of individual leadership" (Mawson, 2011, p. 334). Because children's play can be disrupted by conflicts, power negotiation and leadership play an important role in children's successful development and sustainment of play frames (Ghafouri & Wien, 2005). This discussion suggests that effective players are mostly effective leaders as well. As a context for joint goal formation (Ramani & Brownell, 2014), social pretend play is likely to provide the context to better understand the complexity of leadership skills.

In fact, effective leaders have been found to initiate new ideas, extend other playmates' ideas, enhance the quality of play, use play materials in creative ways, and regulate social interaction, resulting in successfully moving play over long periods of time (Lee et al., 2005; Mawson, 2011; Recchia, 2012; Shin et al., 2004). Young leaders are also generally good at both leading and following behaviors (Shin et al., 2004). They involve peers in their play ideas and revising their own ideas to accommodate play peers' input. This ability of children helps them to be effective players, which in turn helps them become the leaders in play because other play peers are willingly follow their leads (Lee et al., 2005).

In this sense, leadership needs to be discussed together with other players' responses and is defined as "moves that are followed by others and achieved the expected effect" (Li et al., 2007, p. 85). The view of leadership in play as a process requires the consideration of other play members because the judgment of effectiveness of leadership attempts depends on the responses (e.g., compliance, submission, imitation) of other group members (Fu, 1979; Li et al., 2007).

Followership

One part of effective leadership is to take others' perspectives (Ghafouri & Wien, 2005; Hensel, 1991), including social skills such as showing prosocial behaviors and positive social power (Lee et al., 2005; Shin et al., 2004). For example, young leaders are good at making deals through compromising willingly when necessary (Lee et al., 2005). Persuasive children more often employ prosocial persuasive techniques because of the ineffectiveness of aggressive approaches (Trawick-Smith, 1992). Liked children, compared to disliked children, more likely to exhibit responsiveness to the needs of others and refer to the ideas of others during negotiation, maximizing the possibility that their own ideas to be accepted which promotes their prosocial leadership role in the interaction (Black, 1992).

Additionally, one of the implicit rules of pretend play is to accept other peers' fantasy proposals (Curran, 1999). This suggests that a certain level of followership is required for sustaining pretend play. In fact, leading and following behaviors in child activities are complementary behaviors and it is likely that an effective and competent leader would use both following and leading behaviors skillfully (Shin et al., 2004).

From a discourse view, successful discourse depends on three communication skills - initiations with clear direction, contingent responses, and successful re-initiation (Hazen & Black, 1989). These concepts also apply to successful leadership communication in social

pretend play, in which leaders' clear initiations need to be followed by contingent responses by followers to move play scripts forward successfully. Hazen and Black (1989) also pointed out that children who say "no" to others' initiation as well as provide some alternative ideas are better at negotiating rather than simply saying "no."

Metacommunication as a Leadership Strategy in Pretend Play

Studies have shown that leadership skills are related to language skills and proficiency (Fu et al., 1982; Murphy & Johnson, 2011; Perez et al., 1982; Shin et al., 2004). Young leaders' verbal and cognitive capabilities usually allow them to use more assertive, directive, and commanding words to exercise dominance (Shin et al., 2004). More advanced verbal skills tend to help children to come up with more sophisticated play ideas and behaviors that are attractive to other players, and verbally persuade or direct others in play and successfully negotiate with play peers (Lee et al., 2005).

In pretend play, children are engaging in both worlds – make-believe and real life (Pellegrini & Galda, 1990). The real-world and imaginative meaning of the materials and roles are different, and thus maintaining the distinction between fantasy and reality is important (Curran, 1999; Pellegrini & Galda, 1990). Children rely on each other using metacommunication when they step in and out of pretend situations to clarify and negotiate what an imaginative role can or cannot say or do (Black, 1992; Pellegrini & Galda, 1990).

Additionally, as discussed in the theoretical review, communication about the play is needed because social pretend play is improvisational. It requires children's momentary engagement through complex discourses including the transmission of shared knowledge to clarify the meaning, assign roles, establish rules, and negotiate the enactment of pretense in episodes to maintain their play successfully (Black, 1992; Göncü et al., 2002; Pellegrini &

Galda, 1990). Sawyer (2002) suggested that the examination of narratives in social pretend play requires the moment-to-moment analysis of interactional group dynamics of pretend play dialogues and metaplay conversation.

Metacommunication plays an important role in reaching the convergence within the play frame. Metacommunication in social pretend play functions as a mechanism to establish the play frame in which children use words to communicate about the play frame such as how behaviors should be interpreted and manage changes to the frame (Whitebread & O'Sullivan, 2012).

Generally, there are two different types of play utterances in social pretend play (Whitebread & O'Sullivan, 2012; Vedeler, 1997). The first type is implicit or in-frame metacommunication, the utterance expressed in an imaginative role (e.g., "Dinner is ready."). The other type, explicit or out-of-frame metacommunication is expressed to give the context of pretense (e.g., "Pretend we were eating dinner."). Vedeler (1997) claimed that the latter type of utterances is expressed *about* an assumed role. In a word, implicit metacommunication 'implies' the pretense while explicit metacommunication 'explicates' the pretense situation (Whitebread & O'Sullivan, 2012).

However, as discussed by Whitebread and O'Sullivan (2012), several previous studies tended to exclusively focus primarily on out-of-frame metacommunication. They argued that much metacommunication occurs within the play frames and suggested to operationalize metacommunication separately as either implicit or explicit. Children need to choose the appropriate strategy of metacommunication (i.e., implicit, explicit) to achieve the right level of convergence (Whitebread & O'Sullivan, 2012). Also, children's use of both explicit and implicit metacommunication serves different functions in different stages of play (Whitebread & O'Sullivan, 2012). More explicit metacommunication may be effective at the beginning stage of

the play so that children can establish the play frames. Also, children can depend on more explicit metacommunication if there is any disagreement that cannot be resolved by implicit communication. On the other hand, implicit metacommunication may be more effective once the play frame is established as it does not cause much disruption to the play frame (Whitebread & O'Sullivan, 2012).

Potentially Related Factors

Although pretend play is a universal activity of children framed by metacommunication and a context for leadership process, variations do occur as a function of factors such as children's age, group size, and playmates gender (Bailey et al., 2017; Göncü et al., 2002; Mawson, 2011; Maccoby, 1988; Whitebread & O'Sullivan, 2012). These potential related factors are further explored in the following.

Age. Successful social pretend play requires children's abilities to transform the meanings of objects, persons, and situations (Andresen, 2005) and thus children's age can be an influencing factor. Older children are more likely to express play ideas than younger children (French, 1984; Göncü et al., 2002) and to employ advanced leadership behaviors and power in regulating other children in play (Shin et al., 2004). Whether or not leadership attempts are successful may depend on language proficiency (Fu et al., 1982). Older children tend to be better at explicitly negotiating pretend play frames (Halliday-Scher et al., 1995; Sawyer, 1997) with their more advanced language skills. For instance, Halliday-Scher et al. (1995) found that older children utilized more explicit metacommunication than younger children. They reasoned this to the different levels of comprehension of reality/imagination disctincion by age. Halliday-Scher et al. (1995) also reasoned that older children are more able to traverse the continuum of different metacommunication levels.

However, as reviewed by Whitebread and O'Sullivan (2012), some studies also found no difference in older and younger children's use of explicit metacommunication (e.g., Sawyer, 2003). Some other studies (e.g., Andresen, 2005) also found that older children tended produce more implicit metacommunication. Andresen (2005) reasoned that children are not quite able to perform all complex mental tasks of pretense implicitly when they do not yet have the cognitive abilities (Andresen, 2005). Additionally, as the play levels of older children get more complex, their play requires more transformations as well, which may necessitate both implicit and explicit metacommunication use (Andresen, 2005).

Pretend themes. Children's use of metacommunication can vary by different types of pretend themes (e.g., fantastic, domestic) (Halliday-Scher et al.,1995; Whitebread and O'Sullivan, 2012). For instance, a fantasic pretend play theme may require more explicit and structured sharing of meaning because it needs to clearly be negotiated in order to coordinate the pretense (Halliday-Scher et al., 1995). Halliday-Scher et al. (1995) reported that older children used less explicit metacommunication than younger children in fantasic themes, the amount of implicit metacommunication used was similar between older and younger children when they engaged in domestic pretend play themes.

Gender. A child who dominates play interaction emerges in play groups no matter whether it is a girl's or boy's group. While some researchers have reported no gender differences in examining leadership skills (e.g., Parten, 1933; Trawick-Smith, 1992), other researchers have found significant differences between girls and boys (e.g., Fu, 1979; Maccoby, 1988; Mawson, 2011).

One of the most common differences reported is in the expression and effectiveness of leadership. During the preschool years, boys are more likely to dominate in play groups while

girls tend to avoid such domination (Mathur & Parameswaran, 2015). For example, Mawson (2011) has discussed that boys are more likely to show leadership in mixed-gender play than girls do (Mawson, 2011). Fu and others (1982) found that more potential leaders among girls failed (i.e., unsuccessful) in their leadership attempts although they had creative play ideas. Neppl and Murray (1997) found that boys were more likely to refuse to follow female peers' leads during activities. Several possible explaining factors are discussed such as gender roles socialization from earlier ages (Fu, 1979; Mawson, 2011).

The socialization process, defined as the internalization of values (Block, 1973), may impact children's development of gender personality. Sex-role stereotypes acquired through different experiences such as differential socialization pressures during the earlier stages may affect young children's expectations of sex-appropriate behaviors (Block, 1973; Fu, 1979; Fu et al., 1982). For instance, girls' leadership initiatives may be more likely to be ignored by peers as sex-inappropriate behaviors (Block, 1973; Fu, 1979).

Gender differences also have been found in leadership-communication styles (Black, 1992; Black & Hazen, 1990; Mawson, 2011). Boys use more dictatorial approach of control (e.g., direct commands) in play episodes and create hierarchy. They often refuse to express agreements to other peers' demands and sometimes exclude other players from their play and (Maccoby, 1988). Additionally, Black and Hazen (1990) found that boys used more language irrelevant to the ongoing play themes and switched play themes more often than girls did. Therefore, boys' play communication more often results in a disruption of play, thus needing frequent renegotiation (Black, 1992). In contrast, girls are more interested in cooperative social goals than boys do and value shared leadership (Black & Hazen, 1990; Mawson, 2011). Girls' communication in play is often more coherent and more likely to be associated with maintenance

and continuation of social interaction (Black, 1992; Black & Hazen, 1990). They use more directorial approach (e.g., verbal persuasion, polite suggestions) with more consensus and compromise as they are more likely to comply with others' ideas (Maccoby, 1988; Mawson, 2011).

"Social behavior … is never a function of the individual alone. It is a function of the interaction between two or more persons. Individuals behave differently with different partners" (Maccoby, 1990, p. 513). Maccoby's discussion establishes that social behavior is both situationally specific and dependent on gender composition of the groups. In this context, gender differences found in play discourses in previous research derive from the combination of gender and contextual factors rather than gender alone (Göncü et al., 2002). Specifically, the nature of gender differences varies along with the gender composition of social groups and the asymmetry in children's influence patterns in cross-gender groups is likely to emerge from an early age (Maccoby, 1990). In line with this, Jacklin and Maccoby (1978) claimed that children's social behavior is at some level a function of the sex of children's play partners. They found that girls feel less competent to control interaction with a boy than with a girl and feel that their communicative efforts are less effective while playing with boys, resulting in withdrawal from the interaction. Similarly, Neppl and Murray (1997) found that girls presented more cooperative behaviors while playing with girls than playing with boys.

Li et al. (2007) found that girls were more likely to become leaders than boys. They discussed that their results might be because they were placed in a more relationship-oriented than task-oriented context in the study. Further, they claimed that general impressions favoring males as leaders in the adult world might not hold in children's world because during early childhood, gender roles are less stereotyped or formed within children, which would not prevent

girls to become leaders in the groups. This discussion is also in line with findings of Sluss and Stremmel (2004). They found that during play-dyads between more skilled and less skilled play partners, girls displayed a leadership role more frequently than boys. Preschool girls engaged in more instances of assisting behaviors than boys, suggesting that girls with high play skills were capable to facilitate less skilled peers, in turn resulting in more complex level of collaborative play.

Chapter 3 - Methodologies

Research Questions

The purpose of this study was to examine the relationship between the use of metacommunication strategies and leadership/followership processes expressed in social pretend play. Additionally, this study examined the role of varying factors on the relationship. In this chapter, I detailed the research questions, research design including data collection process and data management process, and analytic plans.

Research questions for the current proposed study included:

Question 1: How are metacommunication strategies used by preschoolers in social pretend play?

a. How does the use of metacommunication strategies vary by the pretend play components?

b. How are the metacommunication strategies associated with the follower responsivity?

c. How does the follower responsivity to pretend play components vary depending on the metacommunication strategies?

Question 2: How are gender differences presented in children's leadership-followership exchanges in social pretend play?

a. Within leadership-followership exchanges, how does the use of metacommunication strategies vary by the leadership and followership gender in pretend play?

b. Within leadership-followership exchanges, how does the follower responsivity of implicit and explicit metacommunication strategies vary depending on the leadership gender?

c. Within leadership-followership exchanges, how does the follower responsivity of implicit and explicit metacommunication strategies vary depending on the followership gender?

Question 3: How do the use of implicit metacommunication strategies, follower acceptance responsivity, and gender composition of play groups affect the sustainability of pretend play?

Research Design

Research Setting

A multi-modal study was launched by faculty at child care program in the fall of 2017 to track changes in children's social groups, play, and physical activity. This project employed GoPro Hero Session 5 cameras, Actigraph GTX+3 and Actigraph Link accelerometers, and Land Sear Air Tracking Key 2 global positioning system (GPS) devices to record children's outdoor play experiences over portions of two years. Data for this project were collected, organized, coded, and analyzed by teams of undergraduate and graduate students. I developed data entry and coding materials for the larger project and also supervised data collection during the second year of the project.

The Children's Leadership Project was developed under the guidance of a faculty member to utilize the video data collected within the larger project. With the support of ongoing collaborative discussions with the faculty, I assumed primary responsibility for the development of the theoretical framework and methodological design of this project. In consultation with

faculty, an undergraduate student and I developed a system for demarcating the videos into activity settings based on the children's primary activities. In addition, we worked together to create Canvas-based reliability training materials for the coding system. As Project Manager, I trained and supervised undergraduate students coding videos and also sought funding from the Graduate School at Kansas State to transcribe videos for data analysis.

Participants

Research participants included 39 children (19 boys and 20 girls) at the child care setting. At the entry of the study, children were an average age of 48.3 months (range from 32 to 62 months). Of the total participants, 2.6% were American Indian, 28.2% were Asian, and 61.5% were Caucasian.

Unit of Analysis

The purpose of the current dissertation was to examine leadership-followership process expressed via metacommunication use in pretend play. This was different from the examination of individual leadership or followership characteristics, which would have been examined at the level of child. Rather, in order to examine the moment-to-moment metacommunication interactional process, the unit of analysis in the current study was defined as each leadership-followership metacommunication turn. Therefore, the descriptive statistics have been presented at the level of leadership-followership exchange rather than the individual child.

Data Collection

Following the approval from the university Institutional Review Board (IRB), the teachers in the child care setting distributed the informed consents to parents who agreed to have their children participate in the study. The consent form provided information about the purpose, procedures, confidentiality, risks, and benefits of the research study. Parents who agreed to

participate provided informed consents, demographic questionnaires, and children's behavior questionnaires.

Data were collected in December 2017 and spring semesters in 2018 and 2019. Data were collected during two weeks each month and children were randomly assigned to one day each week. Each data collection day children provided verbal assent to wear a chest-mounted GoPro Hero Session 5 camera during outdoor free play activities. Children who did not agree to wear the cameras were asked again the following day.

Data Management

A total of 153 separate videos were collected that recorded the children's entire outdoor free play period. The average number of videos per child was 3.9 and ranged from 0 to 10. Thirty-six children (18 boys and 18 girls) had video data and three children did not have any video data due to video technical issues or taking off the cameras during outdoor time. For a starting point, children's interactions were identified based on the purpose or nature of their activities, so that further analyses could be conducted specifically using the pretend play activities of interest. Therefore, each video was watched from start to end and logged into "chunks" of activities based on pre-developed instructions, which were referred to as *activity episodes* in this study.

Activity episodes

Identification. The first step in the data management process was to identify children's play as "chunks" of activity labeled *activity episodes* based on the target child's primary activity. The concept of activity episode used in the current study was drawn from two different ideas – joint event and play frame (Bateson, 1972; Ramani & Brownell, 2014; Rogoff et al., 1995; Trawick-Smith, 2010). Joint events recognize the importance of examining the entire activity

rather than separating the event into smaller elements that may provide an inaccurate picture of development within the activities (Ramani & Brownell, 2014; Rogoff et al., 1995). Play frames recognized the importance of participants signaling the start and stop of play by metacommunicative signals between participants (Bateson, 1972; Trawick-Smith, 2010). According to Trawick-Smith (2010), a play frame starts with the first appearance of playful behavior and continues through the interactions and ends when all the players engage in non-play activities, announce the end of play, or leave the play area.

An activity episode referred to a unit of activity based on the nature of children's engagement during outdoor play. Coding categories for activity episodes included exploratory play, gross motor play, pretend play, organized games, social interaction, intentional activity, and non-engagement. A total of 1405 activity episodes were identified, and the number of episodes in each category was as following: 165 exploratory play, 352 gross motor play, 133 pretend play, 24 organized games, 38 intentional activity, 382 social interaction, 304 non-engagement, and 7 coded as others. For the purpose of this study, the pretend play episodes were the primary data source.

The definition and examples of pretend play are shown in Table 2. A pretend play episode began when the child indicated intent or involvement in pretend play by verbal cues such as saying words of pretending or non-verbal cues such as making sound effects. For example, the child might say words such as "Let's pretend…" or "You are the mom and I am the baby," or making sounds as if he was a dinosaur and 'catches' other peers. The child may also show his or her intention via joining or inviting a pretend play episode, asking "Do you want to play…?" Whenever the nature of the activity episode changed, a new activity episode began and the previous one ended. Coders watched a larger video segment than the episode to make sure and

gain the fullest picture of the nature of each episode and determine exactly when it ended. A pretend play episode terminated when the child 1) left the group/space of pretend play, 2) showed no relations to the previous play episode, 3) was rejected or failed to enter into or continue the play episode.

Table 2. Definition and Examples of Pretend Play Episode

Activity episode	Definition	Examples
Pretend play	Child is playing and provides vocal cues of events or characters outside of reality that could be words or sound effects.	The participant is a "zombie kitty" chasing after the others who are "mermaid kitties." Playing baking and eating a cake in the sand box starting with verbal cues of pretending. The participant picks up a piece of bark and says, "this is money."

Reliability coding. Reliability training included one-on-one meetings with student assistants to introduce the purpose and concept of this process, and briefly guide them to training modules. The online training modules were created to introduce activity episode coding procedures, the location and format of coding sheets, definitions, and sample/example videos along with correct answer sheets.

After completing the online training, student assistants worked on the identification of activity episodes for two additional videos for reliability checking. The discrepancies were discussed through in-person discussions or online feedbacks/comments until reaching 100% agreement on the demarcation of activity episodes.

Once student assistants reached the 100% agreement rate, they worked on demarcating each video into activity episodes. The coding sheet for each video was saved individually and

included the participant number and video date. After this phase, data retrieved from these Word documents were entered into an Excel file, where the information was stored (i.e., participant number, video date, episode number, episode category, episode start and stop time).

Data reduction

A total of 133 pretend play episodes were identified in the activity episode identification process. The average number of pretend play episodes per child was 3.4 and ranged from 0 to 12. Twelve children (3 girls and 9 boys) with the average age of 44.8 months (range from 35 to 61 months) did not have any pretend play episode in their videos. This stage resulted videos from 24 children (15 girls and 9 boys) with accessible pretend play episodes data.

The data reduction process included the screening of the identified pretend play episodes to finalize the list of usable pretend play episodes data. The criteria for pretend play episodes to be removed included the identification of solitary play, interaction with teachers exclusively in pretend play, and play interruption by external factors such as classroom photos or injuries. Because multiple children wore cameras on the same data collection day, duplicated pretend play activity episodes were identified and any overlapping episode from multiple videos were removed. An overlapping episode met two criteria: 1) the duration of the deleted episode is shorter than or the same as the remaining episode; 2) players could move away from each other but they should still be involving in the same theme of play episode. This stage of data reduction identified 63 pretend play episodes to be removed, yielding a total of 70 pretend play episodes in 55 videos from 22 camera-wearing children. The data reduction process is represented in a flowchart in Figure 2. Other children who did not wear cameras on the data collection dates were also visible in the videos if they were engaged in the same pretend play episodes recorded in the videos of the 22 camera-wearing participants. Therefore, the final research participants included
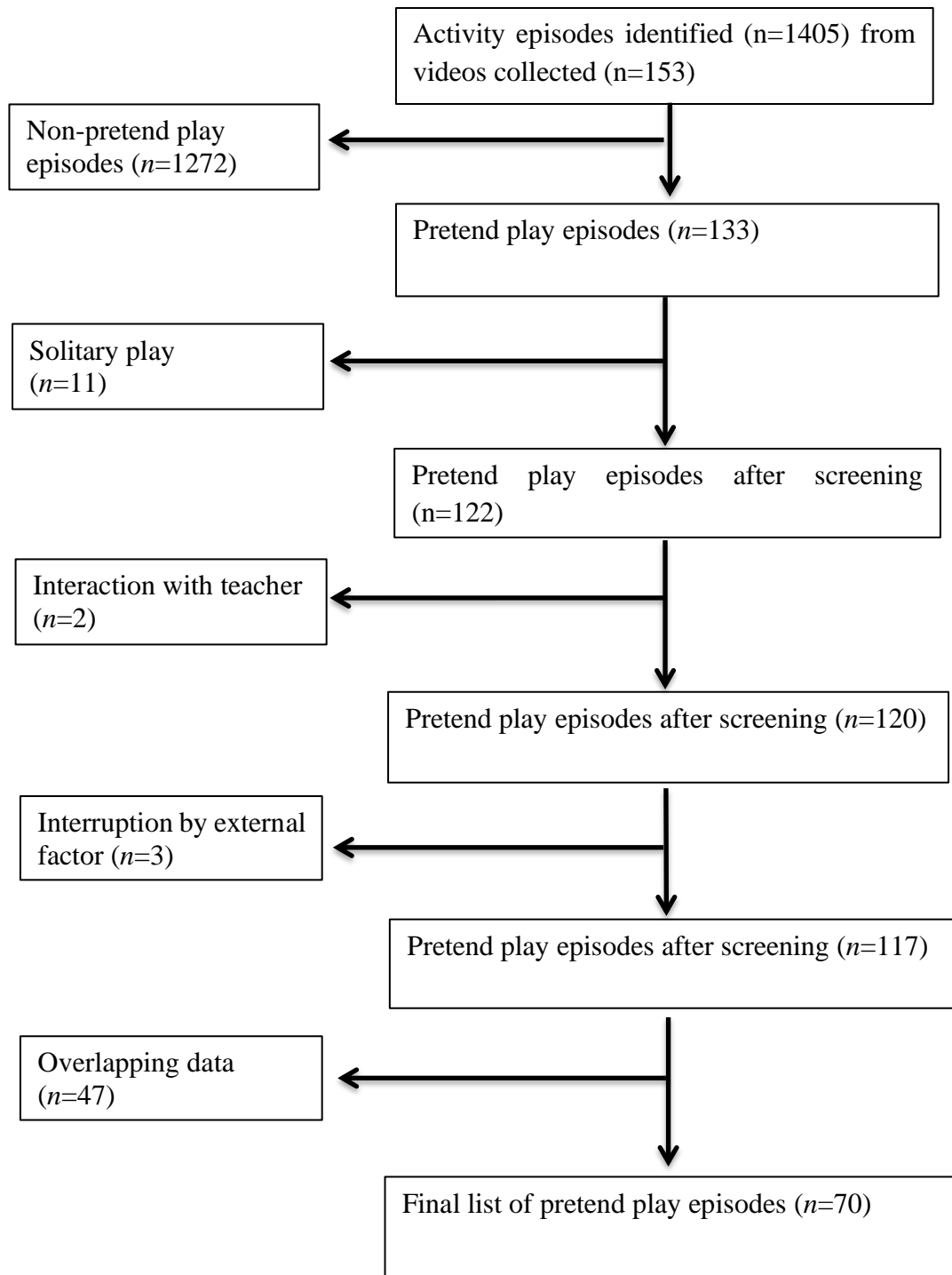
Figure 2. Data Reduction Flowchart.

35 children (16 boys and 19 girls). The average age of the 35 final participants when they entered the study was 49.4 months (range from 32 to 62 months).

Data Coding

Levels of coding

Leadership exchange. To examine children's leadership-followership process in social pretend play, the coding of metacommunication interaction was conducted at the level of leadership exchange, derived and adapted from the concepts of *turn* and *sequence* used in the previous studies. de Hann et al. (2020), using children's utterances as the unit of coding and analysis, defined a *turn* as "a unit of one or more utterances without interruption by the play partner." Sawyer (2003) used the term *negotiation sequence* to refer to two consecutive conversational turns by one proposing child who attempts to modify the play frame and a responding child who responds to those attempts. In the current study, a leadership-followership exchange refers to a co-constructed event that includes a leader's metacommunication use for initiating a new play frame or suggesting new ideas to change the imaginary situation, roles, or rules of the pretend play frames, followed by responses from one or more followers. Each leadership-followership exchange starts with a child's attempt at initiating or suggesting ideas to change the three components of pretend play (i.e., imaginary situation, roles, rules). The variables and corresponding codes are listed in Table 3.

Table 3. Variables and Codes for Leadership Exchanges

Variable	Codes
Metacommunication	0=implicit, 1=explicit
Pretend play component	1=imaginary situation, 2=role, 3=rule
Leader gender	0=girl, 1=boy
Follower responsivity	0=reject, 1=accept
Follower gender	0=girl, 1=boy

Pretend theme. Because identification of the pretend play episodes was based on the nature of the purpose of play engagement, as long as children's primary purpose of play fit into the explanations of pretend play provided in Table 2, a play frame was identified as a pretend play episode. A play frame could include multiple pretend themes in one pretend play episode. For example, in one pretend play episode that lasted 17 minutes, children engaged in three different pretend themes – 10 minutes in a superhero theme, 1 minute in a baby mouse theme, and 6 minutes in an animal superhero theme. Another pretend play episode lasted for 34 minutes total with a 32-minute baby dinosaur play and 2-minute underground lava play. Table 4 provides the types and examples of common dramatic themes in the children's pretend play.

Table 4. Types of Dramatic Themes and Examples

Type of dramatic theme	Examples
Daily life	Family, grocery shopping, cooking dinner
Community role	Firefighter, doctors' office
Imaginary character	Superhero, kitty mermaids, princess

Play sustainability was represented as the duration of each pretend theme because a longer pretend play episode as a whole did not necessarily represent a better-sustained play engagement if children switched the play themes multiple times due to the failure to sustain one specific pretend play idea. Other theme-related factors and variables are shown in Table 5.

Table 5. Theme-Level Variables

Variable	Codes
Shared leadership	0=individual leadership, 1=shared leadership
Play ended with external factors	0=no, 1=yes
Gender composition	0=same-gender, 1=mixed-gender
Group age	The mean age of players in play groups

Coding Strategies

Datavyu. Coding of leadership-followership metacommunication exchanges was conducted using Datavyu software (Databrary Project, New York University, 2014). Datavyu is a software designed for video coding and data visualization. Datavyu software enables users to pre-define their own variables with codes and record observations directly while viewing video data simultaneously in the software. A spreadsheet template is utilized for coding observations from video data, which automatically provides the onset and offset time of each coded event as well. The spreadsheet for coding was designed with one row of cells representing each leadership-followership exchange, and one column representing each pretend theme. While watching each pretend play episode when a new leadership metacommunication use is identified, it was marked in a new row (a *cell* in Datavyu) with all variables using pre-defined codes listed in Table 4. Whenever a new pretend theme occurred, a new column was created to start coding leadership-followership exchanges in the pretend theme. With these coding strategies, the spreadsheets were able to automatically provide additional data: the onset and offset timing of each pretend theme that in turn permits calculating the duration of each theme, the number of leadership-followership exchanges (cells) per pretend play theme (column), and the number of themes (columns) in one pretend play activity episode.

Reliability check. The reliability of coding the leadership-followership exchanges was checked via interrater reliability. A total of approximately 6% of the leadership-followership metacommunication exchanges were randomly selected for the second coder to code for the inter-rater reliability check. The reliability coding was conducted through coding based on the transcripts. The leadership-followership exchanges in each transcript were marked for the second coder to code. Therefore, all the leadership-followership exchanges of each pretend play theme

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were coded separately by two coders and compared to determine the inter-rater reliability. Cohen's kappa was used to determine the interrater reliability. The respective values for kappa were 0.94 for metacommunication, 0.79 for pretend play components, and 0.93 for follower responsivity.

Analytic Plan

SPSS software (SPSS Inc., Chiacgo, IL, USA) was used for the first two statistical analyses. The coded variables in Datavyu were extracted as a format for use in SPSS. The level of analysis in the first phase was the leadership-followership exchange. The first analyses used four coded categorical variables in Table 3 - metacommunication use, followership responsivity, and pretend play components. The sub-questions were tested with a Chi-Square statistic with $p <$ .05 level of significance separately. The first sub-question (1a) was tested with a Chi-Square test to examine whether there was a significant difference of frequency of implicit vs. explicit metacommunication by the pretend play components (i.e., imaginary situation, role, rule). The second sub-question (1b) was tested with a Chi-Square test to examine whether there was a significant difference of follower responsivity by different metacommunication use. The last sub-question (1c) examined the whether the association between association between pretend play components and follower responsivity varied by metacommunication strategies.

The second research question examined gender differences in leadership-followership exchanges. The first sub-question (2a) was tested with a Chi-Square test to examine whether there was a significant difference of frequency of implicit vs explicit metacommunication by different genders of leadership and followership. The next sub-question (2b) was tested with a Chi-square analysis of the association between metacommunication use and follower responsivity with the leadership gender in the first layer. The last sub-question (2c) was tested

with a Chi-Square analysis to examine whether there was the association between the follower responsivity and metacommunication use significantly differed by the gender of followership.

For the last question, a hierarchical linear regression was conducted to examine the influence of gender composition, follower responsivity, and metacommunication strategies on the time duration of pretend play themes. A hierarchical multiple regression was conducted with the log-transformed play theme duration as the dependent variable. The control variables (i.e., external factor, group size, group age, pretend theme types) were entered at stage one of the regression. The proportion of implicit metacommunication use in pretend themes, the proportion of follower acceptance in pretend themes, and the gender composition were entered at stage two.

Chapter 4 - Results

This chapter presents the results of the data analyses for each research question. Research questions for the current proposed study included:

Question 1: How are metacommunication strategies used by preschoolers in social pretend play?

    a. How does the use of metacommunication strategies vary by the pretend play components?

    b. How are the metacommunication strategies associated with the follower responsivity?

    c. How does the follower responsivity to pretend play components vary depending on the metacommunication strategies?

Question 2: How are gender differences presented in children's leadership-followership exchanges in social pretend play?

    a. Within leadership-followership exchanges, how does the use of metacommunication strategies vary by the leadership and followership gender in pretend play?

    b. Within leadership-followership exchanges, how does the follower responsivity of implicit and explicit metacommunication strategies vary depending on the leadership gender?

    c. Within leadership-followership exchanges, how does the follower responsivity of implicit and explicit metacommunication strategies vary depending on the followership gender?

Question 3: How do the use of implicit metacommunication strategies, follower acceptance responsivity, and gender composition of play groups affect the sustainability of pretend play?

Descriptive Results

A total of 70 pretend play episodes were identified. Among the 70 pretend play episodes, fifty-nine episodes had 1 theme, seven had 2 themes, two had 3 themes, and two had 4 themes, yielding 87 pretend play themes. Table 6 displays the descriptive statistics of the pretend play themes. Among all pretend play themes, 54 themes (62.1%) were same-gender groups and 33 themes (37.9%) were mixed-gender groups. The theme-level data were also coded whether or not the play themes ended by external factors. The descriptive results showed that 64 play themes (73.6%) were not affected by external factors and 23 themes (26.4%) of the play themes were interrupted and ended by external factors (e.g., classroom line-up, teacher involvement for safety guidance). Additionally, an analysis of normality showed that the data for dependent variable (i.e., play theme duration) were positively skewed. Therefore, a log transformation of the dependent variable was performed for data analysis purposes (Afifi et al., 2007; Feng et al., 2014).

Table 6. Descriptive Statistics of Pretend Play Themes ($N = 87$)

Variables	M	SD	Minimum	Maximum
Leadership-followership exchange	12.25	10.36	1.00	51.00
Play theme duration (minutes)	8.88	7.84	0.32	35.90
Group size	2.63	0.85	2.00	6.00
Group age	56.97	6.76	37.00	67.00
Gender composition[a]	0.38	0.49	0.00	1.00
Ended by external factor[b]	0.26	0.44	0.00	1.00
Pretend theme types[c]	0.49	0.54	0.00	1.00

[a]gender composition: 0=same-gender, 1=mixed-gender. [b]external factor: 0=no, 1=yes. [c]pretend theme: 0=fantastic, 1=domestic.

Table 7 displays the descriptive statistics of the leadership-followership exchanges. A total of 1066 leadership-followership exchanges were coded. Overall, children used explicit more than implicit metacommunication in their leadership-followership exchanges. The leadership-followership exchanges were more initiated by girls (58.6%) and followed by girls (58.7%) as 32 videos were from camera-wearing girls (58.2%) and 23 videos were from camera-wearing boys (41.8%). Given that preschoolers tend to engage more in same-gender play than mixed-gender play, it was not surprising to find the similar numbers of exchanges led and followed by female leaders. The most frequently communicated pretend play component was the imaginary situation, and the least often discussed component was the role component. About three times more of leadership-followership exchanges were likely to be accepted than rejected.

Table 7. Descriptive Statistics of Leadership-Followership Exchanges ($N = 1066$)

Variables		*Frequency*	*Percentage*
Metacommunication	Explicit	672	63.0
	Implicit	394	37.0
Leader gender	Girl	625	58.6
	Boy	441	41.4
Pretend component	Imaginary situation	613	57.5
	Role	185	17.4
	Rule	268	25.1
Follower response	Accept	813	76.3
	Reject	253	23.7
Follower gender	Girl	626	58.7
	Boy	440	41.3

Research Question One

The first research question asked about the use of metacommunication strategies by preschoolers in social pretend play. Three sub-questions asked about the association between metacommunication and pretend play components and follower responsivity respectively. The following sections present the results of each sub-question.

Leadership metacommunication use and pretend play components

The first sub-question (1a) examined the association between the use of metacommunication strategies and pretend play components. The analyses were conducted with chi-square tests of independence. The frequencies of responses are presented in Table 8. The chi-square test of independence for the metacommunication use and pretend play components was significant ($X^2(2) = 126.38$, $p < .001$), indicating there was a significant association between metacommunication use (i.e., implicit, explicit) and the pretend play components (i.e., imaginary situation, role, rule). When communicating about the imaginary situation in social pretend play, children used both implicit and explicit metacommunication in fairly similar frequencies. However, when communicating about the pretend components of role and rule, children used almost four times more explicit metacommunication than implicit metacommunication. Examples of metacommunication about imaginary situation included "Hello, I was wondering if you have any food for me?" "Let me take you to the hospital." "I'm just going to show the bad guys in the mirror." "This is our home." Examples of metacommunication about role included "My name is rainbow sparkle shine." "You are a spider." "Pretend I was your kitty." "Where are we going, daddy?" Examples of metacommunication about rule included "This is the window, you can't open it." "You can't come in. Say the password." "You can choose only one gun."

Table 8. Frequencies of Leadership Metacommunication and Pretend Components (N = 1066)

		Metacommunication	
		Implicit	Explicit
		N (%)	N (%)
Component	Imaginary situation	314 (51.2%)	299 (48.8%)
	Role	36 (19.5%)	149 (80.5%)
	Rule	44 (16.4%)	224 (83.6%)

Leadership metacommunication use and follower responsivity

The second sub-question (1b) examined the association between the use of metacommunication strategies and the follower responsivity. A chi-square analysis was conducted to examine whether or not the follower responsivity significantly differed by the use of metacommunication strategies. The frequencies of responses are presented in Table 9. The results of the chi-square test showed a significant association between metacommunication use and follower responsivity ($X^2(1) = 6.820$, $p = .009$). Both implicit and explicit metacommunication were more accepted than rejected, but the percentage of acceptance for implicit metacommunication was slightly higher than explicit metacommunication. Examples of implicit metacommunication included "Come on kitty, let's go home." "What? Did you make pictures for mom?" "Mommy have to take you to school." Examples of explicit metacommunication use included "Pretend the snow is ice and that you froze it hard." "How about it's your turn to be the mom cause you are driving?" "This is our home."

Table 9. Frequencies of Leadership Metacommunication and Follower Responsivity (*N*=1066)

		Follower Responsivity	
		Accept	Reject
		N (%)	*N (%)*
Metacommunication	Implicit	318 (80.7%)	76 (19.3%)
	Explicit	495 (73.7%)	177 (26.3%)

Metacommunication, pretend play components, and follower responsivity

The first part of the last sub-question (1c) examined whether there was a significant association between pretend play components and follower responsivity. A chi-square analysis was conducted. The frequencies of response are presented in Table 10. The chi-square test of independence for the pretend play components and follower responsivity was significant ($X^2(2) = 19.728, p < .001$).

Table 10. Frequencies of Pretend Play Components and Followership Responsivity (*N* = 1066)

		Follower Responsivity	
		Accept	Reject
		N (%)	*N (%)*
Component	Imaginary situation	497 (81.1%)	116 (18.9%)
	Role	124 (67.0%)	61 (33.0%)
	Rule	192 (71.6%)	76 (28.4%)

The second part of the last sub-question (1c) examined whether the association between pretend play components and follower responsivity varied by metacommunication strategies. A chi-square analysis was conducted. The results showed different rates of rejection between explicit and implicit metacommunication for each pretend play component ($X^2(2) = 28.475, p < .001$). The results also showed different acceptance rates between explicit and implicit

metacommunication for each pretend play component ($X^2(2) =93.631, p < .001$). The frequencies of responses are presented in Table 11.

Table 11. Frequencies of Responsivity and Components by Leadership Metacommunication ($N = 1066$)

Follower Responsivity	Metacommunication	Pretend Components		
		Imaginary situation *N (%)*	Role *N (%)*	Rule *N (%)*
Accept	Implicit	260 (81.8%)	24 (7.5%)	34 (10.7%)
	Explicit	237 (47.9%)	100 (20.2%)	158 (31.9%)
Reject	Implicit	54 (71.1%)	12 (15.8%)	10 (13.2%)
	Explicit	62 (35.0%)	49 (27.7%)	66 (37.3%)

Research Question Two

The second research question examined gender differences in children's leadership-followership exchanges in social pretend play. Chi-square analyses were conducted for each sub-question and the results are discussed below.

Leadership metacommunication use, leadership gender, and followership gender

The first sub-question (2a) examined the gender differences in metacommunication use. First, a chi-square analysis was conducted to examine whether or not the use of metacommunication strategies would significantly differ by the gender of leadership. The frequencies of responses are presented in Table 12. The result of the chi-square test showed a significant association between metacommunication use and the gender of leadership ($X^2(1) = 53.92, p < .001$). Girls used fairly equal implicit and explicit metacommunication, while boys used about three times more explicit than implicit metacommunication.

Table 12. Frequencies of Leadership Metacommunication and Leadership Gender

(*N*=1066)

		Metacommunication	
		Implicit	Explicit
		N (%)	*N (%)*
Leadership Gender	Girl	288 (46.1%)	337 (53.9%)
	Boy	106 (24.0%)	335 (76.0%)

Another chi-square analysis was conducted to examine whether or not the use of metacommunication strategies would significantly differ by the gender of followership. The frequencies of responses are presented in Table 13. The results of the chi-square test showed a significant association between metacommunication use and the gender of followership ($X^2(1) = 27.416, p < .001$). Slightly more explicit metacommunication was used than implicit metacommunication when the follower was a girl, and about 2.5 times more explicit metacommunication was used than implicit metacommunication when the follower was a boy.

Table 13. Frequencies of Leadership Metacommunication and Followership Gender

(*N*=1066)

		Metacommunication	
		Implicit	Explicit
		N (%)	*N (%)*
Followership Gender	Girl	272 (43.5%)	354 (56.5%)
	Boy	122 (27.7%)	318 (72.3%)

The last part of the first sub-question examined the difference of metacommunication use by different gender pairs of leadership and followership. A chi-square analysis of followership gender and metacommunication was conducted with the leadership gender in the first layer. The frequencies of responses are presented in Table 14. The results from the chi-square analysis

showed significance in both male and female leadership, indicating that both girls' and boys' use of leadership metacommunication varied by the gender of followership. For female leadership, the chi-square statistic result was (X^2(2) =11.425, p = .001). Girls used more implicit metacommunication than explicit metacommunication when they engaged with boys. For male leadership, the chi-square statistic result was (X^2(2) =51.802, p < .001). The result showed that although boys overall used far more explicit than implicit metacommunication (findings shown in Table 12), their use of implicit metacommunication increased when they were interacting with girls than boys, yielding nearly same amount of use of explicit and implicit metacommunication, suggesting the possibility of boys' recognition of different use of metacommunication strategies towards boys and girls. Examples of boys' use of explicit metacommunication to male followership included "This is our wooden sword." "I'm the crystal squid, that means I am bigger than you. You live in Australia and I live in the ocean." "Pretend that the portal leads us all the way to the ground." Examples of boys' use of implicit metacommunication to female followership included "We need to make it warm. It is very cold." "I'll be right back kitty. Stay here." "Try this. Is this tasty?"

Table 14. Frequencies of Leadership-Followership Gender and Metacommunication (*N*=1066)

		Metacommunication	
		Implicit	Explicit
Leadership Gender	Followership Gender	*N (%)*	*N (%)*
Girl	Girl	211 (42.6%)	284 (57.4%)
	Boy	77 (59.2%)	53 (40.8%)
Boy	Girl	61 (46.6%)	70 (53.4%)
	Boy	45 (14.5%)	265 (85.5%)

Leadership metacommunication and responsivity by leadership gender

The second sub-question (2b) examined whether the association between metacommunication and follower responsivity varied by the gender of leadership. A chi-square analysis was conducted with the leadership gender in the first layer. Table 15 presents the frequencies of responses. When the gender of leadership was female, the chi-square statistic showed that the association between metacommunication and follower responsivity was significant ($X^2(1) = 12.399$, $p < .001$). For female leadership, the odds of the follower acceptance were 1.944 times higher in implicit than explicit metacommunication. However, when the gender of leadership was male, the association between metacommunication and follower responsivity was not significant ($X^2(1) = .093$, $p = .760$).

Table 15. Frequencies of Leadership Metacommunication and Followership Responsivity by Leadership Gender ($N = 1066$)

		Follower Responsivity	
		Accept	Reject
Leadership Gender	Metacommunication	*N (%)*	*N (%)*
Girl	Implicit	211 (42.6%)	284 (57.4%)
	Explicit	77 (59.2%)	53 (40.8%)
Boy	Implicit	61 (46.6%)	70 (53.4%)
	Explicit	45 (14.5%)	265 (85.5%)

Leadership metacommunication and responsivity by followership gender

The last sub-question (2c) examined whether the association between metacommunication and follower responsivity varied by the gender of followership. A chi-square analysis was conducted with the followership gender in the first layer. The frequencies of responses are presented in Table 16. When the gender of followership was female, the chi-square statistic showed that the association between metacommunication and follower responsivity was

significant ($X^2(1) = 8.221$, $p = .004$). For female followership, the odds of the follower

acceptance were 1.684 times higher in explicit than implicit metacommunication. However,

when the gender of followership was male, the association between metacommunication and

follower responsivity was not significant ($X^2(1) = .659$, $p = .417$).

Table 16. Frequencies of Leadership Metacommunication and Followership Responsivity by Followership Gender ($N = 1066$)

		Follower Responsivity	
		Accept	Reject
Followership Gender	Metacommunication	*N (%)*	*N (%)*
Girl	Implicit	220 (80.9%)	52 (19.1%)
	Explicit	251 (70.9%)	103 (29.1%)
Boy	Implicit	98 (80.3%)	24 (19.7%)
	Explicit	244 (76.7%)	74 (23.3%)

Four-way interaction loglinear analysis

A loglinear analysis was conducted to examine the significance of a four-way interaction:

leadership gender X metacommunication X followership gender X follower responsivity.

Loglinear analysis is a test to analyze three or more categorical variables. The purpose of a

loglinear analysis is to find the least complex model that best explains the variance in the

observed frequency of variables, aiming to have the model with the expected frequencies similar

to the observed frequencies (Christensen, 2006). If the expected frequencies and the observed

frequencies do not match, a chi square result shows significance, indicating the model with the

terms should be rejected. For the assumptions of loglinear analysis, no more than 20% of the

cells in the data can have the expected frequency less than 5 and all of the cells must have the

expected frequency greater than 1. If these assumptions of cell counts are violated, then the

results have reduced statistical power of the ability to detect a difference. The data used in the current study met all of the assumptions for further analyses.

A model selection procedure was conducted in loglinear analysis using backward elimination strategy. Again, the purpose of model selection in a loglinear analysis is to find the model that is the least complex while keeping the observed and expected frequencies almost identical (Christensen, 2006). Changes in chi-square statistics in each step of eliminating variables successively leads to the selection of which terms to be included or ignored in the model, and the final model is evaluated by a goodness of fit test statistic. The saturated model contained all of the terms, main effects and interaction effects, giving the identical counts of observed and expected frequencies of variables.

The results of the k-way and higher-order effects showed that the four-way interaction effect (i.e., leadership gender * metacommunication * follower gender * follower responsivity) did not make a significant contribution to the model and therefore was removed. The model selection procedure yielded that the following interaction effects to be kept in the model: leadership gender * followership gender * metacommunication, leadership gender * follower responsivity, metacommunication * follower responsivity, which were also already examined and found to be significant in the previous research questions. Table 17 presents the observed and expected cell counts. The likelihood ratio of this model was $X^2(1) = 3.693$, $p = .594$. The evaluation of the final model with the likelihood ratio statistics showed non-significant test statistic, indicating that the expected values generated by the model were not significantly different from the observed values.

Pre-planned examinations of significant interactions involving metacommunication were conducted. In the three-way interaction, both girls' and boys' use of leadership

Table 17. Cell Counts of Leadership-Metacommunication-Followership-Responsivity (*N* = 1066)

Leadership gender	Meta-communication	Followership gender	Follower responsivity	Observed Count	Observed %	Expected Count	Expected %	Residuals	Std. Residuals
girl	implicit	girl	reject	39	3.7%	44	4.1%	-4.871	-.735
			accept	172	16.1%	167	15.7%	4.873	.377
		boy	reject	16	1.5%	16	1.5%	-.010	-.002
			accept	61	5.7%	61	5.7%	.011	.001
	explicit	girl	reject	90	8.4%	85	8.0%	4.785	.518
			accept	194	18.2%	199	18.6%	-4.787	-.340
		boy	reject	16	1.5%	16	1.5%	.097	.024
			accept	37	3.5%	37	3.5%	-.098	-.016
boy	implicit	girl	reject	13	1.2%	9	0.9%	3.724	1.223
			accept	48	4.5%	52	4.9%	-3.725	-.518
		boy	reject	8	0.8%	7	0.6%	1.157	.442
			accept	37	3.5%	38	3.6%	-1.158	-.187
	explicit	girl	reject	13	1.2%	16	1.5%	-2.856	-.717
			accept	57	5.3%	54	5.1%	2.857	.388
		boy	reject	58	5.4%	60	5.6%	-2.026	-.262
			accept	207	19.4%	205	19.2%	2.029	.142

metacommunication varied by followership gender. For female leadership, the chi-square statistic result was $X^2(2) = 11.425$, $p = .001$. Girls used more implicit metacommunication than explicit when they engaged with boys and the opposite when they engaged with girl followers. For male leadership, the chi-square statistic result was $X^2(2) = 51.802$, $p < .001$. Boy leadership used fairly similar metacommunication strategies with girl followers with a slight edge toward more explicit. However, with boy followers they used significantly more explicit metacommunication strategies.

In the two-way interaction, a chi-square analysis was conducted to examine whether or not the follower responsivity significantly differed by the use of metacommunication strategies. The results of the chi-square test showed a significant association between metacommunication use and follower responsivity ($X^2(1) = 6.820$, $p = .009$). Both implicit and explicit metacommunication were accepted more than rejected, however, the percentage of acceptance for implicit metacommunication was slightly higher than explicit metacommunication.

Research Question Three

The third research question examined factors associated with pretend play sustainability. The primary analysis used for the last question was hierarchical linear regression. The dependent variable was the time length of pretend play themes in minutes. As mentioned above, a log transformation of the dependent variable was performed because the data were positively skewed (Feng et al., 2014). The independent variables included the percentage of implicit metacommunication uses in each pretend play theme, the gender composition of each pretend play theme (i.e., 0=same-gender, 1=mixed-gender), and the percentage of follower acceptance in each pretend play theme. The other control variables included: the group size of play groups (represented with continuous number of players), the mean age of play groups (in months), the

types of pretend themes (0=fantastic, 1=domestic), whether or not the play theme ended by external factors (0=no, 1=yes), and the total number of leadership-followership exchanges in each pretend play theme. Table 18 presents the correlations among all variables. No independent variables were highly correlated and the collinearity statistics (i.e., Tolerance and VIF) were all within accepted limits. A two-stage hierarchical multiple regression was conducted with the log-transformed play theme duration as the dependent variable. The control variables (i.e., external factor, group size, group age, pretend theme types) were entered at stage One of the regression. The proportion of implicit metacommunication use in pretend themes, the proportion of follower acceptance in pretend themes, and the gender composition were entered at stage two of the regression.

The regression statistics are reported in Table 19. The hierarchical multiple regression revealed that at Stage one, the control variables (i.e., external factor, group size, group age, pretend theme types) contributed significantly to the regression model (F (4,78) = 2.603, $p < .05$) and accounted for 11.8% of the variation in the play theme duration. Introducing the three independent variables at the second step did not significantly add additional explanation of variation (F (3,75) = .638, $p = .59$). This final model with all control and independent variables was not significant (F (7,75) = 1.740, $p = .112$).

Table 18. Correlations between Variables

Variables	1	2	3	4	5	6	7	8
1. group size	–							
2. group age	.14	–						
3. pretend theme types	-.25*	-.37**	–					
4. external factor	.11	.07	.00	–				
5. implicit metacommunication rate	-.08	-.13	.08	-.07	–			
6. acceptance rate	-.09	.06	-.02	.02	.19	–		
7. gender composition	.28**	.42**	-.13	.12	.15	-.00	–	
8. minutes (log transformed)	.31**	.11	-.13	.16	-.16	.05	.11	–

Note. **Correlation is significant at the 0.01 level (two-tailed). *Correlation is significant at the 0.05 level (two-tailed).

Table 19. Summary of Hierarchical Regression Analysis

Variable	β	t	R	R^2	ΔR^2
Model 1			.343	.118	.073
Group size	.286*	2.557			
Pretend theme	-.029	-.240			
Group age	.041	.360			
External factor	.135	1.263			
Model 2			.374	.140	.059
Group size	.280*	2.395			
Pretend theme	-.019	-.154			
Group age	.009	.068			
External factor	.121	1.121			
Implicit metacommunication proportion	-.137	-1.201			
Acceptance proportion	.101	.915			
Gender composition	.038	.307			

Note.$*p < .05.$

Chapter 5 - Discussion

Building on theories of leadership development (Liu et al., 2020; Murphy & Johnson, 2011; Zaccaro et al., 2018) and pretend play during early years (Vygotsky, 1967), the current study proposed a view of children's leadership development as a process of interaction via metacommunication between leadershp and followership in the outdoor social pretend play context. To be able to view leadership in social pretend play as a process with the metacommunication tool, it requires a consideration of the context, the involved members, and their mutual interaction. Further, the interrelations between the different constructs are important to investigate (Branco, 2005). Branco (2005) expounded on Valsiner and Carins's concept of 'inclusive separation' and referred it as 'a heuristic, analytical effort at knowledge construction of complex phenomena' (p. 419) that explains overlaps between psychological phenomena in a holistic approach to explore the interrelated constructs. Therefore, variables related to leadership (i.e., use of implicit metacommunication) and followership (i.e., follower responsivity) were identified and used in the analyses. In addition, with the evidence from previous discussion on gender regarding play and leadership interaction during early childhood, gender of leadership and followership as well as the combinations of the two were identified as variables for the intersection between leadership and followership interaction. The purpose of this chapter is to present discussion from the significant findings in the current study.

Use of Leadership Metacommunication in Leadership-Followership Exchanges

The first research question examined how leadership metacommunication strategies were used by preschoolers in social pretend play. In social pretend play that is improvisational and dynamic, the goal of players is to achieve a shared understanding for the meanings in order to successfully co-establish and sustain the play scripts (Sawyer, 1993). Sawyer (1993), as

discussed in de Haan et al. (2020), considered pretend play as a series of individual and cocreated play frames with dynamic fluctuations. Whitebread and O'Sullivan (2012) also discussed that ongoing interaction between players in social pretend play help children not only to self-regulate but also to co-regulate the play episodes by collectively establishing play frames (Whitebread & O'Sullivan, 2012). When the players want to change the cocreated play frames, explicit metacommunication functions as a sign to seek cooperation from others to continue the play frames in a certain direction (de Haan et al., 2020). When the cocreated play frame and the personal play frame reach closer agreement, metacommunication is used in more implicit manners (Sawyer, 1993).

Based on Vygotsky's (1967) theory on social pretend play, the current study identified and examined three components of pretend play– imaginary situation, roles, rules – that are communicated in the play frames. Results showed that the use of different metacommunication strategies varied in different pretend play components. Children used both implicit and explicit metacommunication as often when they communicated about the imaginary situation but used about four times more explicit metacommunication than implicit metacommunication when they communicated about the roles and rules.

The association between metacommunication and pretend play components were further analyzed in relation to how the association might look depending on whether or not the players reached the shared understanding (i.e., intersubjectivity). Intersubjectivity was coded based on whether the leadership metacommunication was accepted by followership. It was found that the intersubjectivity level varied by implicit vs explicit leadership metacommunication strategies in different components. Intersubjectivity was more likely to be reached when the leadership used implicit metacommunication when they were communicating about the imaginary situation.

Among the implicit metacommunication statements initiated by leadership which developed intersubjectivity, around 80% were statements about the imaginary situation. When children communicated about the rule and role components, explicit metacommunication was more likely to reach intersubjectivity than implicit metacommunication.

The findings relate to the discussion of functions of pretend language by previous studies. Garvey and Kramer (1989) proposed two functions of pretend language – enactment which is used when children are remaining within play frames and acting out the imaginary roles, and emplotment which is used when children are setting the scene and communicating about the play frames or negotiating the components in pretend play. Whitebread and O'Sullivan (2012) suggested different functions of children's use of metacommunication at different stages of play. More explicit metacommunication may be needed at the initiating stage of play frames and more implicit metacommunication is needed while children move the play frames further once they reach the shared understanding. The findings indicate that the communication about the imaginary situation comprised balanced functions of enactment and emplotment and likely to be communicated throughout play frames, but enactment was more effective than emplotment in reaching the intersubjectivity among players. This is supported by the previous discussion that implicit metacommunication does not cause much disruption to the enactment of the storyline in play frame (Whitebread & O'Sullivan, 2012). On the other hand, the roles and rules of the play frames may be more communicated at the beginning stage of the play so that children can establish the play frames, where more emplotment constitutes the communication about who they are or what rules they follow in the pretend frames. Communication about the role and rule are less likely to effectively reach agreements with implicit enactment.

With the proposed view of leadership as a process in the current study, the role of followership in reaching the intersubjectivity was specifically addressed. While the current study examined the follower responsivity to leadership metacommunication, the coding of the follower responses was based on whether they accepted or rejected the leadership metacommunication. The coding schemes were not developed to differentiate whether the follower responses were on target or off nor the complex functions of it. For example, other than simple acceptance or rejection, followers' responses in play can be used in different functions such as extending peers' play suggestions or providing alternations for peers' play ideas. In fact, young children are likely to use metacommunication more for the purpose of detailing their own ideas than of simply responding to other peers' messages (de Haan et al., 2020; Göncü et al., 1993; Vriens-van Hoogdalem et al., 2016).

It is important to note that the discussion of specific contextual settings should take into account in such findings based on the examination of the interactional process. Some situationally specific features (Maccoby, 1990) such as the characteristics of play group members or the outdoor setting for pretend play in the current study might have had impacts on the findings of more explicit metacommunication use, which is further discussed below in the discussion of play sustainability. Also, the use of metacommunication is likely to differ by the nature of pretend play such as its complexity or themes. For instance, de Haan et al. (2020) found links between the use of explicit metacommunication and narrative complexity. The complexity of narrative in different themes (e.g., domestic, fantastic) may vary by children's familiarity to the themes. Halliday-Scher et al. (1995) found that overall older children used more explicit metacommunication than implicit metacommunication. However, they also found that implicit

metacommunication was used in equal amounts by younger and older children in

domestic/occupational episodes, possibly indicating greater familiarity with domestic episodes.

Gender Differences in Leadership-Followership Metacommunication Use

The second research question examined gender differences in leadership

metacommunication use. The analyses revealed that the frequencies of explicit and implicit

metacommunication use were similar for female leadership, but boys used significantly more

explicit than implicit metacommunication when they took on the leadership roles. This can be

related to the gender differences in leadership-communication styles discussed in the previous

studies (Black, 1992; Black & Hazen, 1990; Mawson, 2011). Because boys tend to use

dictatorial and dominant approach of control such as direct commands (Maccoby, 1988), their

use of metacommunication is more likely to be explicit. On the contrary, girls are more likely to

be cooperative and use directorial approach such as polite suggestions in play interaction (Black

& Hazen, 1990; Mawson, 2011), which not necessarily requires a certain type of

metacommunication.

Although boys overall used far more explicit than implicit metacommunication, their use

of implicit metacommunication increased when they were interacting with girls than boys,

yielding nearly same amount of use of explicit and implicit metacommunication. Indeed,

research shows that children's social play behaviors are impacted by the sex of children's play

partners (Jacklin & Maccoby, 1978). Also, when girls took on the leadership roles, the odds of

the other followers' acceptance were about two times higher in implicit than explicit

metacommunication. Studies have reported that boys are more likely to refuse to express

agreements or follow girls' leadership in leadership-followership play interaction (Maccoby,

1988; Neppl & Murray, 1997), and girls are likely to be less competent in controlling interaction

with boys (Jacklin & Maccoby, 1978), yielding that their leadership attempts tend to fail at being accepted (Fu et al., 1982). Although some researchers argued that the gender-related stereotypes are not likely to hold true among young children (Li et al., 2007), the findings from the current study may suggest the possibility of boys' recognition of different use of metacommunication strategies towards boys and girls that might have been developed as the social values of gender-appropriate behaviors by social internalization process (Block, 1973; Fu, 1979; Fu et al., 1982).

Effective Leadership-Followership Process – Play Sustainability

The last research question examined the factors influencing sustained pretend play in relation to the components of successful leadership-followership process examined in the first two questions. A hierarchical linear regression analysis was conducted to evaluate the prediction of sustained pretend play from implicit leadership metacommunication use, follower acceptance, and gender composition. The results revealed the model was not statistically significant.

Sustaining play episodes successfully requires a common understanding between play members regarding the details of play scripts. Successful social pretend play expects children to follow rules that keep transformations or action plans within the shared meaning and expects children's ideas to continually adapt to the changes (Curran, 1999; Giffin, 1984). When players violate the play rules, children's play is disrupted by conflicts, where power negotiation and leadership play an important role in children's successful development and sustainment of play frames (Ghafouri & Wien, 2005). Effective leaders have been found to initiate new ideas, extend other playmates' ideas, enhance the quality of play, use play materials in creative ways, and regulate social interaction, resulting in successfully moving play over long periods of time (Lee et al., 2005; Mawson, 2011; Recchia, 2012; Shin et al., 2004). As mentioned before, the following factors were identified in relation to each construct that constitutes the research

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question: use of implicit metacommunication in relation to leadership, and follower responsivity in relation to followership. Additionally, with the evidence from previous discussion on gender regarding play and leadership interaction during early childhood, the gender composition was identified as a variable for the intersection between leadership and followership interaction.

Results showed that the use of implicit metacommunication, the followers' responses towards leadership metacommunication, and the gender composition of play groups did not significantly account for pretend play sustainability. This was similar to the findings of Halliday-Scher et al. (1995) that the greater proportion of implicit metacommunication did not significantly relate with the length of play episodes. However, the findings were in contradiction of other previous findings that implicit metacommunication is likely to prolong the play frames because it may not interrupt the play scripts by stepping out of the frame and preserve pretense (Andresen, 2005; Whitebread & O'Sullivan, 2012).

These differences may be due to different approaches towards the levels of metacommunication used in coding. For instance, an extension of a view beyond a dichotomous distinction of explicit vs implicit metacommunication may be needed for further interpretations. In fact, the use of metacommunication in social pretend play can be more complex and comprise various expressions and modes other than explicit vs implicit distinction (de Haan et al., 2020; Whitebread & O'Sullivan, 2012). Giffin (1984) proposed a continuum of metacommunication ranging from within-frame enactment requiring an already-established and shared understanding about the play frames (Douglas & Stirling, 2012) to a formal proposal in the initiation stage of play requiring more explicit metacommunication to reach the shared understanding. A skilled player who can successfully sustain play frames is likely to use the complex patterns and all full range of metacommunication strategies on the continuum suggested by Giffin (1984), and switch

to each continuum as needed for negotiation of pretend play themes (Douglas & Stirling, 2012).

Therefore, the effectiveness of play frame sustainability might have been impacted with different approaches to metacommunication use.

As discussed before, play sustainability links with shared meaning or shared understanding. A well-established play frame with shared focus has fewer chances for the players to have nonnegotiated individual interpretations of the play (Sawyer, 1993; Whitington & Floyd, 2009). Whitington and Floyd (2009) found that children's play lasted longer when there was joint attention established in children's utterances. However, they reported that only 30% of the communication turns established intersubjectivity that was related to the play sustainability. This lower percentage is partly due to their tighter definition of intersubjectivity that was more than just accepting the leadership idea. Whitington and Floyd (2009) supported Göncü (1993) when they identified a variety of strategies used to establish intersubjectivity and keep the play moving forward—such as extensions to the ideas of others, introductions of new ideas, as well as building on to their own ideas. The role of followership is important in this notion. Similarly, Long and Wei (2019) pointed out the importance of a partner's understanding of an initiator's intention of pretend play and his appropriate responses to the original play initiation. The findings regarding the limited role of followership in the current study may be due to the way how the role of followership was investigated.

Some other factors should also be addressed. One possible relating facor in the different use of metacommunication and play sustainability is the familiarity with peers (Whitebread & O'Sullivan, 2012). For example, sometimes the play themes were enacted over several days. In such episodes, the level of shared understanding between the "original" players and "new" players were different and it is likely that this feature of play themes influenced differences in the

use of metacommunication as well. This is in line with previous findings that there is less need for an explicit proposal and exchanges of play ideas between players who usually play together and already have a lot of shared play experiences (Andresen, 2005). Children do not need to use explicit metacommunication to propose or develop the play scripts because they are totally within the play frames and their shared world is already established by previous play experiences (Andresen, 2005; Sawyer, 1993).

Lastly, although the current study did not include the investigation of the function of negotiation, it is a significant factor to consider in the discussion of play sustainability. Collaboration consists of not only agreements but also contradictory arguments, which requires a significant effort of negotiation for co-constructed interaction to sustain the ongoing play engagement (Branco, 2005). In fact, power negotiation is important for resolving conflicts, and the improvisational feature of social pretend play requires children's momentary engagement through negotiation including the assessment and transmission of shared knowledge (Black, 1992). Children negotiate the creation of dialogue and the enactment of pretense in episodes to maintain their play successfully (Black, 1992; Göncü et al., 2002). The negotiation process in social pretend play may also need to take into account the complex patterns of metacommunication in expanding their own ideas or incorporating the ideas (de Haan et al., 2020). Effective leaders are usually good at negotiating with peers during play via using good reasoning and verbal skills and compromising willingly when necessary so that they can come up with solutions to continue their play (Lee et al., 2005; Recchia, 2012; Shin et al., 2004). Similarly, effective followers are also usually good at negotiating. For example, children who say "no" to others' initiation as well as provide some alternative ideas are better at negotiating rather than simply saying "no" (Hazen & Black, 1989).

Limitations

There are some limitations for the current study. First, although the use of the first-person approach to data collection via chest-mounted GoPro cameras was beneficial in obtaining the closer view of children's momentary interactions in social pretend play, there is also a limitation to note. Periodically in several videos, not all the interaction was captured in the videos when the camera-wearing children stepped outside from the play scenes a while and moved themselves to somewhere else other than the place where the pretend themes were going on. This limitation was to some extent overcome by accessing the available overlapping play episodes from the videos of multiple children who wore cameras on the same data collection day and engaged in the same pretend play episodes. However, not all pretend episodes were available for this strategy if there were no available overlapping videos.

Next, the limited view of chest-mounted cameras did not completely enable the access to the nonverbal behaviors and contextual settings in children's leadership-followership interaction in pretend play. The role of the nonverbal interactions in the communication of meanings in pretend play is an important part of metacommunication and cannot be overlooked (Branco, 2005; Giffin, 1984). Whitington and Floyd (2009) found that a quarter of the extensions offered to find intersubjectivity within shared pretend play were nonverbal. Without the incorporation of nonverbal components in investigating play interactions, the examination in the current study may have been limited.

Lastly, the sample size for the theme-level data was small. Although a larger number of activity episodes were available after the identification stage, 46 overlapping play themes were removed due to the nature of how the videos were collected, yielding a final number of 87 pretend themes in the analyses. Although this final sample size met enough criteria for

conducting a hierarchical linear regression, a larger sample size would have made the analyses stronger in its finding about the influences of the use of leadership implicit metacommunication, the follower responsivity, and the gender composition of play groups on the pretend theme sustainability.

Implications and Future Directions

The results of this study have implications for the intersection between the fields of leadership development and pretend play. Although many previous studies have respectively examined and discussed the practical implications on leadership development during early childhood and metacommunication use in social pretend play, the intersection between leadership and metacommunication use in social pretend play should be also addressed such as training in dramatic skills as one potential approach in childhood leadership education (Feldhusen & Pleiss, 1994).

Due to the socially constructed nature of leadership development, practitioners are guided to recognize the importance of children's play interaction in leadership development and provide more space for young children to feel comfortable to engage with peers freely in leadership interactions (Shin et al., 2004). The field of social pretend play has also discussed several practical implications such as the role of adult for modeling of different use of explicit vs implicit metacommunication. It is also recommended that early childhood professionals should help children with providing support for the mastery of a broad range of metacommunicative skills (Whitebread & O'Sullivan, 2012) and to create intersubjectivity in social pretend play interactions such as modelling play enactments or posing questions that require the use of metacommunication (Whitington & Floyd, 2009).

Findings from the current study specifically suggest a possible addition of practical implications by the evidence of the effectiveness of leadership metacommunication and the role of followership. The varying levels of effectiveness found in the current study suggest the need to help young children to learn how the use of explicit and implicit metacommunication can increase their effectiveness of play interaction in their pretend play interactions. Especially, the role of following in play interaction can be further emphasized and guided in early childhood settings in relation to the varying functions.

This study also has important implications for future research. It is likely that several features of outdoor play settings in the current study might have contributed to the associations between leadership metacommunication, pretend play components, and follower responses, and the associations found in the current study may show different results when applied in indoor settings. For instance, outdoor play experiences can provide more opportunities for children to manipulate materials and nurture dramatic play on their own (Henniger, 1993). Movable materials and equipment in playgrounds can benefit children to have a greater effect on their pretend play contexts. It is also suggested that the flexibility of outdoor settings without undue direction and structure from adults may facilitate children's use of their own imagination and adaptability for different self-directed dramatic play themes (Davies, 1996; Zamani, 2017). Indeed, children are likely to engage in different levels of play complexity in outdoor and indoors (Shim et al., 2001). Future research may investigate how the use of metacommunication in leadership-followership interaction in children's social pretend play differ under outdoor vs indoor settings.

Secondly, future research can explore the functions of different pretend themes (e.g., fantastic, domestic) with more detailed elaboration. For instance, previous studies reported that

more explicit metacommunication is found in fantasy play themes where ideas are not as familiar as domestic play theme (McLoyd et al., 1984). Also, it is likely that one gender might engage more in one type over the other, which will yield different results for the frequencies and effectiveness of leadership metacommunication. The association between leadership metacommunication, followership, and leadership-followership genders may be further examined with the inclusion of different pretend themes.

Lastly, in examining different factors associated with the pretend play sustainability, the current study only differentiated the gender composition as same-gender or mixed-gender play groups rather than using detailed group categories that denote the different gender combinations such as a boy-boy group or a girl-boy group. Although the mixed-gender vs same-gender composition did not show significance, the findings in the second research question about gender differences in the effectiveness of leadership metacommunication use suggest the possibility of future research to further examine how pretend play sustainability might differ by different specific combinations of leadership and followership genders.

Conclusion

In conclusion, the current study proposed a view of children's leadership development as a process of interaction via metacommunication between leadershp and followership in the outdoor social pretend play context. Analyses were conducted to examine the association between use of leadership metacommunication, gender of leadership and followership, and follower responsivity as well as their impacts on successful leadership-followership process represented by successful play theme sustainabilty. Findings suggest children's different use of leadership metacommunication in relation to the nature of play components as well as gender differences. However, the influences of the factors did not show significance in longer pretend

theme sustainability. Several possible explanations on the findings were presented. The current study expanded the quantitative investigation of leadership development during early childhood as a process between the leadership-followership exchanges via metacommunication afforded by the developmental experiences from social pretend play. Future studies will be benefited by further expanding research with more various and detailed approaches towards the metacommunicative leadership-followership interaction with pretend play suggested in the current study.

References

Afifi, A. A., Kotlerman, J. B., Ettner, S. L., & Cowan, M. (2007). Methods for improving regression analysis for skewed continuous or counted responses. *Annual Review of Public Health, 28*, 95-111.

Andresen, H. (2005). Role play and language development in the preschool years. *Culture & Psychology, 11*(4), 387-414. https://doi.org/10.1177/1354067X05058577

Ashiabi, G. S. (2007). Play in the preschool classroom: Its socioemotional significance and the teacher's role in play. *Early Childhood Education Journal*, *35*(2), 199–207. https://doi.org/10.1007/s10643-007-0165-8

Bailey, D., Hufford, M. M., Emmerson, M. S., & Eckert, S. A. (2017). Identifying and living leadership in the lives of prekindergarten through 4th-grade girls: The story of one intentional leadership identity development program. *Journal of Research in Childhood Education, 31*(4), 487-507. https://doi.org/10.1080/02568543.2017.1344751

Bateson, G. (1955). A theory of play and fantasy. *Psychiatric Research Reports 2*(3), 39-51.

Bateson, G. (1972). *A theory of play and fantasy: Steps to an ecology of mind.* Ballantine.

Bisland, A. (2004). Developing leadership skills in young gifted students. *Gifted Child Today, 27*(1), 24-27. https://doi.org/10.1177/107621750402700108

Black, B. (1992). Negotiating social pretend play: Communication differences related to social status and sex. *Merrill-Palmer Quarterly, 38*(2), 212-232.

Black, B., & Hazen, N. L. (1990). Social status and patterns of communication in acquainted and unacquainted preschool children. *Developmental Psychology, 26*(3), 379. https://doi.org/10.1037/0012-1649.26.3.379

Block, J. H. (1973). Conceptions of sex role: Some cross-cultural and longitudinal perspectives.

American Psychologist, 28(6), 512-526. https://doi.org/10.1037/h0035094

Bodrova, E., Germeroth, C., & Leong, D. J. (2013). Play and self-regulation: Lessons from

Vygotsky. *American Journal of Play*, *6*(1), 111–123.

Bodrova, E., & Leong, D. J. (2007). *Tools of the mind: The Vygotskian approach to early*

childhood education (2nd ed.). Pearson.

Bodrova, E., & Leong, D. J. (2015). Vygotskian and Post-Vygotskian Views on Children's Play.

American Journal of Play, *7*(3), 371–388.

Branco, A. U. (2005). Peer interactions, language development and metacommunication. *Culture*

& Psychology, 11(4), 415-429. https://doi.org/10.1177/1354067X05058580

Christensen, R. (2006). *Log-linear models and logistic regression*. Springer Science & Business

Media.

Curran, J. M. (1999). Constraints of pretend play: Explicit and implicit rules. *Journal of*

Research in Childhood Education, 14(1), 47-55.

https://doi.org/10.1080/02568549909594751

Davies, M. M. (1996). Outdoors: An important context for young children's development. *Early*

Child Development and Care, *115*(1), 37–49. https://doi.org/10.1080/0300443961150104

de Haan, D., Vriens-van Hoogdalem, A. G., Zeijlmans, K., & Boom, J. (2020).

Metacommunication in social pretend play: Two dimensions. *International Journal of Early*

Years Education, 1-15. https://doi.org/10.1080/09669760.2020.1778451

Douglas, S., & Stirling, L. (2012). Metacommunication, social pretend play and children with

autism. *Australasian Journal of Early Childhood, 37*(4), 34-43.

https://doi.org/10.1177/183693911203700406

Elias, C. L., & Berk, L. E. (2002). Self-regulation in young children: Is there a role for

sociodramatic play? *Early Childhood Research Quarterly*, *17*(2), 216–238.

https://doi.org/10.1016/S0885-2006(02)00146-1

Elkonin, D. B. (2005). Chapter 2: On the historical origin of role play. *Journal of Russian & East European Psychology, 43*(1), 49-89.

Feldhusen, J. F., & Pleiss, M. K. (1994). Leadership: A synthesis of social skills, creativity, and histrionic ability?. *Roeper Review, 16*(4), 293-294.

https://doi.org/10.1080/02783199409553602

Feng, C., Wang, H., Lu, N., Chen, T., He, H., & Lu, Y. (2014). Log-transformation and its implications for data analysis. *Shanghai Archives of Psychiatry, 26*(2), 105.

Fox, D. L., Flynn, L., & Austin, P. (2015). Child leadership: Teachers' perceptions and influence*s. Childhood Education, 91(3),* 163-168.

https://doi.org/10.1080/00094056.2015.1047306

French, D. C. (1984). Children's knowledge of the social functions of younger, older, and same-age peers. *Child Development*, *55,* 1429-1433. https://doi.org/10.2307/1130012

Fu, V. R. (1977). *A Nursery School Leadership Observation Schedule and a Nursery School Leadership Rating Scale.* ERIC Document Reproduction Service, No. ED 134601.

Fu, V. R. (1979). Preschool leadership-followership behaviors. *Child Study Journal, 9(2),* 133-140.

Fu, V. R., Canaday, H., & Fu, D. T. (1982). Creativity and leadership in preschoolers. *The Journal of Genetic Psychology*, *141*(2), 291–292.

https://doi.org/10.1080/00221325.1982.10533486

Fukada, S., Fukada, H., & Hicks, J. (1994). Structure of leadership among preschool children. *The Journal of Genetic Psychology*, *155*(4), 389–395.

https://doi.org/10.1080/00221325.1994.9914789

Garvey, C. (1984). *Children's talk.* Harvard University Press.

Garvey, C., & Kramer, T. L. (1989). The language of social pretend play. *Developmental Review, 9*(4), 364-382. https://doi.org/10.1016/0273-2297(89)90035-X

Germeroth, C., Bodrova, E., Day-Hess, C., Barker, J., Sarama, J., Clements, D. H., & Layzer, C. (2019). Play it high, play it low: Examining the reliability and validity of a new observation tool to measure children's make-believe play. *American Journal of Play*, *11*(2), 183–221.

Ghafouri, F., & Wien, C. A. (2005). "Give us a privacy": Play and social literacy in young children. *Journal of Research in Childhood Education, 19*(4), 279-291. https://doi.org/10.1080/02568540509595071

Gibson, J.J. (1979). T*he ecological approach to visual perception*. Houghton Mifflin.

Giffin, H. (1984). The coordination of meaning in the creation of shared make-believe play. In I. Bretherton (Ed.), Symbolic play (pp. 73–100). Academic Press.

Göncü, A. (1993). Development of intersubjectivity in the dyadic play of preschoolers. *Early Childhood Research Quarterly, 8*(1), 99-116. https://doi.org/10.1016/S0885-2006(05)80100-0

Göncü, A., Patt, M. B., & Kouba, E. (2002). Understanding young children's pretend play in context. In P. K. Smith & C. H. Hart (Eds.), *Blackwell handbook of childhood social development* (pp. 418–437). Blackwell.

Halliday-Scher, K., Urberg, K. A., & Kaplan-Estrin, M. (1995). Learning to pretend: Preschoolers' use of meta-communication in sociodramatic play. *International Journal of Behavioral Development, 18*(3), 451-461. https://doi.org/10.1177/016502549501800304

Hazen, N. L., & Black, B. (1989). Preschool peer communication skills: The role of social status

and interaction context. *Child Development, 60*(4)*, 867-876.

https://doi.org/10.2307/1131028

Heft, H. (1988). Affordances of children's environments: A functional approach to

environmental description. C*hildren's Environments Quarterly*,*5*(3) 29-37.

Henniger, M.L. (1993). Enriching the outdoor play experience. C*hildhood Education, 70*(2): 87-

90.

Hensel, N. H. (1991). Social leadership skills in young children. *Roeper Review, 14(*1), 4-6.

https://doi.org/10.1080/02783199109553370

Hirose, T., Koda, N., & Minami, T. (2012). Correspondence between children's indoor and

outdoor play in Japanese preschool daily life. *Early Child Development and Care, 182*(12),

1611-1622. https://doi.org/10.1080/03004430.2011.634065

Hogg, M. A. (2001). A social identity theory of leadership. *Personality and Social Psychology

Review,* 5(3), 184-200. https://doi.org/10.1207/S15327957PSPR0503_1

Howes, C., Unger, O. A., & Matheson, C. C. (1992). *The collaborative construction of pretend.*

State University of New York Press.

Jacklin, C. N., & Maccoby, E. E. (1978). Social behavior at thirty-three months in same-sex and

mixed-sex dyads. *Child Development, 49*, 557-569. https://doi.org/10.2307/1128222

Kendrick, A., Hernandez-Reif, M., Hudson, C., Jeon, H.-J., & Horton, C. (2012). Coding group

behaviours for preschool children in the playground and the effects of teachers' proximity

on preschool children's playground behaviours. *Early Child Development and Care,

182*(6), 665-682. https://doi.org/10.1080/03004430.2011.569544

Lee, S. Y., Recchia, S. L., & Shin, M. S. (2005). "Not the same kind of leaders": Four young

children's unique ways of influencing others. *Journal of Research in Childhood*

Education, 20(2), 132-148. https://doi.org/10.1080/02568540509594557

Li, Y., Anderson, R. C., Nguyen-Jahiel, K., Dong, T., Archodidou, A., Kim, I.-H., Kuo, L.,
Clark, A., Wu, X., Jadallah, M., & Miller, B. (2007). Emergent leadership in children's
discussion groups. *Cognition and Instruction*, *25*(1), 75–111.
https://doi.org/10.1080/07370000709336703

Li, J., Hestenes, L. L., & Wang, Y. C. (2016). Links between preschool children's social skills
and observed pretend play in outdoor childcare environments. *Early Childhood Education
Journal*, *44*(1), 61–68. https://doi.org/10.1007/s10643-014-0673-2

Lillard, A. S., Lerner, M. D., Hopkins, E. J., Dore, R. A., Smith, E. D., & Palmquist, C. M.
(2013). The impact of pretend play on children's development: A review of the evidence.
Psychological Bulletin, *139*(1), 1-34. https://doi.org/10.1037/a0029321

Linsey, E. W., & Colwell, M. J. (2003). Preschoolers' emotional competence: Links to pretend
and physical play. *Child Study Journal, 33*(1), 39-53.

Liu, Z., Venkatesh, S., Murphy, S. E., & Riggio, R. E. (2020). Leader development across the
lifespan: A dynamic experiences-grounded approach. *The Leadership Quarterly,* 101382, 1-
21. https://doi.org/10.1016/j.leaqua.2020.101382

Long, H., & Wei, M. (2019). A study of metacommunication signals in the initiation of pretend
play of 3-6 year-old children. I*nternational Journal of Psychological and Brain Sciences,
4*(5), 50-55.

Maccoby, E. E. (1988). Gender as a social category. *Developmental Psychology, 24*(6), 755-765.
https://doi.org/10.1037/0012-1649.24.6.755

Maccoby, E. E. (1990). Gender and relationships: A developmental account. *American
Psychologist, 45*(4), 513-520.

Mashburn, A. J., & Pianta, R. C. (2006). Social relationships and school readiness. *Early Education and Development, 17*(1), 151-176. https://doi.org/10.1207/s15566935eed1701_7

Mathur, S., & Parameswaran, G. (2015). Gender neutrality in play of young migrant children: An emerging trend or an outlier?. *American Journal of Play, 7*(2), 174-200.

Mawson, B. (2010). Gender and leadership styles in children's play. *Australasian Journal of Early Childhood, 35*(3), 115-123. https://doi.org/10.1177/183693911003500315

Mawson, B. (2011). Children's leadership strategies in early childhood. *Journal of Research in Childhood Education, 25*(4), 327-338. https://doi.org/10.1080/02568543.2011.605207

Maxwell, L. E., Mitchell, M. R., & Evans, G. W. (2008). Effects of play equipment and loose parts on preschool children's outdoor play behavior: An observational study and design intervention. *Children Youth and Environments*, *18*(2), 36–63. https://www.jstor.org/stable/10.7721/chilyoutenvi.18.2.0036

McClintic, S., & Petty, K. (2015). Exploring early childhood teachers' beliefs and practices about preschool outdoor play: A qualitative study. *Journal of Early Childhood Teacher Education, 36,* 24-43. https://doi.org/10.1080/10901027.2014.997844

McLoyd, V. C., Warren, D., & Thomas, E. A. (1984). Anticipatory and fantastic role enactment in preschool triads. *Developmental Psychology, 20*(5), 807. https://doi.org/10.1037/0012-1649.20.5.807

Morrissey, A.-M., Scott, C., & Rahimi, M. (2017). A comparison of sociodramatic play processes of preschoolers in a naturalized and a traditional outdoor space. *International Journal of Play*, *6*(2), 177–197. https://doi.org/10.1080/21594937.2017.1348321

Mullarkey, L. S., Recchia, S. L., Lee, S. Y., Shin, M. S., & Lee, Y. J. (2005). Manipulative managers and devilish dictators: Teachers' perspectives on the dilemmas and challenges of

classroom leadership. *Journal of Early Childhood Teacher Education*, *25*(2), 123–129.

https://doi.org/10.1080/1090102050250205

Murphy, S. E. (2011). Providing a foundation for leadership development. In S. E. Murphy, & R.

J. Reichard (Eds.), *Early development and leadership: Building the next generation of*

leaders (pp. 3-37). Taylor and Francis: Applied psychology series.

Murphy, S. E., & Johnson, S. K. (2011). The benefits of a long-lens approach to leader

development: Understanding the seeds of leadership. *The Leadership Quarterly*, *22,* 459–

470. https://doi.org///doi.org/10.1016/j.leaqua.2011.04.004

Neppl, T. K., & Murray, A. D. (1997). Social dominance and play patterns among preschoolers:

Gender comparisons. *Sex Roles, 36*(5/6), 381-393.

Parten, M. B. (1933). Leadership among preschool children. *The Journal of Abnormal and Social*

Psychology, *27*(4), 430-440. https://doi.org/10.1037/h0073032

Pellegrini, A. D., & Galda, L. (1990). Children's play, language, and early literacy. *Topics in*

Language Disorders, 10(3), 76-88. https://doi.org/10.1097/00011363-199006000-00008

Perez, G. S., Chassin, D., Ellington, C., & Smith, J. A. (1982). Leadership giftedness in

preschool children. *Roeper Review*, *4*(3), 26–28.

https://doi.org/10.1080/02783198209552603

Perry, J. P. (2003). Making sense of outdoor pretend play. *Young Children*, *58*(3), 26–30.

Quinn, S., Donnelly, S., & Kidd, E. (2018). The relationship between symbolic play and

language acquisition: a meta-analytic review. *Developmental Review*, *49*, 121–135.

https://doi.org/10.1016/j.dr.2018.05.005

Ramani, G. B., & Brownell, C. A. (2014). Preschoolers' cooperative problem solving:

    Integrating play and problem solving. *Journal of Early Childhood Research, 12,* 92-108.

    https://doi.org/10.1177/1476718X13498337

Recchia, S. L. (2012). Preschool leaders in the early childhood classrooms. In S. E. Murphy, &

    R. Reichard. (Eds.) *Early evelopment and leadership* (pp. 39-58). Routledge.

Reitan, T., & Stenberg, S. Å. (2019). From classroom to conscription. Leadership emergence in

    childhood and early adulthood. *The Leadership Quarterly, 30*(3), 298-319.

    https://doi.org/10.1016/j.leaqua.2018.11.006

Rogoff, B., Radziszewska, B., & Masiello, T. (1995). Analysis of developmental processes in

    sociocultural activity. In L. W. Martin, K. Nelson, E. Tobach, et al. (Eds.) *Sociocultural*

    psychology: Theory and practice of doing and knowing (pp. 125-149). Cambridge

    University Press.

Sawyer, R. K. (1993). The pragmatics of play: Interactional strategies during children's pretend

    play. *Pragmatics, 3*(3), 259-282. https://doi.org/10.1075/prag.3.3.01saw

Sawyer, R. K. (1996). Role voicing, gender, and age in preschool play discourse. *Discourse*

    *Processes, 22(*3), 289-307. https://doi.org/10.1080/01638539609544976

Sawyer, R. K. (1997). *Pretend play as improvisation: Conversation in the preschool classroom*.

    Erlbaum.

Sawyer, R. K. (2002). Improvisation and narrative. *Narrative Inquiry, 12*(2), 319-349.

    https://doi.org/10.1075/ni.12.2.05saw

Sawyer, R. K. (2003). Levels of analysis in pretend play discourse: Metacommunication in

    conversational routines. In D. E. Lytle (Ed.), *Play and educational theory and practice* (pp.

    137-159). Greenwood.

Shim, S.-Y., Herwig, J. E., & Shelley, M. (2001). Preschoolers' play behaviors with peers in

    classroom and playground settings. *Journal of Research in Childhood Education*, *15*(2),

    149–163. https://doi.org/10.1080/02568540109594956

Shin, M. S., Recchia, S. L., Lee, S. Y., Lee, Y. J., & Mullarkey, L. S. (2004). Understanding

    early childhood leadership: Emerging competencies in the context of relationships. *Journal*

    of Early Childhood Research, 2(3), 301-316. https://doi.org/10.1177/1476718X04046649

Sluss, D. J., & Stremmel, A. J. (2004). A sociocultural investigation of the effects of peer

    interaction on play. *Journal of Research in Childhood Education, 18*(4), 293-305.

    https://doi.org/10.1080/02568540409595042

Trawick-Smith, J. (1988). "Let's say you're the baby, OK?" Play leadership and following

    behavior of young children. *Young Children*, *43*(5), 51–59.

Trawick-Smith, J. (1992). A descriptive study of persuasive preschool children: How they get

    others to do what they want. E*arly Childhood Research Quarterly, 7*(1), 95-114.

    https://doi.org/10.1016/0885-2006(92)90021-P

Trawick-Smith, J. (2010). Drawing back the lens on play: A frame analysis of young children's

    play in Puerto Rico. E*arly Education and Development, 21*(4), 536-567.

    https://doi.org/10.1080/10409280903118432

Vedeler, L. (1997). Dramatic play: a format for 'literate'language?. *British Journal of*

    Educational Psychology, 67(2), 153-167. https://doi.org/10.1111/j.2044-

    8279.1997.tb01234.x

Vitello, V. E., Booren, L. M., Downer, J. T., & Williford, A. P. (2012). Variation in children's

    classroom engagement throughout a day in preschool: Relations to classroom and child

factors. *Early Childhood Research Quarterly, 27,* 210-220.

https://doi.org/10.1016/j.ecresq.2011.08.005

Vriens-van Hoogdalem, A. G., de Haan, D. M., & Boom, J. (2016). The role of language ability

in young children's cooperation during play and collaborative interactions. *Early Child*

Development and Care, 186(9), 1491-1504.

https://doi.org/10.1080/03004430.2015.1108312

Vygotsky, L. S. (1967). Play and its role in the mental development of the child. *Soviet*

Psychology, 5(3), 6-18. https://doi.org/10.2753/RPO1061-040505036

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*.

Harvard University Press.

Vygotsky, L.S. (2016). Play and its role in the mental development of the child. *International*

Research in Early Childhood Education, 7(2), 3–25.

Waters, J., & Maynard, T. (2010). What's so interesting outside? A study of child-initiated

interaction with teachers in the natural outdoor environment. *European Early Childhood*

Education Research Journal, 18(4), 473-483.

https://doi.org/10.1080/1350293X.2010.525939

Whitebread, D., & O'Sullivan, L. (2012). Preschool children's social pretend play: Supporting the

development of metacommunication, metacognition and self-regulation. *International*

Journal of Play, 1(2), 197-213. https://doi.org/10.1080/21594937.2012.693384

Whitington, V., & Floyd, I. (2009). Creating intersubjectivity during socio-dramatic play at an

Australian kindergarten. *Early Child Development and Care, 179*(2), 143-156.

https://doi.org/10.1080/03004430802667054

Williamson, P. A., & Silvern, S. B. (1992). "You can't be grandma; you're a boy": Events within

the thematic fantasy play context that contribute to story comprehension. *Early Childhood Research Quarterly, 7(*1), 75-93. https://doi.org/10.1016/0885-2006(92)90020-Y

Wink, J., & Putney, L. (2002). *A vision of Vygotsky*. Allyn and Bacon.

Zaccaro, S. J., Green, J. P., Dubrow, S., & Kolze, M. (2018). Leader individual differences, situational parameters, and leadership outcomes: A comprehensive review and integration. *The Leadership Quarterly, 29*(1), 2-43. https://doi.org/10.1016/j.leaqua.2017.10.003

Zamani, Z. (2017). Young children's preferences: What stimulates children's cognitive play in outdoor preschools? *Journal of Early Childhood Research*, *15*(3), 256–274. https://doi.org/10.1177/1476718X15616831