Early Acquisition of Modal Constructions in Mandarin-Speaking Children

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Abstract
Existing research on the acquisition of modality primarily focuses on prototypical modal elements such as modal verbs, modal adverbs, and sentence-final particles, while studies on the acquisition of modal structures or constructions remain fragmented and lack systematic exploration. This study draws on natural speech data from four Mandarin-speaking children aged 1–4 years, sourced from the Multimodal Spoken Corpus of Mandarin-Speaking Children at Linyi University, China. It examines the acquisition patterns of modal constructions in early developmental stages and analyzes their syntactic, semantic, and pragmatic properties. Findings reveal that children begin to use modal constructions to convey modal meanings from 1;07 years. Although their early use of modal constructions is limited in quantity, structurally simple, and low in frequency, primarily consisting of substantive constructions, they nevertheless exhibit an initial grasp of marked, irrealis modal structures. The acquisition of modal constructions is influenced by caregiver input, with a positive correlation between input frequency and production frequency. In terms of acquisition order, children first acquire dynamic modal constructions, while epistemic modal constructions emerge later, following a developmental trajectory from root modality to epistemic modality, which aligns with the acquisition patterns of modal words. Syntactically, modal constructions predominantly function as adverbials, modifying either the predicate or the entire proposition, and employ various grammatical features to express different modal meanings, thereby conveying the speaker's subjective judgment and emotional stance regarding an event or proposition. Pragmatically, early-stage children demonstrate nascent pragmatic abilities, yet they rarely employ directive expressions in communication. Instead, they predominantly offer suggestions or advice, which aligns with their lower social status and reflects their awareness of social hierarchy and sensitivity to the emotions of interlocutors. This study contributes to empirical research on the early acquisition of modality in children and provides new evidence for the cognitive development patterns of Mandarin modal constructions.
Keywords: Modal Constructions, Mandarin-Speaking Children, Spoken Corpus, Modal Semantics, Acquisition Characteristics

Introduction

Investigating how children acquire knowledge of modality during early development is a compelling topic in the field of child language acquisition, as it provides "important information about children's linguistic development and socio-cognitive growth" (Choi, 2006: 141). However, acquiring modal semantics and expressions poses significant challenges for children. This difficulty arises partly from the diversity of modal semantics and the complexity of modal expressions, and partly from the cognitive and linguistic limitations of children themselves.

Shi (2011) suggested that "constructional awareness should be incorporated into the metalinguistic awareness studies in language acquisition research". Existing studies on modal acquisition have primarily focused on prototypical modal elements such as modal verbs, modal adverbs, and sentence-final particles. Research on the acquisition of modal structures or constructions is scattered and relatively rare. Studies in this area tend to center around introducing and verifying concepts, often adopting the "error analysis–constructional interpretation" approach from the perspective of Chinese as a second language (Sun, 2018; Che & Guo, 2021). Research on the acquisition of modal constructions in Mandarin-speaking children is sparse. Recent studies include the special column "Research on Child Language Acquisition" in *Linguistics Research (Volume 30)*. Zhang & Li (2022) analyzed data on the acquisition of affirmative and negative modal resultative constructions in three Mandarin-speaking children under 2 years and 6 months. They examined the distributional features and functional motivations for their asymmetrical acquisition paths. Their study concluded that both affirmative and negative constructions are derived from "VC" constructions, and the asymmetry in acquisition timing is primarily determined by the functional semantic features, degree of context dependence, and cognitive load of the modal resultative constructions. Although some progress has been made in this area, there is still a lack of systematic and comprehensive studies on the early acquisition of modal constructions in children. This is especially true in the context of Mandarin-speaking children's natural speech, where few studies have comprehensively explored the syntactic, semantic, and pragmatic aspects of modal constructions. The acquisition process of children's modal constructions involves the interplay of language use, semantic development, and cognitive abilities, yet this dynamic process remains largely underexplored.

Based on this, this study utilizes the "Mandarin Children's Multimodal Spoken Corpus" at Linyi University, selecting natural speech data from four children aged 1 to 4 years. The four children include two girls (abbreviated as GYC and SWK) and two boys (abbreviated as WJH and WMX). All four children were born and reside in Linyi City, Shandong Province, China. They exhibit normal intelligence and listening-speaking abilities, with no cognitive impairments, and their physical functions are well-developed. The data collection was conducted weekly for one uninterrupted hour, and the recorded videos were transcribed using the multimodal linguistic software ELAN (EUDICO Linguistic Annotator). From the perspectives of linguistic typology and semasiology, it observes the dynamic, continuous, and holistic process of acquiring modal constructions during early development. By exhaustively analyzing the modal constructions present in the corpus, the study aims to uncover the early acquisition patterns of modal constructions and their syntactic, semantic, and pragmatic characteristics. The findings are intended to enrich the body of research on children's modal acquisition and the ontology of Chinese modality, revealing the interconnections and patterns

between language use, cognition, and evolution. Furthermore, this study seeks to provide theoretical and practical insights for Mandarin language education, second language teaching, and language rehabilitation. The study focuses on the following key questions: What modal constructions are acquired by children in their early years? How does the acquisition sequence reflect different semantic types of modal constructions? To what extent is the acquisition of modal constructions influenced by caregiver input?

Overview of Modal Constructions
Definition of Modal Constructions
The earliest studies on modal constructions in English were based on prototype categorization theory. Modal constructions were not considered prototypical modalities and were often categorized as "modal equivalents" (Lakoff, 1972), "quasi-modals" (Chapin, 1973), "periphrastic modals" (Westney, 1995), or "semi-modals" (Biber et al., 1999). Others classified them as "marginal/periphery modals" (Van der Auwera et al., 2013). Westney (1995: 11) proposed three criteria for distinguishing English periphrastic modals (which fall under modal constructions) from prototypical modals in terms of grammaticalization, constructionalization, and semantics. These criteria, which can be viewed as features of modal constructions, include: relatively low levels of grammaticalization, occupying a non-prototypical category; demonstrating holistic constructional meaning that surpasses the sum of its parts; semantic equivalence or similarity to prototypical modal verbs.

Goldberg provided the most classic definition of constructions: "C is a ONSTRUCTION iff$_{def}$ C is a form-meaning pair $< F_i, S_i>$ such that some aspect of F_i or some aspect of S_i is not strictly predictable from C's component parts or from other previously established constructions." (Goldberg, 1995: 4). This definition allows for a broad interpretation of constructions, encompassing forms from morphemes, words, and phrases to sentences, as well as intermediate structures between words and phrases.

As Shi & Bai (2007: 327) noted, the expansion of the constructional concept "obscures fundamentally distinct linguistic phenomena, which is not conducive to linguistic investigation." Jiang (2018: 6) adopted a narrow view of constructions, defining constructions primarily as idiomatic fixed expressions, and defined modal constructions as "fixed, idiomatic modal structures". This definition includes both **schematic constructions** (e.g., "非X[1]不可" (fēi X bù kě, must X/no other option but X)[2]) and **substantive constructions** (e.g., "十有八九" (shí yǒu bā jiǔ, most likely)). Fan (2019: 43) analyzed the features of modal constructions in terms of iconicity, holisticity, subjectivity, and irrealis, arguing that modal constructions are "structural expressions composed of various internal linguistic elements to convey modal semantics". This definition excludes fixed or semi-fixed forms such as idioms and parenthetical expressions (e.g., "我看" (wǒ kàn, I think/I guess)) and excludes free syntactic structures expressing modality.

Although both scholars adopt the concept of constructions in a narrow sense, their definitions of modal constructions differ significantly: Jiang's definition focuses on substantive

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[1] In constructional variables, "X, Y" represent academic various word classes, "V" represents verbs, "N" represents nouns, "A" represents adjectives, and "C" represents either verbs or adjectives.

[2] In this paper, all Chinese examples are presented with their original form followed by the pinyin transcription and an English translation in parentheses.

constructions, especially idiomatic forms expressing modal semantics, with only six schematic constructions. Fan's definition excludes idiomatic expressions, focusing entirely on structurally fixed and semantically integrated schematic constructions. Furthermore, Jiang's list emphasizes deontic and epistemic modalities (55 epistemic constructions), while Fan's constructions are more balanced across modal types.

This study adopts both Fan's (2017) and Jiang's (2018) criteria, examining both substantive and schematic modal constructions to provide a more comprehensive analysis of children's modal construction acquisition.

Semantic Types of Modal Constructions
This study draws on the categorization of modal semantics in English and integrates the facts of modern Mandarin. Following Peng's explanation of modal semantic types (Peng, 2007: 23–31), modal constructions are categorized into three main types: **dynamic**, **deontic**, and **epistemic** modality. Deontic and dynamic modalities are further grouped under the broader category of root modality. Based on this framework, this study refines the subcategories of these modal types by referencing standards proposed by Xie (2002), Peng (2007), and Fan (2017).

Epistemic modal constructions are classified according to the degree of judgment about the likelihood of a proposition. These include assertive types expressing certainty, speculative types expressing possibility, and evidential types involving inference from external evidence. This forms a continuum of "possibility → probability → certainty". Deontic modal constructions are categorized into permissive, advisory, and directive types, reflecting varying degrees of obligation or necessity. Dynamic modal constructions are classified into ability types (expressing capability), volition types (expressing willingness or desire), and habitual types (expressing frequent or preferred actions). These reflect internal characteristics of the subject and their influence on the likelihood of a proposition.

Most modal constructions exhibit a "one-form-one-meaning" pattern, but some display polysemy in different contexts, expressing multiple modal semantics (Palmer, 1979; Goldberg & Auwera, 2012; Fan, 2019). Polysemous modal constructions derive their interpretations from the interaction of modal components and are influenced by categories such as person and tense (Westney, 1995). For example, the "非X不可" construction can express dynamic modality when paired with animate subjects, indicating strong will, or epistemic or deontic modality when applied to inanimate subjects or third-person contexts.

Examination and Analysis of Children's Modal Constructions
Overall Acquisition of Modal Constructions
This study conducted an exhaustive statistical analysis of the corpus data from four children aged 1 to 4 years, quantifying acquisition time, acquisition quantity, caregiver input, and individual differences among children. Basic acquisition data are shown in Table 1.

Table 1
Basic Data on the Acquisition of Modal Constructions by Four Children

Modal Construction	Acquisition Time/Frequency			
Dynamic Modal Construction	**GYC**	**SWK**	**WJH**	**WMX**
V 得/不来 (V dé/bù lái, can/cannot manage to V)	2;04;17[3]/7	1;11;06/8	1;09;04/25	1;07;30/10
V 得/不 C (V dé/bù C, can/cannot V C)	1;11;23/51	2;00;03/41	1;09;22/166	2;03;08/43
才不 V 呢 (cái bù V ne, definitely not V)	3;08;05/1	2;10;13/5	–[4]	3;00;07/1
Deontic Modal Construction	**GYC**	**SWK**	**WJH**	**WMX**
只能 (zhǐ néng, have to/can only)	2;10;16/13	2;05;05/22	2;00;05/152	3;03;14/6
还是 (hái shì, would be better to)	2;09;05/29	2;01;20/19	2;05;14/29	2;11;17/28
无所谓 (wú suǒ wèi, it doesn't matter)	3;11;12/1	–	–	–
非得 (fēi děi, must/necessarily have to)	–	3;11;22/1	3;05;27/17	–
最好 (zuì hǎo, had better)	–	2;10;13/4	–	–
用不着 (yòng bù zháo, there's no need to)	–	–	3;08;24/1	–
不要……了 (bù yào...le, stop V-ing)	2;05;28/12	2;09;15/7	2;04;15/4	3;08;15/2
该……了₂ (gāi...le₂, it's time to.../should/ought to)	2;05;21/16	1;10;27/9	3;00;04/8	2;04;25/20
好好+V (hǎo hǎo + V, do V properly)	2;07;30/5	2;11;12/8	3;09;14/6	2;11;17/6
有什么好 V 的 (yǒu shén me hǎo V de, what's the point of V-ing?)	2;05;01/2	–	3;08;09/2	–
……不就行/好了吗 (...bù jiù xíng/hǎo le, wouldn't it be fine if...)	–	4;00;15/1	3;03;13/6	–
还 V 呢 (hái V ne, still V-ing)	–	–	2;04;19/2	–
Epistemic Modal Construction	**GYC**	**SWK**	**WJH**	**WMX**
差不多 (chà bù duō, almost/about the same)	2;00;13/5	–	2;02;19/25	3;04;05/1
差点 (chà diǎn, almost)	2;04;17/7	2;01;20/9	2;10;22/13	3;00;21/18
反正 (fǎn zhèng, anyway)	2;05;13/4	–	1;09;04/33	3;11;15/1
大不了 (dà bù liǎo, at worst/if worst comes to worst)	–	3;06;08/1	–	–

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[3] "2;04;17" represents the child's age: 2 years, 4 months, and 17 days. The same format applies below.
[4] This indicates "not acquired".

不一定 (bù yī dìng, not necessarily)	–	–	2;05;07/24	–
要……了 (yào…le, about to…)	2;00;06/24	2;02;15;21	2;03;02/14	2;05;02/18
X 定 (X dìng, indicating a definiteness related to "X")	2;08;20/25	3;00;23/39	2;02;10/53	2;08;22/17
该……了 $_1$ (gāi…le$_1$, should/might…)	2;05;07/3	–	–	3;02;02/3
有可能…… (yǒu kě néng…, it's possible that…)	3;10;07/1	–	4;00;08/1	2;06;28/2
X 来 (X lái, X is likely to happen)	3;06;25/3	2;08;11/8	–	–
X 是 (X shì, it is X)	3;00;05/3	2;02;15/12	2;07;03/1	2;10;11/3
V 起来 (V qǐ lái, begin/start to V)	–	2;11;12/11	–	–
X 不了 (X bù liǎo, unable to X)	–	–	3;06;11/11	–

In terms of acquisition types, 27 modal constructions were identified in the corpus of four children, including 3 dynamic modal constructions, 12 deontic modal constructions, and 13 epistemic modal constructions. Among these, "该……了" was identified as a polysemous modal construction. Acquisition of modal constructions began as early as 1;07[5] years, with the earliest being dynamic modal constructions such as "V得/不来" (WMX, 1;07;30) and "V得/不C" (WJH, 1;09;22). The latest constructions acquired were the epistemic modal "有可能……" (WJH, 4;00;08) and the deontic modal "……不就行/好了吗" (SWK, 4;00;15).

In terms of acquisition quantity, the four children produced a total of 1,210 modal construction instances: 414 epistemic, 438 deontic, and 358 dynamic modal constructions. Although dynamic modal constructions had the lowest acquisition frequency, their high frequency relative to their limited number (3 constructions) indicates their prominence compared to the 12 deontic constructions and 13 epistemic constructions. Specifically, the dynamic modal construction "V得/不C" accounted for 301 occurrences, making up 24.9% of the total. Other frequently produced constructions included "只能" and "还是".

Regarding individual differences, GYC acquired 19 modal constructions, SWK acquired 18, WJH acquired 21, and WMX acquired 16. Some constructions were acquired by only one child, such as the epistemic constructions "大不了", "不一定", "V起来", "X不了", and the deontic constructions "无所谓", "最好", "用不着" and "还 V呢". In terms of total production frequency, WJH produced the highest frequency of modal constructions (593 instances), surpassing GYC (212), SWK (226), and WMX (179). A similar pattern was observed in the adult input data for these four children: WJH received the highest amount of input, with 1,002 instances, compared to GYC with 643 instances, SWK with 458 instances, and WMX with 397 instances.

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[5] "1;07" represents the child's age: 1 years, and 7 months. The same format applies below.

In modern Mandarin, deontic and epistemic modal constructions are relatively abundant, whereas dynamic modal constructions are comparatively rare. Despite their smaller number, dynamic modal constructions are the earliest to be acquired and exhibit high usage frequency. The acquisition timing of deontic and epistemic modal constructions shows little variance. This acquisition trend aligns with the sequence in which children first acquire dynamic modal verbs (Kuczaj, 1977; Wells, 1979/1985; Shepherd, 1981; Stephany, 1986/1993; Shatz & Wilcox, 1991; Fan, 2007; Yang & Dong, 2014; Zhang & Liang, 2021). It also corresponds to the semantic formation and interpretive difficulty of modality.

Existing research indicates that children begin acquiring dynamic modal verbs between 1;04 and 1;08 years of age (Kong et al., 2004; Fan, 2007; Yang & Dong, 2014). In comparison, the acquisition of modal constructions occurs later than that of prototypical modal words and demonstrates lower usage frequency. Compared with adult language, children aged 1–4 acquire a limited range of modal constructions in terms of both number and type. The first constructions to be acquired are those that are commonly used and relatively simple. Constructions that are not acquired tend to be structurally complex (e.g., "哪有N那么/这么V的" (nǎ yǒu N nà me/zhè me V de, how could N be so V?)), literary in tone (e.g., "爱莫能助" (ài mò néng zhù, unable to help despite goodwill), "毋庸置疑" (wú yōng zhì yí, beyond doubt)), taboo (e.g., "死活" (sǐ huó, no matter what), "撑死" (chēng sǐ, at most/extremely), "打死" (dǎ sǐ, absolutely not)), strongly emotive (e.g., "叫你V你就V" (jiào nǐ V nǐ jiù V, do as you're told to V)), or appear in syntactically complex environments (e.g., rhetorical questions or double negatives). Moreover, there is a positive correlation between adult input frequency and children's production frequency; the higher the input frequency, the higher the production frequency.

After gaining a general understanding of the overall acquisition of modal constructions, this study excludes constructions acquired by only one or two children (e.g., "大不了") and those with extremely low acquisition frequencies (e.g., "有可能……"), and proceeds to analyze the acquisition of representative modal constructions.

Acquisition of Dynamic Modal Constructions
Based on the data, children's early acquisition of dynamic modal constructions primarily includes "V得/不来" and "V得/不C". This section provides a detailed description of the acquisition patterns of these constructions, categorized into affirmative and negative forms. Both Fan (2017) and Jiang (2018) classified "V得/不来" as a standalone construction. However, since "V得/不C" is a resultative construction, where the complement C can be either a verb or an adjective, the study argues that "V得/不来" can also be subsumed under the broader category of "V得/不C". In the children's corpus, the "C" in the constructions is always a verb, including "来" (lái, to come), "得" (dé, to obtain/achieve), "了" (liǎo, indicating completion or realization), and "上" (shàng, to get on/up to a certain level or state). Please refer to Table 2 for details.

Table 2

Acquisition Data for Representative Dynamic Modal Constructions

Modal Construction	**Acquisition Time/Frequency**	**Modal** Construction	**Acquisition Time/Frequency**
V 不来 (V bù lái, unable to V)	1;07;30/50	V 不得 (V bù dé, unable to V)	4;00;14/1
V 得了 (V dé liǎo, able to V)	3;03;06/2	V 不了 (V bù liǎo, unable to V)	1;10;09/116
V 得上 (V dé shàng, able to V)	2;10;29/2	V 不上 (V bù shàng, unable to V)	1;09;22/180

(1) (WMX wanted to climb to a high place)
*CHI: 妈#[6]我这#上不来. (Mā, wǒ zhè, shàng bù lái.)
*CHI: Mom, I can't get up here. (1;07;30)
(2) (Mom asked WMX where the toy came from and whether grandma gave it to him)
*CHI: 这还做得了的? (Zhè hái zuò dé liǎo de?)
*CHI: Could grandma even have made this? (3;03;06)
(3) (WJH told mom the pot was too heavy and he couldn't lift it)
*CHI: 拿着锅#拿不了. (Ná zhe guō, ná bù liǎo.)
*CHI: Holding the pot, I can't lift it. (1;10;09)
(4) (Grandma told WJH that the piece of paper couldn't be placed on the jelly)
*CHI: 放得上. (fàng dé shàng.)
*CHI: It can be placed. (2;10;29)
(5) **(Mom asked WJH to try placing the star into the corresponding slot)**
*CHI: 搁不上. (gē bù shàng.)
*CHI: It can't fit. (1;09;22)
(6) **(Mom asked WJH if he remembered the name of the sister they had dinner with)**
 *CHI: 记不得了#我忘了忘了. (jì bù dé le, wǒ wàng le wàng le.)
*CHI: I can't remember, I forgot. (4;00;14)

Some researchers believe the construction "V得/不C" expresses epistemic modality—possibility or impossibility (Lü, 1980). Others argue that it expresses dynamic modality, such as ability or willingness (Fan, 2017). Yet another group suggests it can indicate both epistemic modality (possibility/impossibility) and dynamic modality (ability or conditions) (Zhang & Li, 2022). This study posits that "V得/不C" is polysemous, sharing modal meanings similar to "能" (néng, can), with interpretations varying by context as dynamic or epistemic. In children's corpora, "V得/不C" predominantly conveys dynamic meanings, warranting focused discussion in this section.

"V得/不C" is one of the earliest constructions acquired by children, primarily expressing ability (e.g., examples 1, 3–6), with fewer instances of epistemic use (e.g., example 2). In example 1, the child uses "上不来" (can't get up) to indicate the inability or lack of conditions to climb from a lower to a higher place. In example 2, the child confidently tells his mother the toy was taken from the toy box, implying disbelief that grandma could have made it, employing a rhetorical question to express "impossible".

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[6] "#" indicates a pause within the utterance.

"V得/不C" includes both affirmative and negative forms. Children acquire the negative form first (1;07;30), with affirmative forms appearing later (2;10;29). There is a stark asymmetry in frequency: negative forms account for 347 instances, while affirmative forms such as "V得了" and "V得上" occur only four times (e.g., examples 7, 8). This asymmetry is evident in both acquisition timing and quantity.

The acquisition of "V得/不C" exhibits pragmatic characteristics of "willing but unable" (Zhang, 1999). In example 9, the child wants to take an apple but can't because it's too large. Example 10 shows the child attempting to place a block but failing, expressing frustration at being unable to achieve his goal.

(7) (SWK wasn't feeling well, and mom asked if there was anything she could do to help)
*CHI: 我想你能帮得上我. (wǒ xiǎng nǐ néng bāng dé shàng wǒ.)
*CHI: I think you can help me with this. (3;00;03)
(8) **(Mom told WJH he could drive independently if he exercised more)**
*CHI: 我还没开始锻炼呐#怎么能开得了啊? (wǒ hái méi kāi shǐ duàn liàn na, zěn me néng kāi dé liǎo a?)
*CHI: I haven't even started exercising yet; how could I possibly drive? (3;08;29)
(9) **(SWK complained the apple was too large)**
*CHI: 萄 萄 拿 不 了 # 大 苹 果 呀！ (táo táo ná bù liǎo, dà píng guǒ ya!)
*CHI: I can't hold this big apple! (2;00;20)
(10) **(Mom was playing with WJH, helping him build with blocks)**
*CHI: 这个插不上哟! (zhè ge chā bù shàng yo!)
*CHI: I can't place this one! (1;11;03)

Acquisition of Deontic Modal Constructions

According to Table 3, apart from the construction **"该……了 ₂"**, children generally acquire deontic modal constructions between the ages of 2;00 and 2;07. The predominant semantic types acquired are **permissive** and **advisory**. Directive constructions, such as **"非得"** and **"还V呢"**, are not included in Table 3 due to their low representativeness. Early in their development, children rarely issue commands. Instead, they predominantly make suggestions, reflecting their relatively low social status and dependence on caregivers.

Table 3
Acquisition Data of Representative Deontic Modal Constructions in Children

Modal Construction	Acquisition Time	Frequency	Semantic Type
只能	2;00;05	193	Permissive
还是	2;01;20	105	Advisory
不要……了	2;04;15	25	Advisory
该……了 ₂	1;10;27	53	Advisory
好好+V	2;07;30	25	Advisory

(11) (WJH wanted mom to place the assembled square on the table, but there wasn't enough space, so mom suggested putting it on the mat instead)
*CHI: 只能这样. (zhǐ néng zhè yàng.)
*CHI: It can only be like this. (2;00;05)
(12) (Only the bedroom had the air conditioner on, but SWK wanted to play with the toy in the living room)
*CHI: 我 还 是 进 去 玩 吧 . (wǒ hái shì jìn qù wán ba.)
*CHI: I might as well go play inside. (2;01;20)
(13) (WJH told mom to make a snack and toss the ball aside)
*CHI: 不 要 过 来 球 了 . (bù yào guò lái qiú le.)
*CHI: Don't bring the ball over anymore. (2;04;15)
(14) (SWK was watching *In the Night Garden***)**
*CHI: 玛卡#该睡觉了! (mǎ kǎ, gāi shuì jiào le!)
*CHI: Makka ought to sleep! (1;10;27)
(15) (Before bed, dad asked GYC to touch his beard)
*CHI: 你好好睡觉去! (nǐ hǎo hǎo shuì jiào qù!)
*CHI: Go to sleep properly! (2;07;30)

The **permissive construction** "只能" conveys that conditions—whether subjective, objective, logical, or circumstantial—restrict the possibility to a single course of action. For example, in Example 11, WJH originally wanted to place the square on the table. However, due to spatial constraints, they reluctantly accepted mom's alternative solution, expressing a sense of compromise and dissatisfaction.

The **advisory construction** "还是" implies deliberation, comparison, and choice (Lü, 1980: 255). In Example 12, without any direct question from mom, SWK independently evaluates two options—playing in the air-conditioned bedroom or in the living room with her toy—and proposes the latter with a mild and accommodating tone, hoping mom would accept.

Deontic modal constructions often appear as **zero-subject declarative sentences** in the form of **higher-level adjuncts**, modifying the entire proposition. They are frequently used with **future** or **present tense** markers to evaluate the feasibility or desirability of the proposition, with the degree of deontic obligation ranging from weak to strong. Examples 11, 13, and 16–18 illustrate this pattern.

(16)**(Mom told WMX he could watch one episode of** *Beva Songs***)**
*CHI: 只能看#只能看一集-: [7] . (zhǐ néng kàn, zhǐ néng kàn yī jí.)
*CHI: I can only watch, just one episode. (3;03;14)
(17)**(A rock blocked WMX's toy car, and dad asked mom to move it)**
*CHI: 还 是 我 来 吧 . (hái shì wǒ lái ba.)
*CHI: I might as well do it. (2;11;17)
(18)**(WMX was asked by his sister to sit on a chair next to the guzheng)**
*CHI: 不要把椅子弄坏了哈. (bù yào bǎ yǐ zi nòng huài le ha.)
*CHI: Don't break the chair, okay? (3;08;15)

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[7] "-:" indicates phonetic elongation.

From a **pragmatic perspective**, deontic modal constructions convey a range of **speaker intentions**. In Examples 11 and 16, expressions like "只能" reflect a subjective stance of compromise due to external constraints, evoking feelings of resignation or regret. In Example 17, WMX offers a suggestion, "I might as well do it", demonstrating a positive and cooperative tone with a hint of negotiation. Example 18 represents a **negative advisory**, strongly advising against an action but stopping short of issuing a directive. Both **positive** and **negative advisories** highlight children's sensitivity to social hierarchies and the feelings of their listeners, effectively persuading their interlocutors while maintaining politeness and respect.

Acquisition of Epistemic Modal Constructions
The data in Table 4 reveals that children generally acquire epistemic modal constructions after the age of 2;00. The primary semantic types acquired are **assertive** and **speculative**. **Evidential** epistemic modal constructions, which involve inferring the likelihood of a proposition based on external evidence, require advanced cognitive abilities and are absent from the four children's corpora.

Table 4
Acquisition Data of Representative Epistemic Modal Constructions in Children

Modal Construction	First Appearance	Frequency
差不多	2;00;13	31
差点	2;01;20	47
反正	2;05;13	38
要……了	2;00;06	77
X 定	2;02;10	134
该……了 $_1$	2;05;07	7

Among schematic constructions, **"X定"** is the most frequently acquired by children. According to Fan (2017), **"X定"** expressing epistemic modality can be categorized into two types: "X 定 $_1$", which functions as a compound word (e.g., 保不定 (bǎo bù dìng, not guaranteed/maybe), 必定 (bì dìng, certainly/must), 不定 (bù dìng, uncertainly/indeterminately), 笃定 (dǔ dìng, absolutely certain), 肯定 (kěn dìng, definitely/surely), 说不定 (shuō bù dìng, maybe/perhaps), 铁定 (tiě dìng, absolutely/indicating ironclad certainty), 一定 (yí dìng, certainly/definitely), 指不定 (zhǐ bù dìng, maybe/possibly), 指定 (zhǐ dìng, certainly/without a doubt)); and "X 定 $_2$", which is a quasi-syntactic combination (e.g., 赢定 (yíng dìng, bound to win/guaranteed to win)). In the children's data, all occurrences of **"X定"** belong to the first type, including specific forms such as **"肯定"** (80 instances), **"一定"** (53 instances), and **"说不定"** (1 instance).

Among these, **"肯定"** and **"一定"** are assertive, expressing certainty ("must be"), while **"说不定"** is speculative, expressing uncertainty ("might not be"). In Example 19, GYC uses **"肯定"** to assertively determine there is no money in the bag. In Example 21, WJH uses **"说不定"** to speculate about the potential size of the space.

(19) (Grandma asked GYC to take money from her bag to buy a watermelon)
　　*CHI: 没有钱了#肯定没有钱了. (méi yǒu qián le, kěn dìng méi yǒu qián le.)
　　*CHI: There's no money left, definitely no money left. (2;08;20)

(20)   (SWK   was   looking   for   a   red   block)

*CHI: 一定就在这里边. (yī dìng jiù zài zhè lǐ biān.)

*CHI: It must be in here. (3;00;23)

(21) (WJH and mom were discussing how to arrange the condiment bottles on the table and mom thought the table wasn't big enough)

*CHI: 说不定地方就大. (shuō bù dìng dì fāng jiù dà.)

*CHI: Maybe there will be more space. (4;02;04)

As an epistemic modal component, **"X 定"** has semantic scope encompassing the entire proposition. In form, its typical position is outside the proposition, usually at the **sentence-initial position** (as seen in Examples 19–21). However, the placement of linguistic components is not solely determined by semantics. Due to the asymmetry between form and meaning and syntactic independence, epistemic modal components often appear within the proposition, typically between the subject and the verb, functioning as **adverbials**. This phenomenon reflects **topic elevation** (Cao, 1996: 177–180).

Among substantive constructions, the most frequently used by children are "差不多", "差点", and "反正". "差不多" conveys similarity or approximation, describing features shared by compared items. It can function as both an adjective and an adverb. In Example 22, WJH asserts with confidence that the rice cooker and refrigerator share the function of steaming rice. This construction reflects a high degree of certainty and falls under assertive epistemic modal constructions. "差点" has two primary meanings: expressing that an event almost happened but didn't, or that an event nearly couldn't happen but eventually did (Lü, 1980: 112). In all the children's examples, "差点" conveys relief that an undesirable event nearly occurred but was avoided. Although the verbs following the construction may carry affirmative or negative meanings, children only use affirmative forms. "反正" is a construction formed by opposing polarity morphemes. In modern Mandarin, it has three functions: Expressing the speaker's attitude or perspective on a situation or proposition, emphasizing subjective modality; Summarizing preceding conditions or contexts, similar in meaning to "in any case," demonstrating a discourse function; Serving as a discourse marker in natural spoken language, reflecting the speaker's organization of thoughts and speech (Dong, 2008: 12). In the children's data, "反正" primarily reflects the first function, emphasizing that conclusions or results remain unchanged under any circumstances. It often appears at the beginning of sentences (Examples 25 and 26).

(22) **(WJH and mom were discussing the functions of a rice cooker)**
*CHI: 像个冰箱差不多#电饭煲跟冰箱差不多. (xiàng ge bīng xiāng chà bù duō, diàn fàn bāo gēn bīng xiāng chà bù duō.)
*CHI: It's almost like a fridge. Rice cookers and fridges are almost the same. (2;01;13)
(23) **(SWK warned dad not to ride the rocking horse)**
*CHI: 差点摔倒了. (chà diǎn shuāi dǎo le.)
*CHI: I almost fell. (2;01;20)
(24)   (Mom   asked   GYC   to   take   another   sip   of   peach   juice)
*CHI: 我 # 差 点 # 我 差 点 碰 到 嘴 了. (wǒ chà diǎn, wǒ chà diǎn pèng dào zuǐ le.)
*CHI: I almost, I almost touched my mouth. (2;04;17)

(25)   (GYC   was   eating   a   fish   with   bones)
*CHI: 反正#糖糖这么厉害！(fǎn zhèng, táng táng zhè me lì hài!)
*CHI: Anyway, Tangtang is so awesome! (2;05;13)
(26) (Mom asked WJH whose seal this was)
*CHI: 反正不是俺的. (fǎn zhèng bù shì ǎn de.)
*CHI: Anyway, it's not mine. (2;06;13)
(27) **(SWK suggested dad return the cake to mom)**
*CHI: 大不了我就把它送回去. (dà bù liǎo wǒ jiù bǎ tā sòng huí qù.)
*CHI: At worst, I'll just return it. (3;05;08)

Most epistemic modal constructions function as **adverbials**, appearing before the predicate or entire sentence. They modify the predicate to facilitate the expression of the subject's emotions and enhance subjectivity. For instance, in Example 26, **"反正"** appears at the beginning of the sentence, modifying the predicate **"不是"** (bù shì, is not), thereby strengthening the negation. Alternatively, **"反正"** can be interpreted as modifying the entire sentence, indicating the speaker's firm conclusion that the seal does not belong to them, with no concern about its actual owner.

From a pragmatic perspective, both assertive and speculative epistemic modal constructions express the speaker's emotional attitude by acting on the sentence predicate or the entire sentence. In Example 27, **"大不了"** functions as a mood adverb, estimating and evaluating the worst-case outcome of an event. It conveys the speaker's dismissive attitude towards the severity of the outcome, reflecting nonchalance and a lack of concern (Fan, 2017: 197–198). In the example, SWK and dad discuss how to handle the cake, and SWK's statement not only predicts the cake's eventual outcome but also reveals SWK's subjective stance that the manner of returning the cake is trivial and insignificant.

Acquisition of Polysemous Modal Constructions
The polysemy of the construction **"该……了"** stems from the polysemous nature of the modal element **"该"** (gāi, should/ought to) within it. According to the data, the epistemic modal construction **"该……了 ₁"** was acquired later (2;05;07) than the deontic modal construction **"该……了 ₂"** (1;10;27). Additionally, there is a notable frequency disparity between the two: **"该……了 ₁"** occurred only 7 times, while **"该……了 ₂"** appeared 53 times. In Example 28, **"该……了 ₂"** conveys the sense of "it ought to be so by reason", marking it as an advisory deontic construction. In Example 29, **"该……了 ₁"** expresses an inference about a situation, speculating that falling down is likely. This reflects a speculative epistemic modal meaning. These characteristics confirm the developmental trajectory of modality, progressing from root modality to epistemic modality. They also highlight that constructions acquired earlier tend to have higher usage frequencies.
(28)   (SWK   was   watching   *In   the   Night   Garden*)
*CHI: 玛卡#该睡觉了！(mǎ kǎ, gāi shuì jiào le!)
*CHI: Makka ought to sleep! (1;10;27)
(29) (Dad told GYC not to climb to the top of the tall building)
*CHI: 嗯#跑到那该#摔倒了. (èn, pǎo dào nà gāi shuāi dǎo le.)
*CHI: *Hmm, if I run up there, I might fall. (2;05;07)*

Conclusion

This study examined and analyzed the modal constructions found in the natural speech data of four children, focusing on their semantic, syntactic, and pragmatic features. The findings indicate that children begin using modal constructions to convey modal meanings at around 1;07 years of age. Although their constructions are relatively simple, limited in number, and low in frequency—predominantly substantive constructions—children are already beginning to master these marked, non-realis modal structures. The acquisition of dynamic modal constructions precedes that of epistemic modal constructions. This progression from root modality to epistemic modality aligns with the semantic explanations of different levels of modality, as well as the varying degrees of difficulty in forming and understanding modal meanings. Children have also begun acquiring polysemous modal constructions, such as "该……了", and interpreting different modal meanings in varied contexts. Overall, the acquisition of modal constructions is influenced not only by the complexity of the constructions themselves but also by the cognitive demands of interpretation and other related factors.

Modal constructions predominantly appear as adverbials, located either before the predicate or at the beginning of a sentence. They modify the predicate or the entire sentence, expressing different modal meanings through various grammatical features. This allows speakers to convey subjective intentions and emotional attitudes toward propositions or events. Early evidence shows that children develop a rudimentary pragmatic ability and an understanding of interpersonal functions. Although these pragmatic skills remain immature and subjective (Zhang, 2018), children demonstrate a foundational understanding of the common-sense knowledge and reasoning abilities associated with possible worlds.

Goldberg (1995) posited that constructions are the basic units of language. This implies that children acquire constructions as the fundamental units of language before gradually mastering abstract grammatical systems. The fluency of children's language stems from the frequency of individual constructions (Zheng & Liu, 2010). Both **token frequency** (the frequency of a specific construction) and **type frequency** (the variety of constructions) in input have a significant positive correlation with children's production. The more frequently a linguistic form appears in input, the more often children encounter it, reinforcing its mental representation in their brains. This reinforcement facilitates activation of the structure in real-life scenarios. In other words, higher input frequency leads to earlier acquisition. Moreover, when these reinforced structures form the foundation for language output, the likelihood of errors decreases.

The process of language acquisition is highly complex and requires the collaboration of all cognitive abilities in children (Slobin, 1997). Modal constructions carry a wealth of subjective emotions, serving as linguistic reflections of the interaction between children's internal feelings and the external socio-cultural environment. As children's minds mature, the interplay between social education and self-internalization enables them to master language, acquire social experiences, and engage in social activities, ultimately growing into socially competent individuals. During this process, children's intrinsic motivation is crucial, but

family, school, and other social environments must also take on the responsibility of providing support and assistance.

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