"Stop calling me a bumimal bat" An analysis of children's use of directives

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Table of symbols

Symbol	Description
SLO4YO-2015-1, 16:01	Episode title, timestamp
((double parentheses))	Non-verbal information in transcription
(3;11)	Children's age in (years;months)
S	Speaker
H	Hearer

1. Introduction

People use language for more than just to say things – we also, maybe even more so, use language to do things. Austin's (1962) influential lectures on *How to do things with words* form a starting point for research on speech acts – utterances with which people are able to perform an action. In these lectures, Austin addresses the ways in which (adult) speakers use speech acts to perform various actions, such as promising, apologizing and requesting.

Since the 1960s, the use of speech acts has been researched extensively. Though this field of research has predominantly focused on the way adults use and understand speech acts, researchers have also tried to get a better understanding of how children learn, use and understand speech acts during (first) language acquisition. For example, we know that children engage in joint engagement even before they are able to speak, to get a caregiver's attention or to communicate that they need something. This can be seen as a precursor to directives – a specific type of speech act where a speaker wants a hearer to do something. Previous research has focused on how children acquire speech acts as part of a language. By experimental tasks and observing child-caregiver or child-interlocutor interactions, these studies have shown that children gradually expand their directive repertoire from gesturing to more adult-like utterances, and gradually start to understand more of how speech acts work and how their meaning can be inferred. However, very few studies have looked at children's directive production and comprehension among themselves using spontaneous speech in a naturalistic setting, similar to how children encounter and use directives in the real world.

From the age of four, children enter their preschool years, and their social environment changes drastically. Whereas infants and toddlers mostly interact with their caregivers and other family members, many children start interacting in a nursery-type setting from this age onward. This social change impacts their linguistic environment, with new social relationships to establish and maintain, and new linguistic input received every day. Alongside this social

development, children also continue to develop cognitively rapidly, impacting their abilities to construct more complex utterances and comprehend those that require (several steps of) inference. The preschool years thus form an important period in a child's language acquisition process.

The present study aims to gain insights into the development of children's acquisition of directives, by focusing on a setting very similar to the children's real life during these important preschool years. To do so, a corpus of approximately 10 hours of English-speaking children aged 4 and 5 interacting with each other in a nursery in the United Kingdom was compiled. Focusing on directives, I identified and analyzed a set of utterances looking at various parameters such as age, sex, and how well the children know the environment as well as each other. The aim of this study is to gain insight into the real-world interactions of these children and how they use language to influence each other's behavior, as well as explore which factors influence the linguistic choices that they make. The research questions that play a central role in this study are:

1. How do English-speaking children of 4 and 5 years old perform directives in child-to-child and child-caretaker interaction?
2. What extra-linguistic and linguistic parameters determine their choice of direct and indirect strategies each time?

To answer the first research question, the rate of compliance with the directive is analyzed. This is used to identify the presence of a successful directive in the child's speech. This study thus takes an exploratory approach to research any linguistic patterns that can be found in the directive repertoire of English-speaking preschool children: rather than assuming that certain linguistic structures perform directives, I look at the next turn and the hearer's response to determine whether a directive has taken place or not. In the analysis and in line

with the second research question, other variables concerning the speaker and hearer are taken into account to study what influences the rate of directness of a directive.

In chapter 2 I review relevant aspects of speech act theory, language acquisition, and the current state-of-the-art in research on children's directives. Chapter 3 covers the methods used to conduct the research, the results of which are presented in chapter 4. In chapter 5 I discuss the results in light of the literature reviewed earlier and the implications thereof. A conclusion follows in the final chapter, chapter 6.

2. Literature review

This chapter will provide some context for the current research based on previous studies. First, a theoretical approach to speech acts will explain how people use and understand directives and other speech acts in their communication. Then, I will briefly touch on (first) language acquisition to give the context of where the children of the current research stand in the developmental process of learning a language. Lastly, an overview of previous studies on children's directives will be provided to illustrate where the current research fits in the context of existing literature.

2.1. Speech act theory

British philosopher J.L. Austin introduced the notion of speech acts in his influential lectures and corresponding book *How to do things with words* (Austin, 1962). In his lectures, he distinguishes between two types of utterances, "constatives" and "performatives". Constatives are the truth-evaluable propositions that describe the world the way it is, and performatives are the utterances used to change the world, to perform an act. Upon further analysis, Austin argued these two types should not be seen as two distinct categories; rather constatives are also used to perform an act - the act of stating. Performatives and constatives are both used to perform an act, which Austin then called "speech acts".

Speech act theory is based mainly on how adult speakers of English use language. It is used in this research as the basis of what a speech act encompasses. Known discrepancies and nuances between adult speech acts and child speech acts, specifically directives, will be discussed in section 2.3.

A speech act consists of three aspects: the locutionary act, the illocutionary act and the perlocutionary act. The locutionary act consists of the words that are being uttered, or the linguistic form of the speech act. The illocutionary act corresponds to the speaker's intention

in producing the utterance and how this is understood by the hearer (the hearer's uptake). The perlocutionary act then is the effect that the utterance has on the hearer. This is illustrated below, using the example of a request:

Table 1. Example of locution, illocution, and perlocution in speech acts

Type of act	Definition	Example
Locutionary act	Linguistic form, the words that are being uttered	"That pillow looks so comfortable."
Illocutionary act	The speaker's intention in uttering the words	The speaker is requesting that the hearer give the pillow
Perlocutionary act	The effect that the utterance has on the hearer	The hearer hands the pillow over to the speaker

Extending Austin's speech act theory, Austin's student John Searle proposed a taxonomy of illocutionary acts, which he presented in lectures and seminars, and later published in his books *Speech Acts* (Searle, 1969) and *Expression and Meaning* (Searle, 1979). Here I will use the taxonomy as described in the latter. In utterances, he makes a distinction between the illocutionary force of the utterance and the propositional content of the utterance. He symbolizes this as: *F(p),* where *F* stands for the illocutionary force, and *p* stands for the propositional content. The utterances 'You will leave the room' and 'Leave the room!' contain the same propositional content, but differ in illocutionary force. Searle's taxonomy then classifies different types of illocutionary force (*F*).

The taxonomy categorizes speech acts based mainly on three dimensions: the illocutionary point, the direction of fit, and the sincerity condition. I will briefly explain these three dimensions before moving on to the taxonomy of speech acts in table 2.

The illocutionary point is part of, but not the same as, the illocutionary force, and indicates the point or purpose of the act. For example, the purpose of an order can be to get the hearer to do something, and the purpose of a promise can be obligating a speaker to do something (Searle, 1979, p. 2).

The dimension of direction of fit looks at whether the words in the utterance match the world, or whether the utterance makes the world match the words. If an utterance has a direction of fit of 'word-to-world', then the words match (or describe) the world. The world can be in a certain state, and the words reflect this state. Examples are statements or descriptions. On the other hand, there is the 'world-to-word' direction of fit, in which the world can be in a certain state, and the words change that state. Examples are requests and promises.

Finally, the sincerity condition looks at the differences in psychological states expressed towards a propositional content (*p*). When performing an illocutionary act with a propositional content, a speaker expresses a psychological state or attitude towards that propositional content. For example, a speaker who promises *p,* expresses an intention to do *p*. A speaker who requests *p*, expresses a desire that the hearer does *p*.

Using mainly these three dimensions, Searle formulated a taxonomy of speech acts in which five different types of illocutionary force (F) can be found. The taxonomy, expanded with definitions and examples, is shown below.

Table 2. Types of illocutionary force (F) in speech acts (based on Searle (1969))

Type of speech act	Definition	Examples
Representatives	Express a belief of the speaker and commit the speaker to the truth of the expressed proposition. Note that this applies in varying degrees, so it could range from anything between suggesting and solemnly swearing.	Statements, conclusions
Directives	Are attempts by the speaker to get the hearer to do something. Again, in varying degrees, so this could range from anything between suggesting and insisting.	Requests, orders, questions
Commissives	Commit the speaker to some future course of action.	Promises, offers, threats
Expressives	Express the psychological state of the speaker with respect to a proposition.	Congratulations, apologies, condolences
Declaratives	Brings about a change in the real world in accordance with the proposition.	Firing, resigning, marrying, naming

For this research, I will be focusing on directive speech acts such as requests and orders.

Speech acts can be categorized into these five categories by looking at, among other things, the illocutionary point, or the speaker's intention. Sometimes, the illocutionary point is

expressed explicitly in the utterance. For example, “I promise to do the laundry” can quite easily be identified as a promise, and “I order you to stay in your room” can easily be identified as an order. But even in utterances that are not as transparent in their illocutionary point, people are still able to recognize the speaker’s intention. There are a few factors that play a role in this intention recognition: the illocutionary force indicating devices (IFIDs), cultural convention, and inference from context.

2.1.1. Illocutionary force indicating devices

Illocutionary force indicating devices are elements in an utterance that “can be literally used to indicate that an utterance of a sentence containing that element has a certain illocutionary force or range of illocutionary forces” (Searle & Vanderveken, 1985, p. 2). In other words, these are linguistic elements in an utterance that encode the illocutionary force of that utterance. Examples are the aforementioned performative verbs such as ‘promise’ and ‘order’, but also word order, the intonation of the utterance, punctuation in written utterances, the mood of the verb, and words such as ‘please’ for requests.

2.1.2. Conventionalized (indirect) speech acts

In the case of indirect speech acts, the illocutionary point is not linguistically encoded in the utterance and may be recognized from cultural or language-specific convention. Before I elaborate on this, I will first explain what an indirect speech act is.

The utterances and speech acts mentioned above all concern direct speech acts. However, a large amount of speech acts that people use are not direct, but indirect. We talk about indirect speech acts when we find two illocutionary acts in one and the same utterance (Clark, 1979; Searle, 1979). For example, the utterance “It is cold in here” is a statement (representative) but can indirectly also be a request (directive) for the hearer to close the

window, turn up the heater, or pass the blanket. A hearer would have to recognize the indirect speech act in this example in order to satisfy the speaker's goal.

Often, information from context is needed to infer what the illocutionary acts in an indirect speech act are. I will elaborate a little more on the importance of inference in section 2.1.3. Some indirect speech acts, however, are conventionalized in a language (Morgan, 1978). This means that the utterance-specific context is no longer needed to infer these illocutionary acts. One example is the indirect speech act "Can you pass me the salt?" in English, which does not need conversational context for a hearer to understand that, even though directly it looks like a question about ability to pass the salt, it actually is a request to pass the salt. Speakers of English will know by convention of usage what the meaning is of this and similar utterances.

2.1.3. Inference from context

Even if the illocutionary point is not linguistically encoded in the utterance, or known by means of convention, we may still able to infer what the illocutionary act of an utterance is as an implicature of the utterance. How this happens exactly is still a topic of debate, but two widely recognized principles are the Cooperative Principle (Grice, 1975) and the Principle of Relevance (Sperber & Wilson, 1986). Both theories assume that in interaction, all interlocutors are communicating cooperatively in the sense of wanting to be understood by the other person and are aware that the other person is also communicating cooperatively. This way, a hearer may assume that whatever is said, must have a meaning that makes sense in the context of the interaction. For example, what is said after a question can be assumed to be an answer to that question. According to Grice, the hearer may infer what the said utterance means by assuming the speaker is communicating in accordance with the four maxims of conversation (1975, pp. 45–47):

1. Maxim of quantity: be informative. Make your contribution as informative as is required, and not more informative than is required.
2. Maxim of quality: be truthful. Do not say what you believe to be false, and do not say that for which you lack adequate evidence.
3. Maxim of relation: be relevant.
4. Maxim of manner: be perspicuous. Avoid obscurity of expression, avoid ambiguity, be brief, and be orderly.

For Sperber and Wilson, the most important property is relevance, which guides all the others. Assuming that everything that is said, is a relevant contribution to the conversation, two people can infer the meaning of the utterances in that conversation.

I will give two examples of inference from context. In the first example, two people are sitting in a room where a window is opened. We will call the people in this example Anne and Bruce. Anne is sitting close to the window. If Bruce says “It’s cold in here”, Anne may assume that Bruce has a reason for uttering this sentence in this context. It would not make sense for Bruce to intend this utterance merely as a statement, because Anne and Bruce are in the same room and that statement would offer no new information to Anne. However, Anne may infer that Bruce’s intention was to request that she closes the window because she is closer to the window than him and she is able to do so.

In the second example, even more context is needed to infer what is meant. The utterance in this example is “Have you heard anything from your partner yet?”, said by one person, let us call her Carla, to her friend, whom we will call David. The direct speech act in Carla’s utterance is a question to inform her about whether David has already heard from his partner. The context of the utterance is that it is almost dinner time and Carla is having dinner that night with other mutual friends of Carla and David. David told Carla earlier that day that

he might go out to dinner with his partner that night. Having heard no confirmation from David's partner in the meantime, Carla's utterance can now be interpreted as an invitation to David to join Carla and the mutual friends for dinner. The utterance "Have you heard anything from your partner yet?" will typically not be an invitation, but with the context and knowledge present between the two friends, David can easily infer what Carla's intention is in her indirect speech act.

2.1.4. Felicity conditions

Sentences are deemed ungrammatical if they violate the rules of syntax, and in a similar way, speech acts are deemed infelicitous if they violate the rules for the successful performance of speech acts. These 'rules' are also known as felicity conditions. This means there are certain criteria that need to be met in order for a speech act to work, to 'be felicitous'. If a speech act does not meet (one of) the felicity conditions, it can even be said not to be that speech act at all. For example, a promise is not a 'real' promise if not all of the felicity conditions are met. The rules for speech acts to be felicitous according to Searle (1969) are shown below, using the speech act of promise as an example:

Table 3. Felicity conditions (based on Searle (1969))

Felicity condition	Definition	Example
Propositional content	The propositional content must be appropriate for the speech act performed	You cannot promise something that has already happened (in the past), thus "I promise to have cleaned my room yesterday" is not a promise.

Preparatory	The situation must be appropriate for the speech act to be performed	When making a promise, you have to be able to do what you promise. In other words, a promise to do the impossible is infelicitous.
Sincerity	The speaker must be sincere in uttering the speech act	A promise to do something that you do not intend to do, does not meet the sincerity condition.
Essential	The utterance must count as the intended speech act by all parties concerned	Both speaker and hearer must take the utterance to perform the speech act at hand. If a speaker can demonstrate that they did not have this intention in a given utterance, then the utterance was not a promise.

In sum, speech acts are utterances that speakers use not only to say something, but to perform an action was well. Speech acts can vary from very explicit and direct ("I order you to give me the spoon.") to very implicit and indirect ("It's getting a little chilly in here."). People are able to use and understand speech acts by virtue of indicative devices such as performative verbs, conventions in the language or culture, and inference from the context (assuming Grice's Cooperative Principle and the maxims or the Principle of Relevance). In order for a speech act to be felicitous, certain conditions have to be in place. These vary for every type of speech act.

2.2. Language acquisition in preschoolers

The current study focuses on children of four and five years of age. This section will provide insights into children's language acquisition to offer context for where the children of this study can be expected to be in the process of learning a language. Even though the same language acquisition patterns can be found across languages, and some of the information mentioned here may apply to a multitude of languages, it should be noted that for this study, the theories and acquisition patterns mentioned apply specifically to first-language learners of (British) English.

At ages four and five, children are in their preschool years. Unlike younger children, preschool children will often be introduced to a new environment where they spend more time with people outside of their direct family. Spending time in a nursery-type setting introduces new linguistic input as well as new conversation partners that a child will have to communicate with. This new environment brings new situations that the child has not encountered before but that they will have to maneuver socially and linguistically. For example, instead of primarily interacting with a caregiver, a child that enters a nursery will now encounter interactions with peers whose primary role is not to give care to the child, but rather belong to the same level of social hierarchy.

Language acquisition looks different for every child, but there are patterns that can be found in roughly all children learning English as their first language. In the preschool phase of language acquisition, children know the basic structures of their language and are able to correctly form sentences. They can understand and contribute their part in conversations. They are able to use grammatical morphemes to, for example, conjugate verbs and form plurals from nouns, are able to communicate negation, including by the use of auxiliary verbs, and can ask questions. More complex questions that include wh-words (what, where, who, why and how) are starting to integrate more into the preschoolers' language as they develop a

better understanding of factors such as manner and time. Their sentences become more complex and adultlike throughout the preschool phase (Lightbown & Spada, 2013; Owens, 2019).

Children's language develops systematically. Certain grammatical features such as wh-questions are first learned as part of a 'chunk' ('Whassat?' for "what is that?") before children are able to distinguish the separate parts that make up the question's meaning (Lightbown & Spada, 2013). Later, children are able to not only simply copy what they have received as input from their environment, but they can also apply the separate features to sentences and words correctly to create new structures. In the example of wh-questions this means that after learning what the chunk 'Whassat?' can communicate, they will acquire the meaning of 'what' and are able to apply it in variations such as 'What are these?'.

During the preschool years, children continue to develop socially and learn how to use language as a communicative and social tool, helping them in establishing and maintaining social relationships. They also continue to develop cognitively, which includes developing a theory of mind (ToM). This entails that they start to recognize that other people including other children have a mind and perception of their own, and that others do not have the same knowledge of the world as the children do themselves (Barnes-Holmes et al., 2004). This affects the way children socially and linguistically behave, as it creates an understanding that they may need to phrase their utterance in a certain way, to account for the hearer's wants and needs. With the development of theory of mind, children become aware that they may need to tell their hearer relevant information about a situation because even though they already know that information as a speaker, the hearer may not yet have access to this information. Another aspect of theory of mind is that the hearer's wants may not be the same as the speaker's wants, which is especially important to take into account when performing directives. A

speaker who is aware that what they are asking of their hearer may not be what the hearer wants is able to make linguistic choices such as emphasizing certain benefits in their request.

2.3. Children's use of directives

This section elaborates on research that has been done on children's speech act comprehension and production. Lastly, it discusses a proposed model of the acquisition of a directive repertoire in children.

2.3.1. Comprehension

As discussed above, adults are able to understand which speech act a speaker is trying to communicate, because the illocutionary point is expressed through IFIDs in the locutionary act, because of convention, or because it can be inferred from the context (or a combination of these). Knowledge of a speech act's felicity conditions is also needed for understanding an utterance as a certain kind of speech act.

Research indicates that children as young as (0;9) are able to understand the difference between the absence and presence of some felicity conditions (Behne et al., 2005). In this research by Behne and colleagues, children were offered toys by an adult. The sincerity condition and the preparatory condition were manipulated. The sincerity condition was manipulated by the adult either showing they were willing to give the toy or not. The preparatory condition was manipulated by either showing the adult was (physically) able to give the toy or not. Children showed significantly more impatience when the transaction failed because the sincerity condition was not met, than when the transaction failed because the preparatory condition was not met. This suggests that children understand from a young age that certain conditions have to be in place for a (speech) act to be felicitous.

An analysis of children's reactions to directives reveals that children are able to discern various felicity conditions for directives. In research by Garvey (1975), children between the ages of 3 and 5 explain their non-compliance with a reason why they are not complying. For example, in cases where S requests something that H is unable to do, then the children were shown to respond to the directive by stating they were unable to do the desired act. This adds to the idea that children understand various conditions have to be in place for a speech act to be felicitous.

Children are able to make inferences about intentions before they acquire the linguistic tools needed. By age 2, they know what wh-questions in combination with a negation form action requests (Clark, 2004). They know that, for example, "Why don't you put it in the basket?" is an action request for putting it in the basket. By age 3, children are able to understand indirect speech acts if they are conventional and routinized (Cameron-Faulkner, 2014).

Children learn early in life that context is important for recognizing the intention behind an utterance, as utterances can have different meanings in different contexts. A psycholinguistic experiment by Reeder (1980) discovered that factors such as physical distance play a role in children's interpretation of a speech act as either an offer or a request. In this experiment, English-speaking children aged (2;6) to (3;0) engaged in puppet play with a speaker-puppet (playing the role of a teacher), a hearer-puppet, and a toy. Manipulating the distances of the puppets between each other and the toy, the children were presented with utterances that performed offers or requests, which they had to assign to the roleplaying puppets. The results revealed that the children had knowledge of felicity conditions of offers and requests, and that the children had the inferential skills to discriminate between offers and requests based on the context of the conversation and conversational participants.

By doing experimental research where felicity conditions are manipulated, we may gain more understanding into how children understand speech acts (Astington, 1988; Bernicot & Laval, 2004). In their research on French children aged (3;3) to (11;1), Bernicot and Laval used pictures to describe stories where one person promised something to another person. In the different stories, the preparatory condition was manipulated, e.g. in some stories the hearer would want the speaker to accomplish the future act, and in other stories, the hearer would rather not have the speaker accomplish the future act. The child then had to choose the last picture, which showed either a happy hearer or an unhappy hearer after the promised act was accomplished. Results showed that when the preparatory condition was met (the act was desirable to the hearer), the children were far more likely to choose the correct last picture (a happy hearer) than when the preparatory condition was not met (the act was undesirable to the hearer). This suggests that children are able to recognize a promise as such when the preparatory condition is met, but have difficulty comprehending a speech act as being a promise when the preparatory condition is not met.

2.3.2. Production

Ervin-Tripp (1977) offers an overview of early research of the directive repertoire of young children. Summarizing, she mentions that children produce directives from a very young age, almost exclusively towards their caregiver. During the first and second year, directives consist mostly of gestures, and from the second year on these are accompanied by vocalizations. This develops further and later the gestures become optional. Directives then consist of mentioning desired objects as well as some verbal indicators like ‘want’ and ‘more’. As a child’s vocabulary and syntax continue to develop, this is also reflected in the directive repertoire. Young children rely heavily on the hearer (the caregiver) to infer what they need, as they continue to formulate directives by mentioning problems or adverse conditions that

the caregiver can relieve. By ages 5 and 6, children do not require reference to the desired goal.

Even though children of preschool age have acquired the basics of their language, they are not yet able to construct longer and more complex grammatical sentences. As a consequence, they are also not expected to have longer or more complex directives in their repertoire. Exceptions may include routinized (conventionalized) or lexicalized utterances or directives.

Before children start speaking, they can already engage in what can be seen as proto-speech acts, by using joint attention with their caregiver. After this, young children use communicative gestures such as pointing to get their caregiver to give them an object. Once language emerges, this pointing is accompanied by referential language to request such items (Carpenter et al., 1998). Carpenter and colleagues observed this pattern of emergence in a group of children that participated in this longitudinal study between the age of (0;9) and (1;3).

Garvey's (1975) abovementioned research focused on children between the ages of (3;6) and (5;7) and their ability to convey and respond to directives. In her research, she observed spontaneous speech from pairs of children playing in a waiting room. This showed that children were able to use and understand requests when playing with each other. The directives that the children used were both direct and indirect, though more direct than indirect directives were observed. There was a similar distribution of direct and indirect directives found in both the younger (under (4;4)) and older (over (4;7)) age groups. The older group, however, was more successful when using indirect directives compared to the younger group. The data also showed that the children could successfully produce directives that needed inference from the hearer, in other words, that did not mention the requested act or a performative verb. However, these directives were less frequent than those that needed less

inference. This shows that at these ages, children have acquired multiple ways (direct and indirect) to produce directives and are able to do so successfully (with compliance as a result) when interacting with peers. They are also able to infer meaning from context, suggesting they are aware that the speaker has certain intentions even if those are not explicitly mentioned.

2.3.3. Proposed model of the acquisition of a directive repertoire

Huls and Van Wijk (2012) propose a model of the acquisition of a directive repertoire on the basis of a case study of a Dutch-speaking young child, Laura. Their model states that directives are not acquired in a linear manner from direct to indirect, but rather in a context-based, non-linear sequence of extensions. Their model is validated on a case study consisting of longitudinal empirical data of Laura's directive repertoire between ages (1;9) and (5;6).

They reject a linear model, what they call the ‘standard’ model, that suggests that “development is a process of increasing linguistic and cognitive complexity” (Huls & Van Wijk, 2012, p. 87). For this linear model, this entails that children’s directive repertoire initially would only consist of direct forms where the directives take the form of imperative utterances with an explicit mention of the propositional content ‘H performs A’. In a next stage in this model, the repertoire expands with indirect but conventional directives, where the propositional content ‘H performs A’ is embedded in questions about the ability of the hearer or statements about wishes of the speaker. For example, “Can you give the toy?” or “I want you to give the toy”. In a third stage in this model, the directive repertoire also encompasses indirect directives that do not mention the propositional content ‘H performs A', and that are not conventionalized in the language or culture.

However, such a linear model cannot be applied to data we find in the real world. For example, it does not explain how children such as in the study by Carpenter et al. (1998) are

able to use gestures and joint attention to perform a proto-directive, or how we can find implicit and indirect directive utterances in Huls and Van Wijk's own case study of Laura.

The proposed model is visualized as a circle, and suggests that a child's directive repertoire follows two roads to indirectness: a contextual road and a linguistic road. The model, as presented by Huls and Van Wijk, can be found in figure 1.

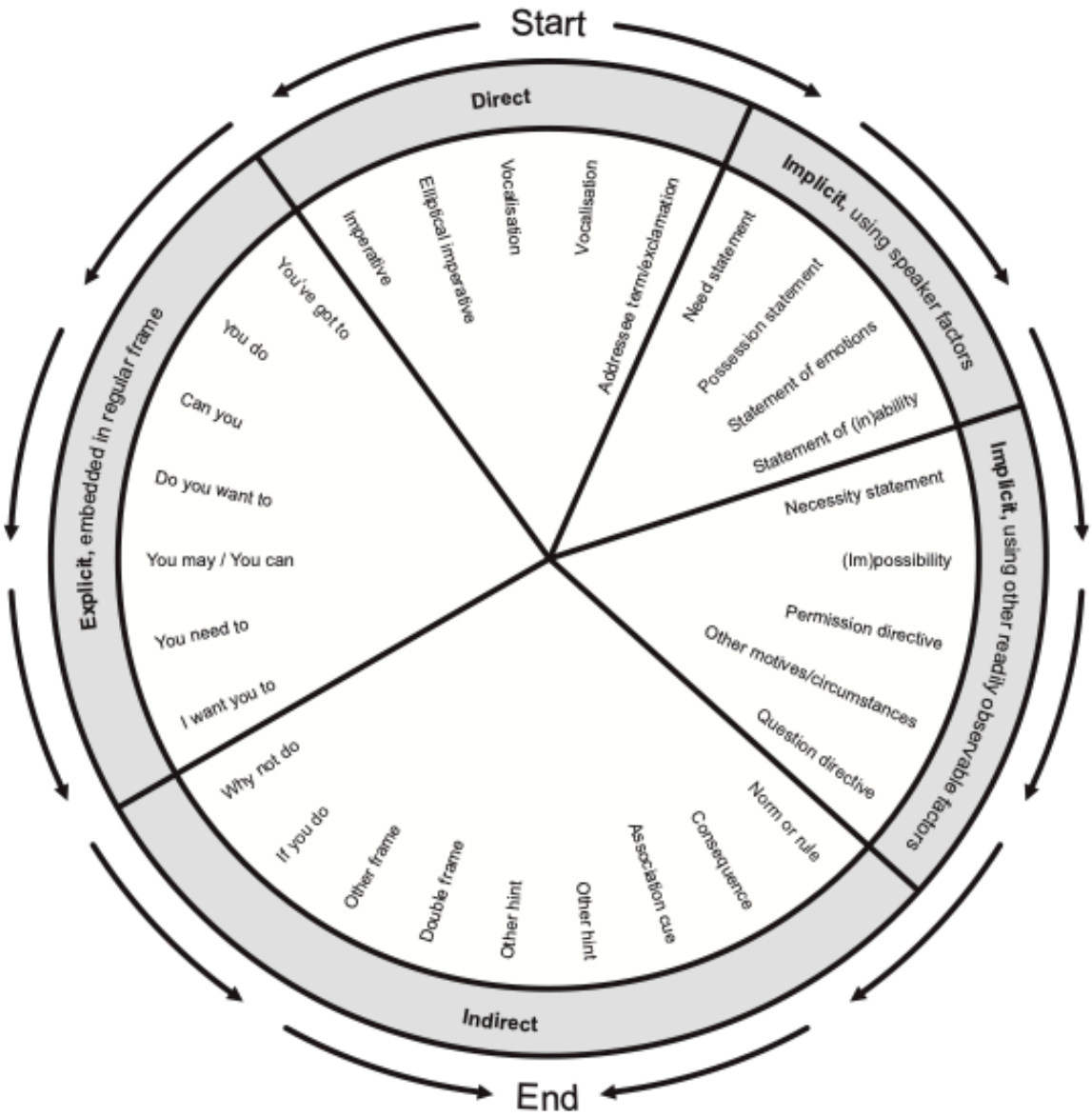

Figure 1. Proposed model of the development of the directive repertoire (Huls & Van Wijk, 2012, p. 89)

According to this model, a child's directive repertoire starts with vocalizations that precede the utterances from both the left-hand side and the right-hand side of the circle. The repertoire is then extended with direct forms of the directive that can be found at the top of the circle. These can be considered direct in the context of the utterance. Extending the repertoire then happens around the circle simultaneously along both sides, eventually making up a directive that includes the most indirect forms of directives at the bottom of the circle.

2.4. Current research in the context of the literature

Previous studies have demonstrated if and how children comprehend different speech acts at various ages. Previous studies have also demonstrated how children produce different speech acts at various ages in interactions with a caregiver or adult interlocutor. However, such studies have not addressed speech act production by children in a real-world peer-to-peer context, where intention and comprehension come together in trying to achieve a successful speech act.

As the above overview of studies about the acquisition of speech acts shows, research on the production of children's speech acts often draws on interactions between children and an adult interlocutor, such as a researcher or a caregiver. Although this does give us a lot of information about their speech patterns, it does not resemble all interactions children have. A large part of children's interactions is not with adults but with other children at daycare facilities, school, or playing activities, and that applies to children's earliest interactions as well. As mentioned above, children do not always have the same level of knowledge about speech acts as adults. Children may not fully understand some speech acts if not all felicity conditions have been met or if the linguistic form differs from what they have attained before. Yet children are often perfectly capable of having interactions with other children without the interference of an adult interlocutor. In this research I will analyze children's interactions with

peers, focusing on directive speech acts. This way I will work towards a better understanding of how speech acts are performed in real-world interactions between children of the same age.

Beyond looking at peer-to-peer interaction, another originality of my study is that I do so in a naturalistic setting. Existing literature has shown through experimental means how comprehension and production of speech acts manifest in children, and also what elicited speech between children or between a child and a caregiver looks like.

With my study I aim to contribute to the existing literature in a similar way as Garvey (1975) did. By using observations of children over a longer period and in a setting that is more familiar to them, I hope to fill in some of the gaps that her research left and contribute to the understanding of the acquisition and use of speech acts by children in a spontaneous, naturalistic setting. In the next chapter I provide an overview of the data and the methods used to analyze it.

3. Methods

3.1. Data overview

A dataset of approximately 10 hours of natural conversations between children was collected using the UK Channel 4 ‘The Secret Life’ documentary series. This documentary series was recorded between 2015 and 2019 and contains episodes of roughly 45 minutes each, showing children interacting in a nursery setting in the United Kingdom. Each episode covers one week (Monday to Friday) at the nursery, showing a group of approximately ten children of either 4 or 5 years of age with different socio-economic backgrounds from various places throughout the UK. They are accompanied by two teachers and are observed through video and audio recordings by two researchers. The content of the episodes can be divided into four categories:

1. Children playing and talking among each other in the nursery, with or without the presence of a teacher.
2. Children in front of an interviewer and the camera, answering questions.
3. Background information about the children, showing where they live, what their home situation looks like, and a description given by the caregivers about the children’s personality and behavior.
4. Commentary of the researchers, while watching the nursery footage from a separate room.

Directives were collected from category 1, because this category involved spontaneous conversations between children. Within this category, content varied between free play at the nursery or accompanying playground, and various tasks as designed by the researchers. These tasks included working together or against each other in groups or pairs, or for example ‘unsupervised temptation’ tasks where (groups of) children are under the impression they are

unsupervised whilst a temptation (e.g., sweets that they are not allowed to eat) is also present in the room.

This type of content allows for insights into natural and spontaneous conversations, very similar to how children use language during their everyday life in a nursery setting or when interacting with each other. At the same time, the data is presented in a way intended for television, as a means of entertaining a general public. Although I contacted researchers at the University of Bristol, where the production team and researchers are based, it was not possible to gain access to the full recordings or transcripts thereof since I am not personally affiliated with that University. The publicly available data (of the televised documentary series), nevertheless, still offer plenty of insights into the conversations and interactions between the children, although one should be aware of possible framing and inevitable editing by the production team.

The episodes were publicly available for online streaming in 2020 and 2021 via the broadcaster's website at www.channel4.com. Because the episodes are publicly available, no attempt was made at protecting the privacy of the participants, by, e.g., changing their names or using nicknames. Recordings of the episodes were made during this time to archive the data for the purpose of this research.

During data collection, each episode was titled using a code: *SLO [age of the children] YO – [year] – [episode 1 or 2]*. 'SLO4YO', for example, is the abbreviation for 'Secret Life of 4-Year-Olds'. Each year (except in 2018), two episodes with four-year-old children and two episodes with five-year-old children were recorded. In the first episode of the year, ten children of the same age met for the first time at the nursery. In the second episode, which was recorded later in the same year, part of the first group returned to the nursery, where they were joined by 'new' children who had not been at the nursery before. Factors such as age and how familiar the children are with the nursery (referred to as "territorial familiarity" below)

and with other children (referred to as "interpersonal familiarity") are taken into account in the analysis (see section 3.2 ‘Data collection’).

The series’ pilot episode does not specify in which year it is recorded, so it is titled ‘SLO4YO-NA-1’. This episode covers both the first and second visit within one episode.

Due to the labor-intensive transcription process, a selection of the episodes to be included was made. This selection includes, in addition to the series’ pilot episode, six episodes of the four-year-olds, and six episodes of the five-year-olds. An overview of the episodes included in the data set can be found in table 4.

Table 4. Overview of episodes

Title	Age	Year	Episode no.
SLO4YO-NA-1 (pilot)	4	NA	1*
SLO4YO-2015-1	4	2015	1
SLO4YO-2015-2	4	2015	2
SLO4YO-2016-1	4	2016	1
SLO4YO-2016-2	4	2016	2
SLO4YO-2017-1	4	2017	1
SLO4YO-2017-2	4	2017	2
SLO5YO-2015-1	5	2015	1
SLO5YO-2015-2	5	2015	2
SLO5YO-2016-1	5	2016	1
SLO5YO-2016-2	5	2016	2
SLO5YO-2017-1	5	2017	1
SLO5YO-2017-2	5	2017	2

*Covers two visits to the nursery in one episode.

3.2. Data collection

To collect a sufficient number of requests for analysis, I observed the children's spontaneous and natural conversations during the video-recorded sessions. When conducting this type of ethnographic research, the researcher is dependent on the material available and is not able to ask the children questions about, for example, their intentions. For this specific dataset this also means, as mentioned above, that a researcher is dependent on the way the data is filmed and edited for broadcasting on television. All observations and analyses made in this research are based on what is shown in the "Secret Lives" documentary series.

From the available video recordings, directives were extracted from the utterances from category 1 (children playing and talking among each other in the nursery, with or without the presence of a teacher). Criteria for directives were based on Searle's taxonomy of illocutionary acts (Searle, 1979) and formulated as follows: all utterances where the speaker expresses something with the (desired) effect that the hearer performs an action, such as orders, commands, pleas, requests, et cetera. This includes utterances where the desired action is to stop doing something, as in examples (1) to (3) below.

(1) No, don't snatch! (SLO4YO-2015-1, 19:15)[1]

(2) Please stop. (SLO4YO-2015-1, 33:50)

(3) Can you stop singing those songs? I feel nervous. (SLO4YO-2015-2, 20:39)

Identifying the directives was done by considering the adjacency pairs (Liddicoat, 2021; Mazeland, 2003; Sacks et al., 1974) in which the directives were found. Adjacency pairs consist of a first pair part (the directive) and a second pair part (the hearer's reaction).

[1] All examples throughout this thesis that are taken from the data set include the episode and timestamp in parentheses.

Rather than assuming the directive is inherent in a certain linguistic form, I used the hearer's reaction to identify whether the hearer validated the first pair part as a directive. For example, an utterance was considered a directive when the hearer explicitly addresses the request or requested act (e.g., stating that they will or will not perform the act), or when the hearer implicitly validates the directive by performing the requested act.

For utterances where the second pair part consisted of no reaction from the hearer, a directive could still be identified by turning to a preceding or subsequent directive. This occurred when directives were rephrased or repeated. For example, if an utterance from S did not elicit any reaction from H, but a preceding or subsequent utterance with the same propositional content did elicit a reaction indicating that a directive took place, then I assumed the 'unaddressed' utterance was also a directive.

For each directive, the following three types of information were included in the data set:

Table 5. Data per directive

Information about the interlocutors	Name of the speaker
	Name of the hearer
	Sex of the speaker
	Age of the children (group age)
	Territorial familiarity of speaker*
	Territorial familiarity of the hearer*
	Interpersonal familiarity*
Information about the episode	Episode title
	Timestamp of the utterance in the video
Information about the utterance	First pair part*

	Propositional content of the illocutionary act*
	Second pair part (perlocutionary effect)*
	Hearer's compliance*
	Sequential placement*
	Directness of the speech act*
	Politeness strategy*

*See 0 and 3.3.2 below

All data were collected in an Excel worksheet to allow for further analysis. In the same workbook, a worksheet with more information about the children was included as well. This included the children's name, age, sex, and episodes that they appeared in, as well as notes on their personality and social skills as mentioned by either the documentary's researchers, nursery teachers, or children's parents (utterances of category 3 above). For example, if during the episode the researchers noted that one of the children had difficulty speaking or if a parent commented that their child would get upset if they did not get their way, this was included in the children's data.

3.3. Analysis

The goal of the analysis was to explore linguistic patterns used in the children's directives, as well as determine how the independent variables influenced the dependent variables, to answer the research questions:

1. How do English-speaking children of 4 and 5 years old perform directives in child-to-child and child-caretaker interaction?
2. What extra-linguistic and linguistic parameters determine their choice of direct and indirect strategies each time?

To answer the first research question, the hearer's compliance for each utterance is measured (compliance or non-compliance). Various factors such as age and familiarity are analyzed to see whether they influence the hearer's compliance -- for instance, to explore whether 5-year-olds have more success when performing directives than 4-year-olds.

To answer the second research question, each utterance is analyzed in terms of directness. Again, the various factors are taken into account in the analysis to explore whether they influence the directness of the speech act.

An overview of the independent and dependent variables can be found in table 6.

Table 6. Independent and dependent variables

Independent variables	**Variants**
Sex of the speaker	F or M
Age of both speaker and hearer	4 or 5
Territorial familiarity of the speaker	1 or 2
Interpersonal familiarity	1 or 2
Propositional content of the illocutionary act	One of 58 categories
Sequential placement	1 to 13
Dependent variables	
Degree of directness	Direct or indirect
Hearer's compliance	Compliance or non-compliance

3.3.1. Independent variables

3.3.1.1. Territorial familiarity

The children's familiarity with the nursery was included in the data set as 'territorial familiarity'. The "Secret Lives" nursery was specially set up and equipped for the

documentary series, and none of the children had been in the nursery prior to participating. Territorial familiarity accounts for the novelty of the new surroundings, as well as factors such as being in a nursery while wearing a microphone wire and being filmed by a professional camera crew. How comfortable the children are in their environment can influence their behavior and language choices. The territorial familiarity was also used to calculate the interpersonal familiarity (see below).

For each utterance, both the speaker and the hearer received a score for their territorial familiarity of either 1 or 2. A territorial familiarity score of 1 signifies it was the first episode they appeared in, meaning it was their first time spending a week at the nursery. A territorial score of 2 signifies it was the second episode in which they appeared, meaning it was their second time spending a week at the nursery.

An exception to this is the series' pilot episode, coded SLO4YO-NA-1, where the two visits (one week earlier in the year, followed by another week later in the year) were shown in one episode. For the pilot episode, the first half of the episode was treated as a "first episode" where all children received territorial familiarity score 1, and the second half of the episode was treated as a "second episode" where returning children received territorial familiarity score 2, and new children received territorial familiarity score 1. An overview of the territorial familiarity score can be found in table 7.

Table 7. Territorial familiarity

Episode order	**Was the child in episode 1?**	**Was the child in episode 2?**	**Territorial familiarity**
1	Yes	NA	**1**
2	No	Yes	**1**
2	Yes	Yes	**2**

3.3.1.2. Interpersonal familiarity

Interpersonal familiarity accounts for how well the speaker and hearer know each other and focuses on whether it is their first or second week together at the nursery, as this may affect the linguistic choices that they make in communicating with each other and trying to provoke an action from each other (Brown & Levinson, 1987, p. 74). For each utterance, the interpersonal familiarity between the speaker and hearer is calculated using the territorial familiarity. Interpersonal familiarity receives a score of either 1 or 2. An interpersonal familiarity of 1 means it is the first week that the speaker and hearer spend together at the nursery. An interpersonal familiarity of 2 means it is the second week that the speaker and hearer spend together at the nursery. An overview of the interpersonal familiarity score can be found in table 8.

Table 8. Interpersonal familiarity

Territorial familiarity		
Of the speaker	**Of the hearer**	**Interpersonal familiarity**
1	1	**1**
1	2	**1**
2	1	**1**
2	2	**2**

If an utterance was directed towards multiple hearers, the interpersonal familiarity received the score corresponding to the hearer with the lowest interpersonal familiarity with the speaker.

If an utterance was directed towards one of the teachers, the interpersonal familiarity received the same score as the territorial familiarity of the speaker, as the two teachers stay

the same throughout the entire documentary series[2]. In other words, if it was the second time the child was visiting the nursery (territorial familiarity: 2), then it was also the second time the child was spending a week with both teachers (interpersonal familiarity: 2).

In one episode, SLO5YO-2017-2, the boys and girls are brought together in the nursery for the first time, even though it is the second episode with 5-year-olds in 2017. This means that if a girl with a territorial familiarity of 2 is interacting with a boy with a territorial familiarity of 2, the utterance received interpersonal familiarity 1.

3.3.1.3. First pair part: Propositional content of the illocutionary act

The utterances realizing a directive were transcribed and included in the data set. The utterances were organized in adjacency pairs following a conversation analytic methodology (Liddicoat, 2021; Mazeland, 2003). In the Excel worksheet containing the data set, the utterances realizing a directive were included in a separate column labeled 'First pair part'. See also section 3.3.2.1 'Second pair part' below for the second pair part. The first pair part was used during analysis to research linguistic patterns and choices made by the children in their utterances.

Transcriptions captured the utterances in standard orthography to allow for easier analysis focused on linguistic choices on a word level. Prosody was captured in the transcriptions only minimally in the form of exclamation marks for exclamations, and question marks for a question-like (rising) intonation. Additional non-verbal signals deemed of possible importance were included in the transcription within double parentheses, such as

[2] One of the teachers was replaced by a new teacher in the last half of SLO5YO-2017-2. However, because no directives were directed toward him, his speech was disregarded in this research.

the raising of a hand when requesting permission to speak. For a complete list of the symbols used in this thesis, please see the Table of Symbols (p. 1).

Each illocutionary act consists of a propositional content and an illocutionary force that expresses an attitude (e.g., belief, desire, etc.) toward that content, what Searle (1979) called *F*(p). Because the current research only focuses on directives, the illocutionary force *F* is the same for all of the utterances included in the data set. For each utterance, S wants H to perform an act. This act is specified in the propositional content *p* of the illocutionary act, and can be anything from ironing clothes to giving permission, letting go of a toy, and more.

First, the propositional content of the illocutionary act was noted, as specifically as possible for each directive. These were later grouped into more general descriptions depending on commonalities in their content yielding 58 categories of propositional content. For instance, in examples (4) to (6) below all directives concern 'giving an object'.

(4) I need a pen, please. (SLO4YO-2015-2, 20:58)

(5) Please can I have a grape? (SLO4YO-2016-2, 43:07)

(6) Banana, please. (SLO4YO-2016-2, 43:21)

Utterances (4), (5) and (6) are therefore grouped together under the description 'propositional content: giving an object'. Grouping the illocutionary acts in this way enables insights into whether the content of the requested act has an effect on the linguistic choices made by the speaker.

3.3.1.4. Sequential placement

As mentioned above, a speaker may repeat a directive several times, typically in case of non-compliance. Data regarding repeated directives were included in a separate column in

the worksheet labeled ‘Sequential placement’. Each directive received a number in the sequence, starting from 1. Directives that were not repeated also received a value of 1.

The count of repeated directives continued if another directive with the same propositional content came between repetitions. An example is shown in table 9 below, where Theo performs two different directives. The first directive is aimed toward Tyler: Theo wants Tyler to play with him. This first directive is repeated three times, in utterances (7), (8) and (10). The second directive, utterance (9), is aimed toward the teacher: Theo wants the teacher to help and tell Tyler to play with Theo. After utterance (9), the count of repeated directives continues with utterance (10), as can be seen in the first column.

Table 9. Sequential placement (SLO4YO-2015-1)

Sequential placement	**Utterance (first pair part)**		**Speaker**	**Hearer**
1	(7)	Let’s play with you (16:27)	Theo	Tyler
2	(8)	I want to play with you (16:31)	Theo	Tyler
1	(9)	He’s not playing with me (16:34)	Theo	Teacher
3	(10)	Play with me (16:43)	Theo	Tyler

3.3.2. Dependent variables

3.3.2.1. Second pair part: Hearer’s compliance

The hearer’s reaction to the first pair part (see above) was included in the Excel worksheet in a separate column labeled ‘Second pair part’. The second pair part can consist of a non-verbal reaction, a verbal reaction, a combination of a verbal and a non-verbal reaction, or no reaction. Examples of the second pair part are shown below.

(11) H gets up and says: “Oh my gosh” (SLO5YO-2015-1, 32:48)

(12) H says: “Oh but you can't, Daisy, you can't walk, you're not old enough to walk” (SLO5YO-2016-1, 1:08:09)

(13) H gives S a high five. (SLO5YO-2017-1, 5:15)

In case of no reaction, the second pair part was labeled ‘No reaction’. This included occurrences where the hearer did not hear the first pair part, as well as occurrences where the hearer may have intentionally ignored the first pair part. Following a conversation analytic methodology, no distinction between such ‘no reaction’ second pair parts can be made if there is no observable evidence of the reason for the lack of reaction on the hearer's part.

The second pair part was used to determine the hearer’s compliance[3]. The hearer’s compliance with the directive was determined by using the data from the first pair part, the propositional content of the illocutionary act, and the second pair part. In a separate column in the Excel worksheet, the hearer’s compliance for each directive was labeled as either ‘compliance’ or ‘non-compliance’. If these records did not provide enough information to determine the hearer’s compliance, then the video recordings of the data were rewatched to provide more insights.

The hearer’s compliance was recorded either as ‘compliance’, ‘non-compliance’, or ‘not shown’. This last one occurred when the second pair part was not shown, for example when the camera cut away before showing the hearer’s reaction. The hearer’s compliance was marked as ‘compliance’ when in the second pair part, the hearer performed or indicated they would perform the act formulated in the previous speaker’s directive, regardless of whether

[3] As mentioned earlier, the second pair part was not only used to determine the hearer’s compliance, but also to determine whether a directive has taken place. For more information on how I used the second pair part to determine whether a directive has taken place, see section 3.2.

the desired act was performed successfully, and regardless of whether the desired act was understood as intended by the speaker. The hearer's compliance was marked as 'non-compliance' when the hearer did not perform the act or did not indicate they had the intention to do so. Non-compliance included occurrences where the second pair part contained no reaction. Non-compliance can indicate to a speaker that, in order to get the hearer to perform the desired act, they might need to try again. See also section 3.3.1.4 'Sequential placement' above.

A separate column was added to the worksheet to further specify the hearer's compliance. For example, if the hearer gave a reason as to why they were not complying, this would be recorded in this column. This specification of the hearer's compliance indicates to the speaker why the hearer might not be complying, which in turn may influence the speaker's possible sequential attempt. See also section 3.3.1.4 'Sequential placement' above.

3.3.2.2. Directness of the speech act

A column was added to the worksheet labeled 'Directness'. This column contained information on whether the directive was either a direct or an indirect speech act (see section 2.1.2 on indirect speech acts). For this research, both conventionalized and non-conventionalized indirect speech acts were labeled as indirect. Examples of direct and indirect speech acts are shown in examples (14) to (17) below.

(14) Count to ten. (SLO4YO-2017-1, 48:27)

(15) Give it to me. (SLO5YO-2016-2, 40:20)

(16) May I speak a minute with Elliot? (SLO4YO-2015-2, 16:04)

(17) No, you're not meant to do that. (SLO5YO-2017-1, 55:03)

In the next chapter I will show the results of the analysis.

4. Results

The data collection resulted in a total of 660 utterances containing a directive. This chapter provides an overview of the results.

4.1. Overview

Table 10 below provides an overview of how children formulated their directives by looking at the linguistic strategies, including IFIDs (see chapter 2) used.

Table 10. Linguistic strategies in directives

Strategy	**Examples**
Modal verb	Can you put that hairstyle on me?
	Would you like to go and get some new glasses?
	Can I have the phone?
Need-statement	I need to talk to you.
	You need to cut those.
Please	Banana, please.
Consequence	If you get one, I'll give you some of my money.
	If you don't do it, I'll tell you off.
Imperative	Go and fetch it.
Want-statement/-question	I want the trophy.
	Do you want to play firemans [*sic*]?
Reason	It's an important job.
	(Don't laugh.) It's not funny.
Exclamation	Hey!
Omitted verb phrase	Down this way.

	Bent leg at the front.
Encouragement	Come on.
	Chop chop.
Declarative	It's your turn.

One directive could contain more than one strategy, as shown in examples (18) (imperative and want-statement) and (19) (please and modal verb).

(18) Let me have it, I want to be the princess. (SLO4YO-NA-2, 38:51)

(19) Please, may I have some strawberries? (SLO4YO-2016-2, 43:07)

4.2. Directives aimed at the teacher

Figure 2 shows an overview of the propositional content of directives aimed at the teacher(s). In other words, it shows the type of future act the children requested from the teacher(s) in their directives.

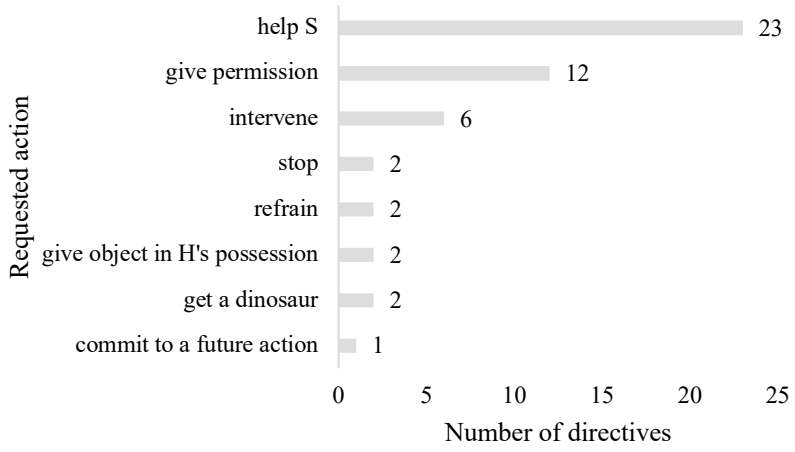

Figure 2. Propositional content of directives aimed at teacher(s)

In SLO4YO-2017-1, a person in a dinosaur suit is introduced to the children. At one point, Noah, a four-year-old boy, starts crying and turns to the teacher:

(20) I wanted a real dinosaur (49:34)

(21) I want to see a real dinosaur (49:38)

This may suggest that Noah does not fully understand the felicity conditions of a request, as the preparatory condition (H is able to do action A) is not met. Another possibility is that Noah does understand the preparatory condition for a request, but does not know that the teacher (H) is not able to do action A.

In SLO4YO-2016-2, Enzo asks the teacher:

(22) Shall we check on it this afternoon when we go in the garden? (5:57)

This utterance looks like a commissive, but can be considered a directive in this context due to the felicity conditions. The preparatory condition for a commissive (S is able to do action A) is not met in this situation, as Enzo does not have the power to decide what to do later that afternoon. Rather, this utterance is a request from Enzo that the teacher commits to an action (checking on something in the garden) later that afternoon.

4.2.1. Stating a problem

Directives that were aimed at the teacher, in other words: directives where the hearer (H) was one or both of the teachers, differed from directives aimed at other children in their linguistic makeup, and followed a unique pattern in the sequential placement.

Whereas directives aimed at other children could be phrased in many different ways (see table 10 above), the directives aimed at the teacher or teachers were almost exclusively

phrased as a problem statement (a type of declarative in table 10), without an explicit mention of a solution and without an explicit question. Examples include:

(23) Theo just snatched from me. (SLO4YO-2015-1, 19:19)

(24) He's not going to give me my van back. (SLO4YO-NA-1, 2:49)

(25) Kate! Ruth is crying! (SLO5YO-2015-2, 49:06)

Out of the 50 directives that were aimed at one or both of the teachers, 1 was a direct speech act, and 49 were indirect speech acts. Of those 49 indirect speech acts, 25 were problem statements.

An example where a directive aimed at the teacher did not follow this pattern, occurs in SLO4YO-2016-2, shown below.

(26) Can you help me get dressed in this please, Simon? (53:30)

4.2.2. Helping S after non-compliance

Several times throughout the data, a directive aimed at a teacher occurred after non-compliance with a directive aimed at a child. The speaker then turned to the teacher for help in getting what they wanted or requested in the previous directive(s). The propositional content of these directives was categorized as 'help S' (see figure 2.) Two examples are shown below.

Table 11. Example from SLO4YO-2016-1

Utterance		**Speaker**	**Hearer**
(27)	Now stay here, I'll go here (27:47)	Leighton	Enzo
(28)	No, no! (28:20)	Leighton	Enzo
(29)	Kate, he won't listen to me (28:44)	Leighton	Teacher

Table 12. Example from SLO4YO-NA-1

Utterance		Speaker	Hearer
(30)	No, no! (2:40)	Anya	Chaim
(31)	He's not going to give me my van back. (2:49)	Anya	Teacher

In utterance (27) and (28), Leighton wants Enzo to stay in his spot. After Enzo does not comply, Leighton turns to the teacher in utterance (29), where he asks her to intervene by stating the problem: Enzo is not listening.

In the second example, Chaim is taking a toy from Anya. Anya tells him not to do that in utterance (30), but Chaim does not comply. Anya then tells the teacher the problem in (31).

4.3. Sequential placement

Each utterance received a number for its sequential placement, starting from 1. A second attempt at the same directive thus received number 2, a third attempt received number 3, and so forth. Figure 3 and table 13 show an overview of the number of directives in each sequential placement. 430 utterances were first attempts at its directive, 126 utterances were second attempts, and 104 utterances were third or more in its sequence.

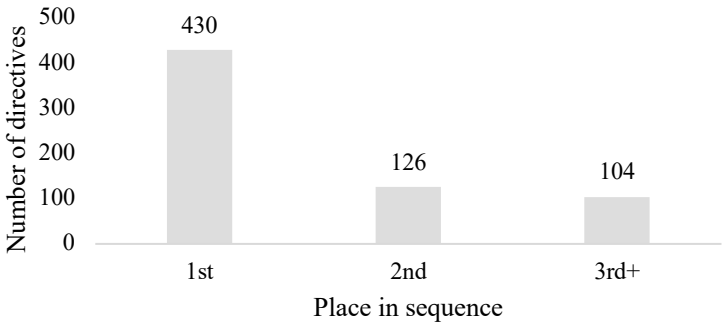

Figure 3. Overview of sequential placement

Table 13. Overview of sequential placement

Place in sequence	Number of directives
1st	430
2nd	126
3rd	49
4th	24
5th	15
6th	7
7th	3
8th	1
9th	1
10th	1
11th	1
12th	1
13th	1

As table 13 shows, there was one sequence of 13 attempts at one directive. This sequence, where Jessica (S) wants Skyla (H) to play with her, is shown in table 14 below.

Table 14. Sequence from SLO4YO-NA-1

First pair part	Second pair part
I got no one to play with	H says: “Find out! Find out who you gonna play with!”
I don't know	H doesn't react
I've been playing by myself for ages	H doesn't react

Where do we put this?	H doesn't react
What's the matter?	H doesn't react
Do you want to play with me?	H doesn't react
Do you want to play with me?	H doesn't react
Okay?	H says: “No.”
Come on, Skyla	H stands up from the floor where they were playing
((Jessica hugs Skyla))	H pushes S away
Come on, what do you want to do Skyla?	H doesn't react
Oh I know! These, Skyla. ((S runs towards a toy))	H doesn't react
Skyla! Skyla! Skyla!	H says: “I hate pink.” ((NB: The toy S ran towards is pink.))

4.3.1. Repetition

The children showed a variety of strategies used in their first and successive attempts at directives. One realization of successive attempts was to repeat the same utterance a subsequent time.

Table 15 shows that of the 230 directives that were not first in their sequence, 44 were verbatim repetitions of a previous attempt, and 186 were formulated differently from previous attempts. Repetitions were more commonly used by 5-year-olds, accounting for 23 out of 79 directives (29%), whereas 14% of the 4-year-olds’ directives were repetitions.

Table 15. Repetitions of directives

Age	Repetition	Different strategy	Total
4	21 (14% of age total)	130 (86% of age total)	**151**
5	23 (29% of age total)	56 (71% of age total)	**79**
Total	**44**	**186**	**230**

When the successive attempt included a different strategy from the first, no apparent pattern could be found. The subsequent attempts included both more and less direct phrasings of the directives, as well as a variety of IFIDs in no apparent order.

4.3.2. Please

A strategy that was seen throughout the data was that children added 'please' to their directive in a subsequent attempt. In total, 28 utterances contained the word 'please'. 15 of those utterances occurred first in their sequence, and 13 were a subsequent attempt at a directive.

4.3.3. Example

An example of a sequence of directives uttered by Tia (S) is shown in table 16 below. In this example, the class is given an 'unsupervised temptation' task. The children are instructed to stay in their seats, while the teachers leave the room. Tia and Jack have left their seat, and Tia tells the rest of the class not to tell the teachers when they come back. Charlotte replies that they should tell the teacher, as the rules require.

In her utterances, Tia uses various strategies: she uses an imperative, the word 'please', and naming consequences of compliance as well as non-compliance.

Table 16. Sequence of directives from SLO4YO-2015-1

Utterance	**Strategy**	**Second pair part**
Quickly, stay on your seat. (24:55)	Imperative	Jack (H) and Tia (S) run back to their seats.
Everybody, don't tell anybody we sit up. (25:04)	Imperative	Charlotte (H) says: “But we can’t win.”
No please don't, because then we will all get into trouble. (25:12)	Please + consequence	Charlotte (H) says: “But we have to tell don't we”
If you tell teachers, I won't be your friend, but if you don't tell the teachers, I will be your friend. (25:38)	Consequences in case of compliance and non-compliance	Not shown
If you tell, I'll tell my mummy. (25:42)	Consequence	Charlotte (H) says: “I love my mum, and my dad, and my brother.”
I’ll tell my mummy and daddy and my sister and my aunt Germaine and my, and my daddy and also my granddad and my two nannies. (25:52)	Consequences (increasing)	Charlotte (H) says: “And I'm gonna tell to even Father Christmas and the tooth fairy.”

4.4. Hearer's compliance

The hearer's compliance was analyzed to identify the presence of a successful directive. To analyze which factors influence the success of a directive, the hearer's compliance was analyzed against age, sex, territorial familiarity, interpersonal familiarity, and directness. In section 4.4.6 I will provide more insights into cases of non-compliance.

The hearers complied with 275 out of the total 660 directives. In 346 cases, the hearer did not comply with the directive. For 38 directives, the hearer's reaction was not shown, for example when the scene was cut before showing the hearer's reaction. An overview of the hearer's compliance is shown in figure 4 below.

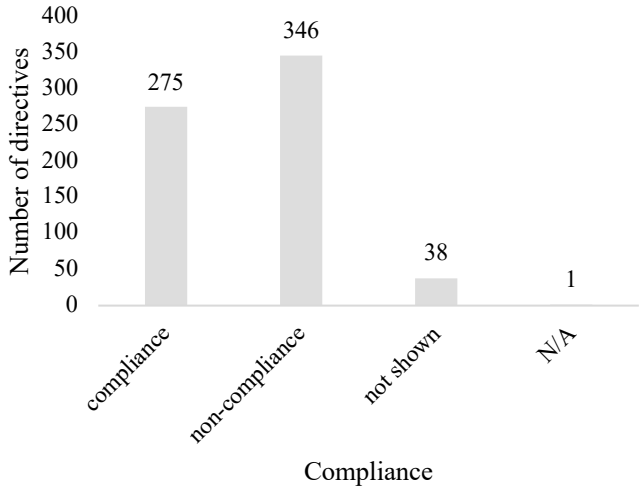

Figure 4. Hearer's compliance

For one directive, the hearer's compliance was labeled as 'not applicable', because the speaker was speaking through a telephone during pretend play and the hearer essentially did not exist. This utterance is shown in example (32) below.

(32) Dad, when you come, you pick me a sandwich of fish finger and chips please. (SLO4YO-2015-1, 14:04)

4.4.1. Age

Figure 5 shows the hearer's compliance grouped by age. A Pearson's Chi-square analysis revealed that there was no significant relationship between the hearer's compliance and the age of the speaker and hearer, χ^2 (1, N=621) = 2.395, p = 0.122, φ = 0.062.

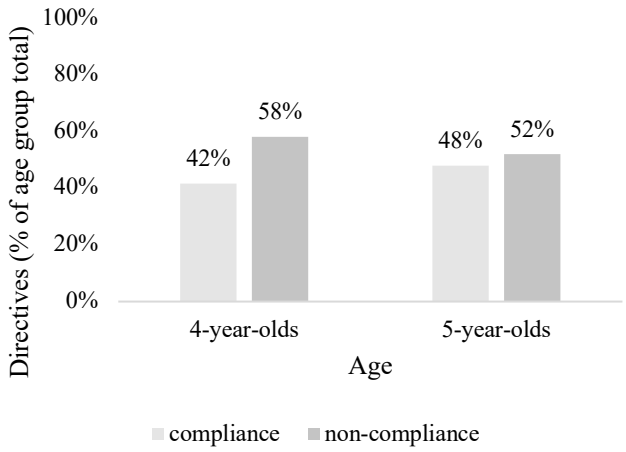

Figure 5. Hearer's compliance and age

4.4.2. Sex

Figure 6 shows the hearer's compliance grouped by sex of the speaker. A Pearson's Chi-square analysis revealed that there was no significant relationship between the hearer's compliance and the sex of the speaker, χ^2 (1, N=612) = 0.245, p = 0.621, φ = 0.020.

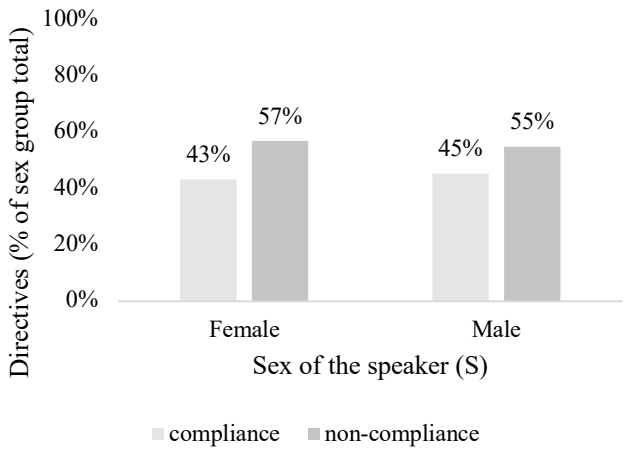

Figure 6. Hearer's compliance and sex

4.4.3. Territorial familiarity

For each directive, both the speaker and the hearer were assigned a territorial familiarity score of either 1 or 2 (see section 3.3.1.1). A territorial familiarity of 1 indicated it was the child's first week visiting the nursery. A territorial familiarity of 2 indicated it was the child's second week visiting the nursery. Figure 7 and figure 8 below show the hearer's compliance grouped by the territorial familiarity of the speaker and the hearer respectively.

There was a significant relationship between compliance and territorial familiarity of the speaker (χ^2 (1, N=610) = 4.862, p = 0.027, φ = 0.089). Directives performed by a speaker with a territorial familiarity of 1 resulted in more non-compliance than compliance compared to directives performed by a speaker with a territorial familiarity of 2. The φ-score of 0.027 indicates that the effect size is small.

A Pearson's Chi-square analysis revealed that there was no significant relationship between the hearer's compliance and the territorial familiarity of the hearer, χ^2 (1, N=610) = 0.300, p = 0.584, φ = 0.022.

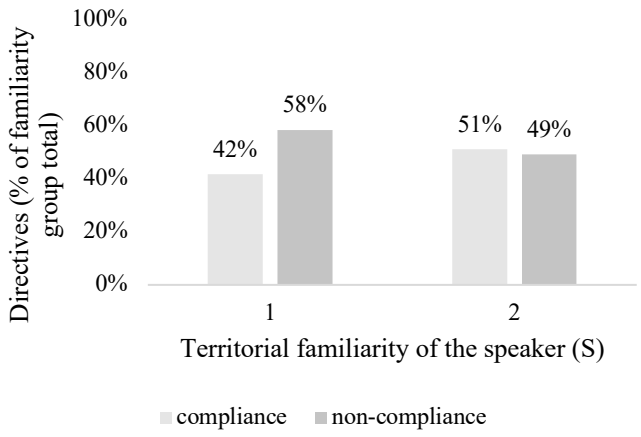

Figure 7. Hearer's compliance and territorial familiarity of the speaker

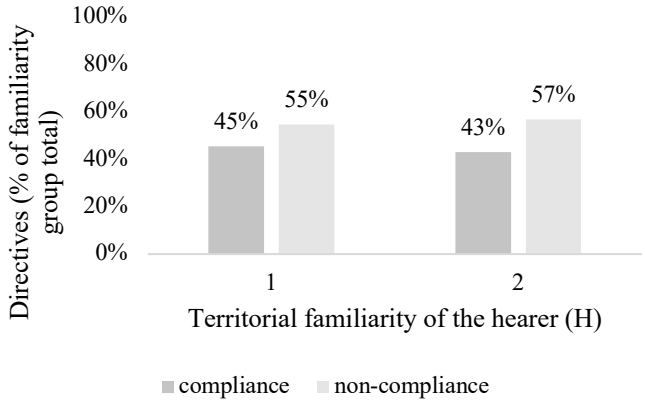

Figure 8. Hearer's compliance and territorial familiarity of the hearer

4.4.4. Interpersonal familiarity

Each directive was assigned a score of either 1 or 2 for interpersonal familiarity. This score was based on the speaker's and hearer's territorial familiarity (see sections 3.3.1.1 and 3.3.1.2). An interpersonal familiarity score of 1 indicated that it was the first time the speaker and hearer were spending a week in the nursery together. An interpersonal familiarity score of 2 indicated it was the second time the speaker and hearer were spending a week in the nursery

together. Figure 9 shows the hearer's compliance grouped by interpersonal familiarity.[4] A Pearson's Chi-square analysis revealed that there was no significant relationship between the hearer's compliance and the interpersonal familiarity, χ^2 (1, N=604) = 0.499, p = 0.480, φ = 0.029.

Figure 9. Hearer's compliance and interpersonal familiarity

4.4.5. Directness

Figure 10 shows an overview of the hearer's compliance grouped by whether a speech act was direct or indirect. There was a significant relationship between compliance and directness (χ^2 (1, N=621) = 6.130, p = 0.013, φ = 0.099). Indirect directives resulted in less compliance than non-compliance compared to direct directives. The φ-score of 0.099 indicates that the effect size is small.

[4] Directives that could not receive a score for interpersonal familiarity due to a lack of information about the identity of the speaker and/or hearer are not shown in figure 9.

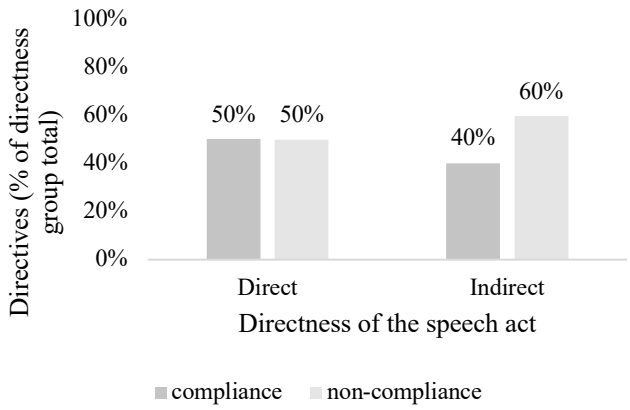

Figure 10. Hearer's compliance and directness of the speech act

4.4.6. Non-compliance

Figure 11 shows an overview of the content of the second pair parts in cases of non-compliance.

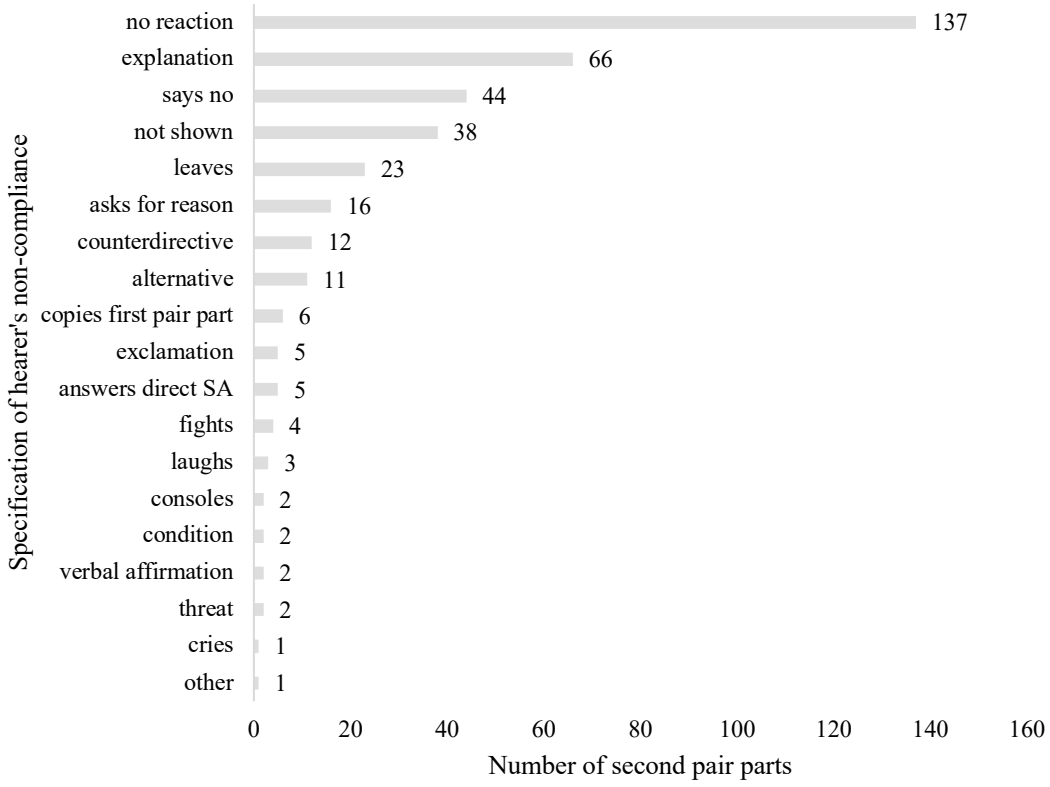

Figure 11. Specification of hearer's non-compliance in second pair parts

In case of non-compliance, the most common (in 137 utterances) was for the hearer to not give any reaction. This included every occurrence where the hearer did not react to the speaker's utterance, whether that be intentional (ignoring) or due to other reasons (e.g. the hearer did not hear the speaker). Other reactions that were observed often in cases of non-compliance were an explanation of why the hearer was not complying, saying 'No', leaving the conversation, asking for clarification, and offering an alternative. Examples are shown in table 17 below. One utterance could elicit one or more of these reactions. For example, one directive could be answered by the hearer first saying 'no' and then explaining why they were not complying.

Table 17. Examples of non-compliance

Requested act	**Reaction**	**Example**
Cutting the fruit	Explanation	"I don't know how." (SLO4YO-2017-2, 46:14)
Not touch the wheelchair	Asking for reason	"Why?" (SLO5YO-2016-1, 1:51:00)
Play with S	Offering an alternative	"Look, he's super funny, play with him." (SLO4YO-2016-1, 17:03)

For one directive, the non-compliance of the hearer was specified as 'other'. This directive is shown in examples (33) and (34) below.

First pair part:

(33) "If you tell, I'll tell my mummy." (SLO4YO-2015-1, 25:42)

Second pair part:

(34) "I love my mum, and my dad, and my brother." (SLO4YO-2015-1, 25:42)

In this adjacency pair, Tia (S) wants Charlotte (H) to not tell the teacher that she (Tia) had left her chair. Charlotte's reaction does not seem to directly relate to Tia's directive other than the mention of a parent. From the available data, there was no indication of why Charlotte mentions she loves her family members. Her reaction does not fit any of the other categories of non-compliance specification, thus it was labeled 'other'.

For almost every occurrence, successive attempts at a directive are triggered by non-compliance with a previous attempt. An exception is shown in the example in table 18 below, where Sienna (S) and Arthur (H) are playing mums and dads. Sienna wants Arthur to marry her.

Table 18. Example from SLO5YO-2015-2

First pair part		**Second pair part**
(35)	We've got to get married (27:34)	H says: "Yeah"
(36)	Shall we get married now? (27:37)	H says: "Yeah"
(37)	We need to do a kiss on the lips to get married now. (27:43)	H says: "She's not looking." (She = teacher)
(38)	Just get down here (27:51)	H gets down with S and says: "Why?"
(39)	And then they can't see us, now we can get married (27:54)	H whispers: "What?"
(40)	Now we can get married (28:01)	H leans in for a kiss

Even though Arthur replies with "Yeah" in utterance (35), giving verbal compliance to the statement (the direct speech act), Sienna continues to rephrase her directive in successive attempts to get what she wants (for Arthur to give her a kiss, the indirect speech act). This shows that Sienna understands that in order to get Arthur to perform the desired act, she can

rephrase her utterance in successive attempts. This is similar to other patterns found throughout the data in cases of non-compliance. Utterance (40) highlights this resemblance to other cases, as Sienna stops repeating her directive after she gets Arthur to give her a kiss, as was her desired act.

4.5. Directness

Of the total 660 directives, 269 were direct speech acts, and 391 were indirect speech acts. Both conventionalized and non-conventionalized indirect speech acts were labeled as indirect. Examples of direct speech acts are shown in (41) and (42), examples of indirect speech acts are shown in (43) and (44)[5] respectively.

(41) Count to ten. (SLO4YO-2017-1, 48:27)

(42) Give it to me. (SLO5YO-2016-2, 40:20)

(43) May I speak a minute with Elliot? (SLO4YO-2015-2, 16:04)

(44) No, you're not meant to do that. (SLO5YO-2017-1, 55:03)

4.5.1. Age

Figure 12 shows an overview of the use of direct and indirect speech acts by 4-year-olds and 5-year-olds. There was a significant relationship between directness and age (χ^2 (1, N=660) = 7.462, p = 0.006, φ = 0.106). 4-year-olds produced more indirect than direct directives compared to 5-year-olds. The φ-score of 0.106 indicates that the effect size is small.

[5] Examples (41) to (44) appeared previously on page 37 as examples (14) to (17).

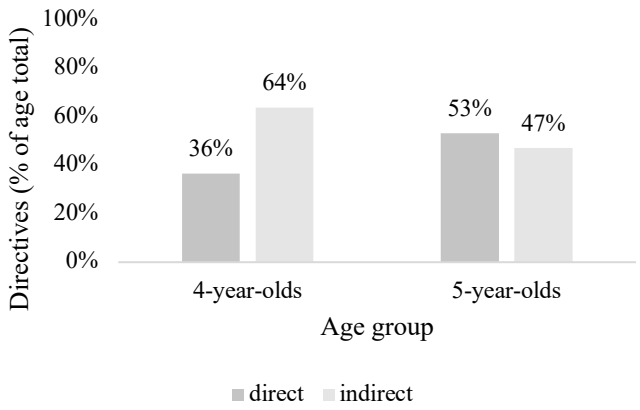

Figure 12. Directness and age

4.5.2. Sex

Figure 13 shows an overview of the use of direct and indirect speech acts by girls and boys. A Pearson's Chi-square analysis revealed that there was no significant relationship between the directness of the speech act and the sex of the speaker, χ^2 (1, N=648) = 0.927, p = 0.336, φ = 0.038.

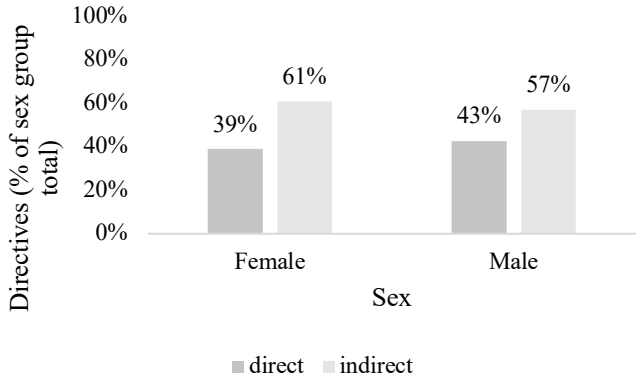

Figure 13. Directness and sex

4.5.3. Territorial familiarity

For each directive, both the speaker and the hearer were assigned a territorial familiarity score of either 1 or 2 (see section 3.3.1.1). A territorial familiarity of 1 indicated it

was the child's first week visiting the nursery. A territorial familiarity of 2 indicated it was the child's second week visiting the nursery. Figure 14 and figure 15 show the use of direct and indirect speech acts grouped by the territorial familiarity of the speaker and the hearer respectively.

A Pearson's Chi-square analysis revealed that there was no significant relationship between the directness of the speech act and the territorial familiarity of the speaker, χ^2 (1, N=645) = 0.327, p = 0.567, φ = 0.023. There was also no significant relationship between the directness of the speech act and the territorial familiarity of the hearer, χ^2 (1, N=645) = 1.670, p = 0.196, φ = 0.051.

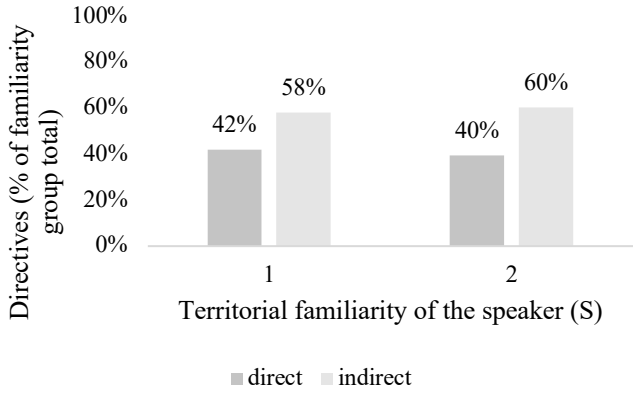

Figure 14. Directness and territorial familiarity of the speaker

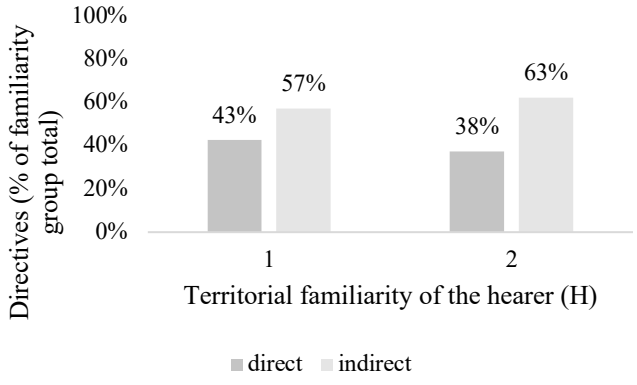

Figure 15. Directness and territorial familiarity of the hearer

4.5.4. Interpersonal familiarity

Each directive was assigned a score of either 1 or 2 for interpersonal familiarity. This score was based on the speaker's and hearer's territorial familiarity (see sections 3.3.1.1 and 3.3.1.2). An interpersonal familiarity score of 1 indicated that it was the first time the speaker and hearer were spending a week in the nursery together. An interpersonal familiarity score of 2 indicated it was the second time the speaker and hearer were spending a week in the nursery together. Figure 16 shows the use of direct and indirect speech acts grouped by interpersonal familiarity. There was a significant relationship between directness of the speech act and interpersonal familiarity (χ^2 (1, N=635) = 4.385, p = 0.036, φ = 0.083). Children who had an interpersonal familiarity of 2 uttered more indirect than direct speech acts, compared to children who had an interpersonal familiarity of 1. The φ-score of 0.083 indicates that the effect size is small.

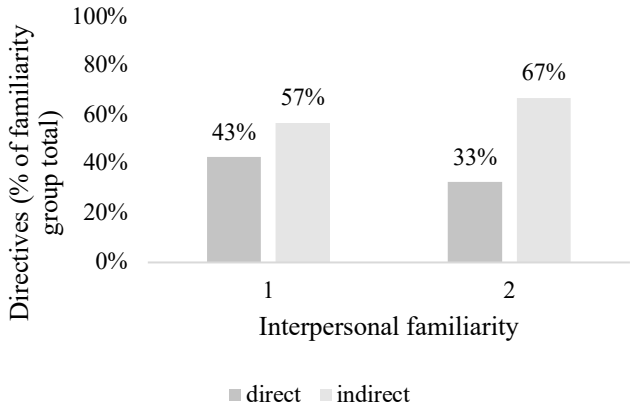

Figure 16. Directness and interpersonal familiarity

4.5.5. Addressing the direct speech act

A result of using indirect speech acts can be that the hearer reacts to only the direct speech act in an utterance, either on purpose or accidentally (e.g. the hearer fails to identify the indirect speech act). One occurrence is shown in the example below, where Enzo has won

chocolate coins from a previous task. Leighton wants Enzo to give him (some of the) chocolate coins.

(45) I like yours, it's the best ever. (SLO4YO-2016-1, 11:45)

This utterance contains a direct speech act: a compliment, as well as an indirect speech act: a request to share the chocolate coins. The indirect speech act here is evident from the context: Leighton is shown making an angry face and the researchers note that Leighton is looking especially angry after he did not win the chocolate coins. Leighton gets up from his seat, walks towards Enzo as Enzo is holding the chocolate, and proceeds to say utterance (45). The researchers then note: "It's the suck-up-to-Enzo game," confirming that Leighton does this in an attempt to get something from Enzo.

Enzo answers by saying "Thank you" but does not show any intention to share his chocolate coins with Leighton. This suggests that Enzo may not have understood the indirect speech act, or chooses to ignore it.

4.6. Propositional content of the illocutionary act

For each directive, the propositional content of the illocutionary act was extracted from the first pair part. All illocutionary acts had the same force (F) as they were all directives. They all shared a similar type of propositional content: the desired future act (A) to be performed by the hearer (H). These future acts were extracted from the first pair part in as detailed and as utterance-specific way as possible. Subsequently, these were grouped into more general descriptions depending on commonalities in their content, yielding 58 categories of propositional content. Table 19 gives an overview of the categories, sorted by frequency.

Table 19. Categories of propositional content of the illocutionary act

Future act A	**Frequency**	**Future act A**	**Frequency**
stop	88	stay	5
give object in H's possession	80	be friends	5
play	60	choose	4
help S	47	jump	3
refrain	40	take the turn	3
move with S	36	clean up	3
pretend play	31	smell	3
move	29	commit to a future action	2
say something	27	dance	2
move away from S	22	kiss H	2
move towards S	21	be S's boyfriend	2
give permission	18	get a dinosaur	2
kiss S	13	cuddle	2
give object not in H's possession	13	kick	2
put limb	10	keep Daisy company	2
sit	9	cut	2
listen	9	fight	2
move object	8	apologize	2
sing	8	turn knob	1
eat	7	mix sand	1
look	7	unknown	1
intervene	6	perform a play	1
paint	5	slow down	1

move Daisy	1	push	1
hold object	1	give high five	1
show something	1	work together	1
talk	1	take object	1
ring the bell	1	pretend to do something	1
hold hands	1	close eyes	1

4.6.1. Stop versus Refrain

Two categories that are similar to each other are ‘Stop’ and ‘Refrain’. Utterances in the category ‘Stop’ encompass directives where the speaker wants the hearer to stop performing an action that H is already engaging in. ‘Refrain’, on the other hand, is preventive: it encompasses directives where the speaker wants the hearer to refrain from performing an action that they are not already doing. Examples of directives where the propositional content of the illocutionary act was ‘Stop’ or ‘Refrain’ are shown in (46) to (49) below.

General description: Stop

(46) Don’t tape me up. (SLO4YO-2015-2, 6:10)

Detailed description: Stop putting tape on H

(47) Stop stop all of you stop, you'll make this team unhappy. (SLO5YO-2017-2, 38:14)

Detailed description: Stop screaming and celebrating

General description: Refrain

(48) This is Jack's seat ((points to seat)), you can sit on this seat ((points to next seat)). (SLO4YO-2015-2, 3:48)

Detailed description: Not sit on Jack’s seat, but the next seat

(49) Don’t touch it. (SLO5YO-2015-1, 1:51:00)

Detailed description: Not touch the wheelchair

4.6.2. Give, take or move an object

There was one directive where the speaker wanted the hearer to take an object, specifically a sword, with him. Other directives concerned the hearer giving an object. These directives were divided into categories ‘Give an object in H’s possession’ and ‘Give an object not in H’s possession’. The first encompasses cases where the hearer had an object such as a toy, and the speaker wanted the hearer to give this toy to the speaker. The second category, ‘Give an object not in H’s possession’, encompasses cases where the speaker wanted the hearer to get an object and then give it to the speaker. The difference thus lies in whether the hearer already had the object in their possession, or that they had to first acquire the object. Examples are shown in (50) to (53) below.

General description: Give an object in H’s possession

(50) Now pass it on to me. (SLO5YO-2016-2, 28:32)

Detailed description: Pass the box on to S

(51) Can I write it? (SLO5YO-2015-1, 44:42)

Detailed description: Give the pen to S so S can write with it

General description: Give an object not in H’s possession

(52) Fetch and bring it back here. (SLO4YO-2016-1, 46:47)

Detailed description: Fetch and bring the ball to S

(53) Can you go get me some more bricks? (SLO4YO-NA-2, 24:26)

Detailed description: Get S some more bricks

The speaker could also request the hearer to move an object. This occurred both when the hearer was already holding the object, and when the hearer was not yet holding it, but always when the hearer was in close proximity to the object. For this reason, there was no distinction made between objects in the hearer's possession and not in the hearer's possession in requests for 'moving an object'.

4.6.3. Move

Several categories involved the hearer moving. These are:

- Move with S
- Move toward S
- Move away from S
- Move

The first three of which have the speaker (S) as focal point. Category 'Move with S' encompassed utterances where the speaker was moving (e.g. running away) and wanted the hearer to come with them. 'Move toward S', then, encompassed utterances where the hearer was at a distance from the speaker, and the speaker wanted the hearer to come (nearer) to them. Lastly, 'Move away from S' encompassed utterances where the speaker wanted the hearer to go away (e.g. leaving).

The fourth category, 'Move', encompassed utterances where the speaker wanted the hearer to make a movement that did not fit in the other three movement categories. Examples include moving from one place in the playground to another (e.g. from the seesaw to the slide), or moving off of a chair.

Examples of the movement categories are shown in (54) - move with S, (55) – move toward S, (56)– move away from S, and (57) – Move.

(54) Come on Evie Rae, this way. (SLO4YO-2016-1, 40:18)

(55) Jude, come here. (SLO5YO-2016-1, 1:25:10)

(56) Get out of our treehouse. (SLO4YO-2016-1, 36:48)

(57) Go up, walk straight, go in there, through the tunnel. (SLO4YO-2015-2, 25:01)

4.6.4. Play and pretend play

Various utterances were directives where the speaker wanted the hearer to play with them. Examples include playing on the seesaw, playing a game, having a race, or just playing without specification of a specific activity. These utterances all fall in the category of 'Play'. Some examples are shown below.

(58) Play with me. (SLO4YO-2015-1, 16:43)

(59) I got no one to play with. (SLO4YO-NA-1, 11:53)

(60) Do you want to go on the seesaw with me? (SLO5YO-2015-1, 18:17)

The category of 'Pretend play' is specified as a separate category from regular 'Play'. This category encompassed directives where the requested act was something role-played during pretend play. Examples include getting married and performing an operation at the doctor's. These requested acts during pretend play differ from their 'real' counterparts, which is why they are gathered in the separate category of 'Pretend play' rather than labeled as the act they are pretending to perform. When a speaker requested the hearer to, for example, sit down during pretend play, this was labeled as 'Sit' as sitting during pretend play is the same act as sitting outside of pretend play. Requests to engage or start engaging in pretend play were also included in the category 'Pretend play'. Examples of directives in the category 'Pretend play' are shown below.

(61) How about we are the royal family? You're the king and I'm the queen and you're our little girl. (SLO4YO-2016-2, 51:21)

(62) Let's play mums and dads. (SLO5YO-2016-1, 1:25:46)

(63) Take your dog around here right now. (SLO4YO-2015-1, 42:51)

Note: there was no dog or object functioning as dog.

4.6.5. Directness

Table 20 shows the distribution of directness over the categories of A, for cases where A occurred ten times or more throughout the data. The directness is shown in absolute frequency as well as relative to the category total. This shows that, for example, in directives where the requested act was to move, children used predominantly direct strategies, as 20 of the 29 directives in this category were direct, and only 9 were indirect. On the other hand, categories such as 'Help S' and 'Give permission' show that children (almost) exclusively used indirect strategies to perform these directives.

The categories 'Help S' and 'Give permission' are also the two categories that occurred the most frequently in directives aimed toward the teacher (as shown in figure 2 in section 4.2). For 23 out of 47 directives where *F(p)* was 'Help S', a teacher was the hearer. For 12 out of 18 directives where *F(p)* was 'Give permission', a teacher was the hearer.

Table 20. Directness per category of F(p)

Future act A	**Direct**	**%**	**Indirect**	**%**	**Total**
put limb	9	90%	1	10%	10
move	20	69%	9	31%	29
stop	56	64%	32	36%	88
move with S	21	58%	15	42%	36

refrain	23	58%	17	43%	40
move towards S	12	57%	9	43%	21
move away from S	11	50%	11	50%	22
give object not in H's possession	6	46%	7	54%	13
pretend play	10	32%	21	68%	31
play	17	28%	43	72%	60
kiss S	3	23%	10	77%	13
say something	6	22%	21	78%	27
give object in H's possession	17	21%	63	79%	80
help S	2	4%	45	96%	47
give permission	0	0%	18	100%	18

In the next chapter, I will discuss the results and how they relate to the research questions.

5. Discussion

This study aimed to analyze children's use of directives in a naturalistic, real-world setting. In this chapter, I will discuss what we may learn from the results of the analysis and how they relate to the research questions. The research questions are stated again below:

1. How do English-speaking children of 4 and 5 years old perform directives in child-to-child and child-caretaker interaction?
2. What extra-linguistic and linguistic parameters determine their choice of direct and indirect strategies each time?

In addition to answering the research questions, this chapter will highlight patterns that were discovered due to the exploratory approach of the study.

5.1. Hearer's compliance

The success of the children's directives was measured by looking at the hearer's compliance. Compliance occurred with 275 utterances (42%), whereas 346 utterances (52%) were met with non-compliance. For the remaining 6% of utterances, no reaction was shown or compliance was non-applicable (see section 0).

Significant results were found for the relationship between the hearer's compliance and the territorial familiarity of the speaker, and the hearer's compliance and the directness of the speech act. Namely, directives that were performed by speakers more familiar with the setting elicited significantly more compliance from the hearer than directives performed by speakers who were less so. This suggests that children who had been to the nursery before, and thus were more familiar with the surroundings as well as the daily course of events in the nursery (including working with the research team and television crew), had more success with their directives. It is not possible to conclude from the available data whether that was

caused by better-formulated directives, increased confidence (as seen by themselves), higher prestige (as seen by others) of children who had been at the nursery before, or another reason. However, it is an important suggestion that more research is needed on the use of child directives in a spontaneous and naturalistic setting. Previous research by Garvey (1975) observed children's spontaneous speech in a naturalistic setting where the children were only observed for a short period of time in a setting they were relatively unfamiliar with. Results of the present study suggest that this may have been an influential factor in the observed utterances.

Indirect directives elicited significantly more non-compliance from the hearer than direct directives. This does not immediately suggest that indirect directives are less successful. Rather, this is in line with the expectation that, due to their nature, indirect directives leave more room for non-compliance.

In cases of non-compliance, the most common reaction (after no reaction) was to give an explanation of why the hearer did not comply. In line with the study by Garvey (1975), this suggests that the children have acquired the notion of felicity conditions, and are aware that they can and perhaps should explain what went wrong or which felicity condition was not met in case of non-compliance.

5.2. Directness

Significant results were found for the relationship between the directness of the speech act and the interpersonal familiarity. Children who had met before and thus were already familiar with one another uttered more indirect than direct speech acts, compared to children who were less so. This suggests that children who know each other better, because they have already spent a week in the nursery together, tend to choose a more indirect way of phrasing their directives than children who haven't been in the nursery together before. This is

contrary to classical politeness theory (Brown & Levinson, 1987), which predicts that people who have a closer relationship would use more direct language. Terkourafi (2014) offers an explanation in what she calls enabling cases of indirect speech acts. In these cases, phrasing the directive indirectly works in an enabling fashion for the speaker because it is more economical than using the direct counterpart. Because the speaker and hearer are more familiar with each other, they share more common ground. A hearer could then, with the shared common ground, infer many (possible) meanings from an indirect directive. Rather than directly mentioning all these possible meanings, the speaker can use an indirect directive to communicate them, knowing the hearer is able to infer what is meant.

Significant results were also found for the relationship between age and the directness of the speech act. 4-year-olds produced more indirect than direct directives compared to 5-year-olds. This suggests that 4-year-olds are more indirect than 5-year-olds. In other words, these results indicate that 4-year-olds use expressions such as “Can you do [act A]?” or “Will you do [act A]?” and other indirect strategies such as giving hints more than they do direct strategies such as using the imperative to communicate a directive, compared to their older peers. A possible explanation for this difference in directness can be found in the literature about how children learn language in chunks (“Whassat?”) before being able to dissect such phrases and use them productively in new situations. It may be possible that children learn to use directives by using chunks such as “canyou” or “willyou” before learning how to use more direct forms. It is also very likely that children have learnt from their caregivers that (conventionalized) indirect forms such as “can you” and “will you” are the polite and correct way to ask for something.

A closer look at the structure of the indirect directives revealed that indeed a lot of the utterances that are labeled indirect, can be found more towards the top of the circle (e.g. “you’ve got to”, “can you”, and need statements) in the model as proposed by Huls and Van

Wijk (2012), supporting their proposed model of speech act development, rather than traditional linear models.

An analysis of the propositional content of the directives showed that some categories of requested acts elicited more direct directives, whereas others elicited more indirect directives. This indicates that the propositional content of the directive is a predictor of the type of strategy that children use to perform that directive. Drawing from politeness theory (Brown & Levinson, 1987), this could possibly be explained by the rank of imposition of the requested acts. Moving could be seen as an easier and less invasive action than, for example, kissing S. This would explain why directives where the requested act was to move were more often performed using direct strategies, than directives where the requested act was to kiss the speaker. However, what children experience as more or less difficult acts cannot be derived from this data set.

The two categories in which children almost exclusively used indirect strategies, were also the two categories that occurred most often in directives aimed at the teacher. These were directives where the requested act was that H helps S, and directives where the requested act was that H gives permission to S. This indicates that children tend to be more indirect toward their teachers than toward their peers. This is in line with politeness theory, which states that a more indirect strategy should be used when speaking to someone who has more power.

5.3. Other patterns

5.3.1. Directives aimed at the teacher

Directives that were aimed at the teacher followed a different pattern from directives that were aimed at peers. When requesting something from a teacher, children tended to not mention the desired act, but rather state the problem that they needed or wanted to see solved. An alternative explanation for this to the one provided by politeness theory mentioned above

can be found in previous literature about the development of directives in young children before the preschool years (Ervin-Tripp, 1976, 1977; Huls & Van Wijk, 2012). The very first directives that children produce are those aimed at their caregiver(s). These first consist of gesturing in the first and second year, later accompanied by vocalizations and telegraphic utterances. Young children often rely on the caregiver's ability to infer what is needed and thus phrase their directives by mentioning an adverse condition that the adult can relieve, rather than the desired act. In Terkourafi's (2014) proposed nomenclature for indirect speech, this is seen as enabling indirect speech that is used by the speaker because it is their only option, as the children are too young to fully anticipate the inferences that the caregiver needs to draw. This use of indirect directives carries on into the preschool years when interacting with the teachers, who fill in the role of the caregivers in the nursery setting. So, it is not surprising that children's directives aimed at the teacher are similar to those they have uttered to their caregivers earlier in life.

5.3.2. Repeated directives

All throughout the data, examples are found of children repeating their directives in case of non-compliance and changing their strategies when doing so. This implies that the children realize that phrasing their directive in a different manner may result in a different reaction by the hearer.

5.3.3. Stop and refrain

When a certain act is prohibited by existing norms, the mentioning of such an act can constitute a directive to stop (Ervin-Tripp, 1977, pp. 169–170). For example, when chewing gum is prohibited, the utterance "I see chewing gum" can easily be understood to be an indirect directive to stop chewing gum. In various episodes, the children were presented with

assignments where certain acts such as touching candy or playing with dominoes were prohibited. Children did try and stop each other from breaking these rules using directives, however, they did not do so by hinting, that is by simply mentioning the prohibited act, as in the example above. Rather, they often used the imperative ("Stop", "Don't touch it", etc.) or mentioned the consequences of doing the prohibited act ("If you do that, you won't get another one"). One explanation for the lack of this hint-like type of directive in this specific case could be simply that the children have not acquired it yet, as it is a more complex way of performing a speech act. Another explanation could be that there are social factors in place for this hint-like realization of the directive, whereby an adult, for example, would be able to perform the directive by simply mentioning the prohibited act. The children, then, would not be able to do so among themselves because they are socially equal rather than subordinate to one another.

5.4. Future research

The current project explored the real-life use of directives by children from the UK of 4 and 5 years old. This was done using televised data, gathered for a collaboration between Channel4 and the University of Bristol, of children interacting and playing in a custom nursery. Due to the nature of this data, it was not possible to observe all the children's behavior, but rather, the analysis was based on data that had been edited and filtered for broadcasted episodes. The episodes still offered insights into spontaneous linguistic behavior, without elicited language or the interference of an interlocutor. However, future research could benefit from data that does not include the limitations that come with working with televised recordings. Channel4 and the University of Bristol used this data primarily for the broadcasting of the documentary series 'The Secret Lives' as well as research in psychology, more specifically research on child development. A future researcher interested in using

naturally occurring data for researching children's use of language may want to explore options of collaborating with, for example, (child-)psychologists in a similar setting.

Future research could explore how the familiarity of a child with their surroundings and/or their hearer affects the linguistic patterns found in directives and other speech acts. The found effects in the current study suggest there is a relationship between the speaker's familiarity with the setting and the hearer's compliance, as well as between the interpersonal familiarity between interlocutors and the directness of the speech act. However, due to the way the data was presented, these measurements of familiarity formed an approximation and could be more nuanced and detailed in a future study. This future study could aim to document the familiarity of the speaker and between the speaker and hearer in a more precise and measurable manner, to gain insights into the effects they have on the hearer's compliance as well as the speaker's language choices.

Lastly, I would like to highlight the opportunity I see for future research to further explore the directness of children's directives. Diving deeper into the indirect directives and analyzing their conventionalization can provide more insights into the choices children make in terms of directness. My findings on the influence of factors such as rank of imposition, child-teacher relation and the aforementioned familiarity on the directness of children's directives could be further explored to gain a better understanding of how children use language to perform actions.

6. Conclusion

The current research aimed to gain insights in children's directive repertoires. The central questions for this research were as follows:

1. How do English-speaking children of 4 and 5 years old perform directives in child-to-child and child-caretaker interaction?
2. What extra-linguistic and linguistic parameters determine their choice of direct and indirect strategies each time?

A dataset was composed out of approximately 10 hours of video recordings of the Channel4 documentary series 'The Secret Lives of 4- and 5-year-olds'. All directives performed between the children were extracted, resulting in 660 utterances containing directives. These were then analyzed in terms of hearer compliance and speaker directness, taking into account information about the children such as age, sex, familiarity with the nursery setting and with each other.

An analysis of the directives revealed that the hearer's compliance was influenced by the familiarity of the speaker with the nursery and the directness of the directive. In cases of non-compliance, hearers often provided a reason for why compliance did not occur, indicating they are aware of the felicity conditions that are part of a directive.

Analysis also revealed that children who knew each other better due to an earlier visit to the nursery, communicated with more indirect directives than children who did not know each other very well. Furthermore, 4-year-olds seemed to use more indirect than direct directives compared to 5-year-olds. This goes against a linear model of speech act development from direct to indirect and supports the alternative model proposed by Huls and Van Wijk (2012) in this regard.

A pattern was observed in the utterances where children phrased their directives differently when speaking to a teacher than when speaking to a peer. When directing a directive towards a teacher, the desired act to be performed by the teacher was rarely mentioned. Instead, a statement was made describing the problem, leaving the teacher to infer what the required or requested action was. This pattern was almost exclusively found in directives toward the teacher and rarely in directives among peers. This may suggest that children make an assessment of the hearer's inferential abilities and take this into account in their choice to be more or less direct, accommodating to other children as they may be less able to infer the speaker's intention than an adult.

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