CHILDREN'S DEVELOPMENT OF KNOWLEDGE AND BELIEFS ABOUT ENGLISH *LIKE*(S)

by

Christopher V. Odato

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Linguistics)
in The University of Michigan
2010

Doctoral Committee:

Professor Deborah Keller-Cohen, Chair
Professor Holly K. Craig
Associate Professor Robin M. Queen
Assistant Professor Carmel O'Shannessy

To Julie

ACKNOWLEDGEMENTS

Although only my name appears as an author, this dissertation has benefitted from the input, ideas, and support of many people. I would like, first and foremost, to thank those people without whom this research project would not have been possible. I am grateful to all of the members of my committee for their thoughtful reading of my prospectus and drafts of the dissertation, for helpful comments and suggestions that have improved this final product, and, most importantly, for their interest in my research, which made it possible to pursue this project. I would also like to thank the children who participated in these studies and their families for their generosity with their time and willingness to contribute to this research.

My advisor, Debby Keller-Cohen, has spent hundreds of hours mentoring me and working with me on this project and on previous research projects. From the day I arrived on campus, her advice and guidance on all aspects of my research and professional development have been invaluable. Debby, I have truly enjoyed working with you for the past five years.

Robin Queen has also served as an important mentor for me during this project and during my time at Michigan. Her advice, invitations to participate in lab meetings, and especially her enthusiasm for my work have been immensely appreciated. Sam Epstein has helped me keep a broad view of my research projects and spent many hours

with me discussing a wide range of topics, and he has had a distinct impression on the way I talk about and think about my work.

All of the faculty in the Department of Linguistics have been tremendously supportive and encouraging and contributed to an excellent graduate school experience. I am also grateful to all of my fellow graduate students, and particularly the other members of my cohort—Brook Hefright, Terry Szymanski, Yufen Hsieh, and Xinting Zhang—and Lauren Squires, for camaraderie, for challenging me, and, sometimes, helping me think about things other than work. You have been wonderful colleagues and I will miss you.

Finally, I thank my family for their encouragement and support during the process of writing this dissertation and during graduate school, as well as for my whole life. And, most of all, Julie, without whose support, companionship, and research assistance this dissertation, and the last six years, would have been much less fun.

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ABSTRACT

Much recent research has described the development of innovative functions of *like* as a discourse marker (*Like they're trying to be discreet about it*) or discourse particle (*Maybe it's like a girl thing*) and as a quotative marker (*He's like "I don't want to work until later"*). Comparatively little is known about how speakers acquire this variable. This dissertation consists of two studies examining young children's use of, and knowledge and beliefs about, *like* to better understand how it is incorporated into maturing linguistic systems.

The first study examines children's use of *like* in spontaneous speech. Data come from recorded interactions between pairs of children ages 3-6 and 10. Children as young as four used *like* as a discourse marker/particle and as a quotative. Rather than mirroring adults' speech, in which the *like* is used most frequently clause-initially, young children used *like* primarily as a discourse particle attached to syntactic constituents smaller than the sentence. Children began using *like* in different syntactic positions in the historical order in which *like* began to be used in those positions.

The second study comprises two experiments assessing children's knowledge of grammatical constraints on *like* and social beliefs about *like*. Fifty-seven children ages 5-10 listened to sentences containing a use of *like* that is observed in adults' speech, *like* in a position from which it is categorically absent in adults' speech, or no *like* at all. In Task 1 participants made acceptability judgments; in Task 2 they decided whether sentences

were more likely produced by a female or male speaker. Children of all ages exhibited awareness of grammatical constraints on *like*. Older children, particularly girls, demonstrated a prescriptive stance toward *like*. Nine- and ten-year-olds attributed sentences to a female speaker more frequently if they contained *like*.

The results are evidence for early acquisition of *like*. Knowledge of constraints on grammatical distribution is evident at age five, and may precede the use of *like* in discourse. Social beliefs develop later in childhood, suggesting that *like* is acquired early as part of children's knowledge of syntax and discourse structure, and social meanings attached later on.

CHAPTER I:

Introduction

In this dissertation I examine the development of children's knowledge about innovative functions of the word *like* to begin to address the broader theoretical goal of understanding the interaction between formal linguistic (grammatical) knowledge and social knowledge about language, and how children come to associate linguistic structures with social meanings. Using spontaneous speech and experimental data, I examine young children's use of the English word *like* as a discourse marker (e.g., *Like they're trying to be discreet about it*) or discourse particle (e.g., *Maybe it's like a girl thing*) and as a quotative marker (e.g., *He's like "I don't want to work until later"*), as well as their knowledge of grammatical constraints on these uses of *like* and ideologies about its use.

It is widely hypothesized that the human language faculty—cognitive capacities specific to language—consists of a set of separate but interacting modules. For example, syntax and phonology are hypothesized to operate independently to a certain extent, but the two interact to yield a mental representation of a pronounceable grammatical sentence. The language faculty must also interact with cognitive faculties that allow human beings to construct and negotiate a social world—to interact, to form groups, and to identify self and others as members of groups. To effectively use linguistic resources in social interaction, a mature speaker of a language is able to integrate knowledge of the formal principles governing the structural arrangement of linguistic forms, knowledge of

the social purposes for which the resulting sentences, etc. can be used, and knowledge of the social meaning conveyed by the selection of one linguistic form over another.

The ability to integrate these two systems of knowledge is the end result of developmental processes. The studies described in this dissertation attempt to better understand this development and the relationship between knowledge of formal properties of language and systems of social knowledge through the example of children's acquisition of innovative forms of English *like*.

Since the 1980s, the development of innovative functions of *like* has received widespread attention in research on adult and teenage speech (see Cukor-Avila, 2002, pp. 24-27; D'Arcy, 2005, ch. 1, for overviews), as well as in media and public discourse about language (e.g., Alexander, 1982; Bernstein, 1988; Glionna, 1988; Kelly, 1992; Zernike, 1999). There has as yet been no systematic attempt to describe or explain how *like* becomes part of individual speakers' linguistic systems; that is, to look at when and how children begin to use it and whether they use it in a way that approximates adult usage. The studies reported here begin to fill that gap in the research and contribute to understanding of the grammatical status of *like* by examining when young children, who are acquiring English as a first language, but whose knowledge of English is still developing, incorporate innovative forms of *like* into their linguistic systems. In addition to examining children's development of receptive and productive knowledge of the grammatical distribution of *like*, the experiments also look at whether children have acquired beliefs about the use of *like* by male and female speakers and about the acceptability of innovative uses of *like*, and when this social knowledge develops relative to grammatical knowledge.

Because children are generally assumed to be in the process of developing the linguistic competence of mature speakers, descriptions of mature (i.e., teenage and adult) speakers' linguistic knowledge and behavior can provide an understanding of the target toward which child speakers may be progressing. The developments of the various innovative forms of *like* have been described as changes in progress: the generalization of discourse particle *like* to a variety of syntactic contexts (D'Arcy, 2005), a reorganization of the quotative system (Romaine & Lange, 1991; Tagliamonte & D'Arcy, 2007) as *BE+like* grammaticalized as a quotative introducing internal dialogue, and lexical replacement of other approximative adverbs with *like* (D'Arcy, 2006). If these changes are ongoing, it is possible that the linguistic systems that children will develop as mature speakers will differ from those exhibited by current teenage and adult speakers, with respect to innovative forms of *like*. In this case, it would be important to consider that differences from patterns described in adult and teenage speech may represent not (only) a stage in an individual's development, but may also be an indication that further change is in progress.

Recent syntactic and semantic analyses of the discourse marker and discourse particle forms of *like* (D'Arcy, 2005; Siegel, 2002) contribute to a fuller understanding of the linguistic knowledge that may underlie patterns described in teenage and adult speech. Speakers also develop knowledge of social and discursive constraints on the use of linguistic variables, as well as ideologies about their use. In the case of *like*, mature speakers know that its use may be more or less appropriate or accepted in different speech contexts or when talking to different types of people and that they can accomplish various social actions by choosing to use it in different situations or not. Similarly,

mature speakers have ideologies about the relationship between the use of *like* and certain characteristics of speakers and these beliefs may affect their perceptions or judgments of speakers who use it. Because children are presumably in the process of acquiring this type of knowledge, research describing mature speakers' attitudes and ideologies toward *like* suggests the type of sociolinguistic knowledge that children may be developing.

Like is one example of a linguistic variable about which salient ideologies have developed. The goal underlying the combination of studies undertaken in this dissertation is that patterns observed in children's use of *like*, their underlying knowledge of grammatical constraints, and related social beliefs will be indicative more generally of the process by which speakers align variation in linguistic structure with social structure. The following sections summarize prior research on *like* and what is known about its sociolinguistic distribution and related ideologies, as well as related research that suggests what we might expect to learn from examining what children know about *like*.

Innovative Functions of *like*

I use the term 'innovative' to reflect the fact that the functions of the word *like* with which the present study is concerned represent ongoing changes in the language. The use of 'innovative' should not be taken to mean that these functions are necessarily recent innovations; in fact, the use of *like* as a discourse marker has been part of the language for a long while, perhaps one hundred years or more (D'Arcy, 2007).

Prior research has suggested at least three homophonous innovative forms of *like* with different functions and histories (D'Arcy, 2005). *Like* appears clause-initially as a discourse marker, as in (1), and clause-internally as a discourse particle, as in (2) (e.g.,

Schourup, 1985; Underhill, 1988). In combination with the verb *to be*, *like* functions as a quotative complementizer introducing reported speech or thought, as in (3) (Blyth, Recktenwald, & Wang, 1990; Butters, 1982; Ferrara & Bell, 1995; Romaine & Lange, 1991). D'Arcy (2006) has argued that *like* also functions as an approximative adverb, replacing more traditional adverbs, such as *about*, when preceding numerically quantified phrases, as in (4).

1. Like they're trying to be discreet about it.
2. Maybe it's like a girl thing.
3. He's like "I don't want to work until later".
4. We burned like six hundred calories. (cf. We burned about six hundred calories.)

Children thus acquire multiple innovative forms of *like* with difference pragmatic functions and that occur in different grammatical structures. These different innovative functions of *like* are discussed in more detail below, though the present studies are concerned primarily with the use of *like* as a discourse marker/particle and as a quotative marker (1-3).

Discourse *like*

D'Arcy (2005) distinguishes between instances of *like* that occur clause-initially, as in (1) above, and those that appear within the clause, as in (2). She refers to the former as *discourse markers*, reflecting the fact that they appear to organize discourse at the

level of the proposition. The latter, which occur within propositions, she refers to as *discourse particles*. (This category excludes those cases in which *like* precedes numerically quantified expressions (4) or as part of a quotative construction (3), both of which also occur within propositions.) I adopt this terminology to distinguish between the two types of uses. I use *discourse like* to refer to the discourse marker and discourse particle together, and to distinguish them from *quotative like*, referring to the *BE+like* quotative construction, and *approximative like*, referring to the approximative adverb.

Early research on discourse *like* yielded two different analyses of its function. Schourup (1985) proposed that discourse *like* functions as a qualifier, signaling a potential mismatch between the content of an utterance and the truth about the world, and Underhill (1988) suggested that it functions as a focuser, marking new or important information in an utterance. Subsequent research has supported both the qualifier (G. Andersen, 1998; Jucker & Smith, 1998; Siegel, 2002) and focuser analyses (Fuller, 2003a; Miller & Weinert, 1995), with some researchers specifically rejecting the other hypothesis: Siegel (2002) rejects the analysis of *like* as a focuser, while Miller and Weinert (1995) reject Schourup's (1985) analysis that *like* can function as a qualifier. Fuller (2003b) found that speakers used *like* for both functions in interviews, indicating that both are simultaneously available to speakers. Fuller (2003b) also suggested that the focuser function arose from a reanalysis of the qualifier because information that is qualified is also focused. Levey (2006) also treats hedging or qualifying as examples of metalinguistic focus. Additionally, *like* has been described as being used for exemplification, as a pause filler, and as being related to word searches (e.g., G. Andersen, 2001). In some cases it may be possible to distinguish between the possible

functions of discourse *like*, as only the qualifier function has been argued to affect truth conditions (Siegel, 2002); however, identifying or distinguishing between possible meanings or functions of discourse *like* is not a focus of the studies described here.

Quotative *like*

One of the earliest published acknowledgements of the *BE+like* quotative construction was by Butters (1982), who suggested that the construction might be used to quote unuttered thought. Tannen (1986) found it used occasionally by middle class American teenagers to introduce direct reported speech and numerous studies have since documented its increasingly widespread use by English speakers in the U.S., Canada and the U.K. (Barbieri, 2007; Blyth et al., 1990; Cukor-Avila, 2002; Ferrara & Bell, 1995; Fox Tree & Tomlinson, 2008; Macauley, 2001; Romaine & Lange, 1991; Tagliamonte & D'Arcy, 2004; Tagliamonte & D'Arcy, 2007; Tagliamonte & Hudson, 1999). Quotative *like* may be an innovation that is attributable at least in part to Valley Girls; D'Arcy (2007) suggests that the *BE+like* quotative developed, or at least came into widespread use, in the 1980s, about the time that the Valley Girl style began to be recognized.

Many of the more traditional quotative verbs in English (e.g., *say*, *shout*, *whisper*) can be used in both indirect and direct reported speech constructions. Indirect reported speech, as in (5), paraphrases the content of the reported speech as a relative clause complement of the quotative verb and may be preceded by the complementizer, *that*. Direct reported speech, as in (6), takes the form of the reported utterance itself (although it is unlikely to be a perfectly faithful reproduction of that utterance, and may not be

intended to be; see Tannen, 1986), rather than reporting only the content, and generally cannot be preceded by *that*.

5. She [said/*went/*was like] (that) she's coming next Tuesday and to give her a call when I'm not doing anything.
6. I [said/went/was like] "you know what I'm sorry".[1]

When *that* is not present, indirect and direct reported speech constructions may be distinguished by pronouns and verb tenses. In indirect speech constructions these reflect the point of view of the current speaker and the time of the current utterance; in direct reported speech constructions they reflect the point of view of the original speaker and the time of the original utterance. For example, in (5), *I* in the reported speech refers to the current speaker, not to the original speaker, while *I* in (6) is interpreted as referring to the original speaker of the utterance.

BE+like differs from these more traditional quotatives (and is similar to quotative *go*, e.g., Butters, 1980; Schourup, 1982), in that it appears only in direct reported speech constructions (Ferrara & Bell, 1995). It differs from *say* and *go* in that it can be used to report unspoken thoughts or internal dialogue in addition to actual speech. For example, in (7) the speaker uses *BE+like* to introduce an unspoken thought representing her mood when a teacher, on whom she had a crush, got married.

7. I <u>was like</u> "you mock me and my feelings Mr. Clark".

[1] Quotation marks in examples mark the portion of the utterance that is interpreted as the quoted material in a direct reported speech construction.

In a study based on a 1.5 million word corpus of sociolinguistic interviews collected from Toronto speakers ages 9 to 87, Tagliamonte and D'Arcy (2007) found that the increase across apparent time in the use of *BE+like* corresponds to increasing use of internal dialogue as a narrative device—younger speakers in their corpus reported internal dialogue in their stories more often than older speakers did—and conclude that *BE+like* is an addition to a reorganized quotative system, rather than a new quotative replacing previously existing ones.

Researchers disagree as to whether a unified analysis can account for both the quotative and discourse marking functions of *like*; i.e., whether the discourse *like* and quotative *like* can be considered different uses of the same lexical item or whether they should be considered different, though homophonous, lexical items. Andersen (1998), working within the relevance-theoretic approach to pragmatics (Sperber & Wilson, 1986) proposes a single analysis of both quotative and discourse *like* as a marker of "loose talk", a signal that the utterance does not represent the literal truth, but instead indicates that the speaker is attempting to optimize relevance by not burdening the hearer with the increased processing cost that would come with more specific, but unnecessary, additional information. On the other hand, D'Arcy (2005) argues that the discourse marker and quotative functions should not be accounted for under a single analysis because they have different histories and have undergone different grammaticalization processes (Romaine & Lange, 1991), developing independently from the use of *like* as a conjunction (but see Buchstaller, 2002 for a slightly different approach to this grammaticalization).

While determining whether quotative and discourse *like* are best accounted for under a single analysis or separate analyses is not a primary goal of the present study, examination of children's early uses of *like* could potentially indicate whether speakers perceive them to be related at some stage in their development. For example, if a pattern were observed in which children initially used discourse *like* only following a form of *to be*—the structure in which it appears in quotative constructions—such a finding might suggest that speakers perceive them to be related.

Approximative *like*

When *like* qualifies a numerical expression, as in (8), D'Arcy (2006) has argued that it functions not as a discourse particle, but as an approximative adverb.

8. I laughed for <u>like</u> ten minutes.

She found a steep increase over apparent time in the proportion of numerical expressions modified by *like*, accompanied by a steep decline in the use of other adverbs, such as *about* or *approximately*, suggesting that *like* is in the process of replacing other approximative adverbs in spoken discourse. In these numerical contexts, D'Arcy argues that *like* affects truth conditions in the same way as other approximative adverbs. For example, the sentence in (8) would be true if the speaker had laughed for some amount of time that is a close enough approximation of ten minutes for the discourse context.

Grammatical Constraints on Discourse *like*

Innovative functions of *like* are frequently seen as primarily pragmatic in nature, and more attention in research has been paid to pragmatic functions than to the ways that they are incorporated into the grammar and lexicon of English. In the cases of the approximative adverb and quotative *like*, this is most likely due at least in part to the fact that they pattern similarly to the existing lexical items: Approximative *like* is argued to be replacing adverbs such as *about*, while quotative *BE+like* does not apparently differ syntactically from other quotative verbs, such as *to go*. On the other hand, discourse *like* does not obviously fill a syntactic role also occupied by other, better described lexical items.

It has been argued that discourse markers/particles in general "cannot be described in morpho-syntactic terms" (Hansen, 1998, p. 236) and that they are "to be dealt with quite separately from the core semantics of the sentence" (Siegel, 2002, p. 48). From this perspective it would make little sense to analyze discourse *like* from a syntactic or semantic perspective. Likely due to this fact, relatively little research has considered the formal status of *like* in the grammars of English speakers. However, some researchers have recently begun to explore how *like* can be accounted for in formal theories of linguistic knowledge.

Siegel (2002) provides the beginning of a more formal semantic characterization of discourse *like*. She notes that, unlike most discourse or pragmatic markers, discourse *like* can affect the truth conditions of a sentence: A sentence that would otherwise be false or infelicitous may be rendered true and felicitous with the addition of *like*. For example, the sentence in (9) is argued to be true (or at least felicitous) in the case that the

couch is mauve, while the corresponding sentence without *like* would be false or infelicitous if the couch were mauve.

9. The couch is <u>like</u> purple. (Siegel, 2002, p. 52, example 52)

Siegel also observes that *like* can negate the definiteness effect with strong determiners in some contexts. For example, it has been claimed that existential *there* generally cannot occur with strong determiners, such as *every* (Milsark, 1974), but Siegel observed that this restriction may be relaxed in some cases where *like* modifies the phrase with the strong determiner, as in (10), which would be ungrammatical without *like*.[2]

10. There's <u>like</u> every book under the bed. (Siegel, 2002, p. 48, example 38)

To account for these phenomena, Siegel (2002) develops a formal account of the semantics of *like*, based on Schourup's (1985) analysis that *like* is a qualifier, functioning pragmatically to mark a potential minor difference between the literal meaning of an utterance and the truth about the world. While developing this semantic analysis Siegel (2002, p. 64), as other researchers have, claims that discourse *like* "can occur grammatically anywhere in a sentence".

D'Arcy (2005) examined the claim that *like* can (and does) occur anywhere in a sentence, arguing that *like*, when it occurs, is part of the syntactic structure of the sentence and that its distribution is constrained in the type of phrases it precedes. In

[2] This restriction holds only for existential expletive *there* constructions. The sentence in 10 is grammatical, even without *like*, if *there* is interpreted as a deictic locative.

D'Arcy's analysis, discourse *like* is an adjunct to maximal projections (phrases); for example, *like* in (11) would be analyzed as adjoining to, and thus modifying, the verb phrase *trying to get him to shut up*, rather than only the verb *trying* or a part of the phrase.

11. I was like [$_{v}$P trying to get him to shut up].

Using corpus data, D'Arcy (2005) was also able to show the expansion across apparent time of the types of phrases to which *like* can adjoin; examples of each appear in 12-17. The oldest speakers (age 80+) in her sample adjoined *like* only to complementizer phrases (CP), i.e., in clause-initial position as a discourse marker. Over (apparent) time, the possible adjunction sites generalized to include determiner phrases (DP), (light) verb phrases (*v*P), predicate adjectival phrases (AP), tense phrases (TP), and noun phrases (NP) for the younger speakers. (D'Arcy found that newer contexts for discourse *like* appeared approximately in the order in which they are listed in 12-17.)

12. Like [$_{CP}$ I have no right to be angry].
13. That was like [$_{DP}$ the stupidest thing ever].
14. You had to like [$_{v}$P suffer through work as well].
15. He's like [$_{AP}$ tall dark and handsome].
16. So that's going to suck when like [$_{TP}$ Chris and I are going to the bars].
17. I just always get this weird like [$_{NP}$ vibe] from her.

In many of these contexts, D'Arcy (2005) also identified further constraints on the distribution of *like* by identifying linguistic contexts from which it is categorically absent. For example, though discourse *like* appears most frequently clause-initially, it categorically fails to appear before non-restrictive relative clauses. So, in a sentence like (18), it was common for *like* to appear at the beginning of the sentence, adjoined to the matrix clause, it was never observed to appear adjoined to the subordinate CP, preceding *which*.

18. (like) I don't think he tried to hug me (*like) which is good[3]

Siegel's (2002) and D'Arcy's (2005) research contradicts two beliefs about *like*, common among non-experts but also unchallenged by many researchers: that it has no identifiable meaning or purpose, or that its meaning is no different from that of other discourse markers (Fox Tree, 2007), and that it is randomly distributed in speech (Fox Tree, 2006). In fact, these findings imply that speakers have a grammatical system that plays a role in determining the placement of *like*, at least partially contradicting the claim that some researchers have made of discourse markers that they "cannot be described in morpho-syntactic terms, but [are] rather of a functional-pragmatic nature" (Hansen, 1998, p. 236).

Underhill (1988, p. 234) claimed that discourse *like* is "entirely ungrammatical in Standard English, a claim that has been disputed by other authors (D'Arcy, 2005; Meehan, 1991). If the categorical absence of *like* from certain grammatical contexts that

[3] The asterisk, indicating ungrammaticality, reflects the hypothesis that *like* is ungrammatical in these contexts, as opposed to being an accidental gap.

D'Arcy described reflects a grammatical system that fails to generate sentences with *like* in those contexts—i.e., if those gaps in its distribution follow from grammatical principles—then most uses of *like* that are observed in English discourse are more properly described as grammatical, while other potential uses of *like* would be correctly described as ungrammatical.

Findings of prior research indicate that children attend to variation in their linguistic input and acquire the constraints on that variation early in childhood. By age three, children's speech has been observed to conform to the structural constraints on phonological variation that are observed in their parents' speech (Foulkes, Docherty, & Watt, 2001; Roberts, 1997a, 1997b), or the patterns found in their parents' child-directed speech (Foulkes, Docherty, & Watt, 2005). Children have sometimes been found to push ongoing changes farther than their parents do (Roberts & Labov, 1995); however, this results from their more frequently using the innovative form in contexts where adults also use it, rather than overgeneralizing the change to linguistic contexts in which adults do not use the innovative form. Therefore, we would expect to see children, at some point, displaying sensitivity to the grammatical constraints in their acceptability judgments.

Sociolinguistics of like

The use of discourse and quotative *like* was a highly salient characteristic of representations of the speech of Valley Girls in the 1980s (Alexander, 1982; Bernstein, 1988; Glionna, 1988) and is the most frequently occurring word in the song "Valley Girl" (Zappa, 1982). This enduring association of *like* with a particular stereotype of teenage girls is reflected in sociolinguistic studies examining the distribution of innovative forms

of *like* across groups of speakers, which have focused primarily on age and gender as variables, and in the attitudes and beliefs about *like* that speakers have and that circulate in the public discourse.

Gender

It is often claimed that certain linguistic forms or practices are used more frequently by women than by men, but researchers often find that the relationships between speaker sex and female-associated forms and practices, such as using *you know* or asking frequent questions, are more nuanced or dependent on the context of the speech than stereotypes suggest (Freed, 1996). Also, gender differences may appear only within subgroups of speakers, e.g., only within young speakers or working class speakers (Stubbe & Holmes, 1995). Similarly, the belief that innovative forms of *like* are used more frequently by female speakers is not consistently supported by research, which has produced conflicting results with respect to its distribution by speaker gender.

Many studies have found that female speakers seem to be leading in the use of discourse *like* (G. Andersen, 2001; Croucher, 2004; Fuller, 2003b; Siegel, 2002; Tagliamonte, 2005), but others have observed men using it more often (Iyeiri, Yaguchi, & Okabe, 2005; Miller & Weinert, 1995). These inconsistent results, and the similarly inconsistent results of research on quotative *like* (see below), have led to the suggestion that there may not be a simple relationship between speaker gender and the use of *like* (see Eckert, 2003).

Using a more nuanced analysis, D'Arcy (2005) found that the effect of speaker sex differed according to the specific form of *like*: Female speakers led in the use of *like*

as a discourse marker (clause-initially) while male speakers led in the use of *like* as a discourse particle (clause-internally). D'Arcy (2005, 2007) has suggested that the failure to make such a distinction—and to distinguish between *like* used as a discourse marker/particle and as a quotative marker—might be one factor contributing to inconsistent results in previous research. Levey (2006) suggested that male speakers' apparent preference for using *like* as a discourse particle might be related to Cheshire's (2005) finding that male speakers mark noun phrases that are new to the discourse (e.g., with existential *there* constructions, intonation, pragmatic markers) more frequently than female speakers do.

Results of studies examining the distribution by gender of quotative *like* have also been inconsistent, with some evidence that the effect of speaker gender depends on the age of the speaker and can change over time. Blyth et al. (1990) found that quotative *BE+like* was used more frequently by men, while Ferrara and Bell (1995) found that women were leading in the use of *BE+like* in 1990, but male and female speakers used it with equal frequency in 1992. However, more recent studies of adolescent speakers have consistently found that female speakers use *BE+like* more frequently than male speakers (Macauley, 2001; Tagliamonte & D'Arcy, 2004; Tagliamonte & Hudson, 1999). Again, the consideration of other variables in addition to gender has been found to help clarify these patterns. Two recent studies that included speakers from a range of age groups found that among teenagers and adults in their 20s, women lead in the use of *BE+like* but female speakers' use decreases in older age groups while use by male speakers increases, so that men in their 30s use it more frequently than women of the same age (Barbieri, 2007; Tagliamonte & D'Arcy, 2007).

One way to better understand how any gender differences in adults' use of *like* originate would be to look more closely at how they develop and whether they change with age. Levey (2006) found some gender differences in seven- and eight-year-old children's use of discourse *like*: Although both girls and boys used *like* most frequently before noun phrases, a greater proportion of boys' *like* tokens occurred before noun phrases while girls were somewhat more likely than boys to use *like* clause-initially. Tagliamonte and D'Arcy (2007) included children as young as age nine in their study of the *BE+like* quotative, finding that girls ages nine to thirteen used quotative *like* more frequently than boys of the same age. Although no prior research has considered the use of *like* by children younger than seven there is evidence that gender differences in the use of different forms of other linguistic variables are evident as early as age four (Ladegaard & Bleses, 2003). These differences have been hypothesized to be the result of parents' speaking differently to male and female children (Foulkes et al., 2005) or children's imitating patterns exhibited by same-gender parents (Ladegaard & Bleses, 2003). Girls and boys have also been observed to differ in their use of pragmatic features, such as assertiveness and attention seeking (Berghout Austin, Salehi, & Leffler, 1987; Cook, Fritz, McCormack, & Visperas, 1985; but see Ladegaard, 2004). Thus, it is possible that we might also see gender differences in the use of *like* appearing at an early age as well.

Age

Research that has included speakers of a range of ages largely confirms the belief that the various innovative forms of *like* are used more frequently by younger adult and teenage speakers (Barbieri, 2007; D'Arcy, 2005, 2006; Tagliamonte & D'Arcy, 2007),

perhaps partly because it has generalized to a greater number of contexts for teenage and younger adult speakers who would thus have a greater number of opportunities to use it. However, many researchers have specifically targeted younger adult and teenage speakers as subjects (Macauley, 2001; Miller & Weinert, 1995; Siegel, 2002; Tagliamonte & D'Arcy, 2004; Tagliamonte & Hudson, 1999), which may contribute to the popular perception that it is predominantly a teenage phenomenon. Conversely, the fact that, with a few exceptions, most prior research has looked at *like* primarily in the speech of adults and teenagers no doubt reflects the public discourse about *like* as a teenage phenomenon.

In one of the earlier studies that included child speakers, Miller and Weinert (1995, 1998) observed that eight- and ten-year-old children used discourse *like* very rarely in dialogue produced during an instruction-giving task and that *like* was used for higher level conversation management functions. This led them to hypothesize that discourse *like* is acquired later in childhood, after age ten, because the discourse management functions for which they observed it being used may be acquired later. This hypothesis has apparently been disconfirmed by two studies in which children aged ten and younger were observed to use discourse *like*: D'Arcy (2005) included a ten- to twelve-year-old age group in her study of the use of discourse *like* by speakers in Toronto and Levey's (2006) study of the use of discourse *like* by preadolescents in London examined the speech of seven- to eleven-year-old children. D'Arcy observed that ten- to twelve-year-olds used *like* in all of the syntactic positions that older teenagers and adults did; Levey also found that older pre-teen children use discourse *like* regularly in a variety of syntactic positions. However, the age at which children actually do being to use *like* is

still unknown. This dissertation turns to younger children with the hope of answering this question, as well as examining the discourse contexts that might favor younger children's use of *like*.

Attitudes & Ideologies

In the news media, *like* is portrayed as emblematic of declining standards of speech and discourse (Lehigh, 1999; see also McWhorter, 2003). After the Boyer Commission's recommendations for improving college students' oral communication skills (Boyer Commission on Educating Undergraduates in the Research University, 1998, 2001; see also Dannels, 2001), news media focused on colleges' and universities' oral communication curricula as attempts to eradicate *like* and other forms associated with teenage speech (*you know*, *totally*, etc.) from college students' speech (Fisher, 1999; Mehren, 1999; Zernike, 1999; see also Eckert, 2003).

The content of the public discourse is reflected in language attitudes toward innovative functions of *like*. Research examining speakers' explicit and implicit attitudes toward the use of *like* have found that it is stigmatized, believed to be ungrammatical or meaningless, and, although the belief may not reflect sociolinguistic reality, believed to be used more frequently by young, especially female, speakers.

Dailey-O'Cain (2000) employed a modified version of the matched guise technique (Lambert, Hodgson, Gardner, & Fillenbaum, 1960) to examine implicit beliefs about the use of *like*, asking participants to evaluate speakers on various characteristics after listening to speech samples with or without *like*. When speakers used *like*, they

were rated lower on characteristics related to speaker status, e.g., less educated, and were perceived as younger than the guises without *like*.

Dailey-O'Cain (2000) also found that the use of *like* is explicitly stigmatized, reporting that 29 of 40 participants indicated that they viewed the use of *like* negatively and only two participants viewed it positively. Both Dailey-O'Cain and Blyth et al. (1990) asked for participants' specific beliefs about the use of *like* by male and female speakers; both studies found that female speakers are believed to use innovative functions of *like* more frequently than male speakers. Dailey-O'Cain also found that older men (ages 45-60) were less likely than women of the same age to report using *like* themselves, but that men and women ages 19-30 were equally likely to report using it. Fox Tree (2007) notes that the elimination of *like* from speech is commonly advocated for as a means of improving speaking skills, and found that speakers generally perceive innovative *like* as meaningless. These beliefs—that *like* is incorrect and that it is used more frequently by girls and women—are very salient, and most speakers of English can be expected to acquire them at some point in their development. (Fox Tree, 2007)

Although no research has examined children's attitudes toward *like*, there is evidence that children are aware that some linguistic forms are considered more appropriate than others and are able to make judgments about the 'correctness' of others' speech. For example, Smith, Durham, and Fortune (2007) examined the use of two variables—one phonological and one morphological—in speech between children and their caregivers in different types of interactions. They found that adults used variable forms with different frequencies in different types of interaction with children (e.g., play vs. teaching interactions) and that children varied their use of alternate forms in a way

that mirrored the adult patterns, suggesting that children are sensitive to contextual factors in selecting between variable forms. Millar (2003) has also found that children make normative evaluations of language, e.g., judging dialectal variants as prescriptively correct or incorrect, though their norms may differ from adults'. Thus, it is possible that children may have normative attitudes about *like*, which, if present, may be elicited by asking for their judgments of speech containing *like*. Children also attribute gender-stereotypical non-linguistic traits to other children, such as attributing prosocial tendencies to girls and tendencies toward aggression to boys (Heyman & Legare, 2004), so if they are aware of gender stereotypes about *like*, then that knowledge could be reflected in their attribution of the uses of *like* to different speakers.

Other research suggests that children are aware that different speakers use different registers or speech styles and may perceive discourse markers, in particular, as a characteristic that distinguishes the styles used by different types of speakers. Using a controlled improvisation technique, in which children provide the voices for puppets representing different characters, Andersen (1984, 1990) found that young children have the sociolinguistic knowledge necessary to systematically modify their speech style when taking on the voices of different characters. She and her colleagues have also found that children as young as age four use discourse markers, specifically, to index different statuses of participants in an interaction (E. S. Andersen, 1996; E. S. Andersen, Brizuela, Dupuy, & Gonnerman, 1999). Andersen et al. (1999) found that children used more discourse markers overall, and more lexical discourse markers (e.g., *well*, as opposed to non-lexical discourse markers, such as *um*), when voicing higher status characters (e.g., doctor, parent) than when voicing lower status characters (e.g., patient, child). They also

differentiated the speech styles of male and female characters. Because it is a discourse marker, *like* may be something that children attend to as a feature characterizing, and thus attributable to, different types of speakers.

Research questions

Observing that a child uses an innovative form of *like* does not reveal the underlying knowledge that led to its use. It is possible that a child could acquire knowledge of appropriate structural placement without understanding nuances of pragmatic or social meaning; for example, a child might use discourse *like* in appropriate syntactic positions, but without a consistent pragmatic function (e.g., as a focuser or qualifier). Similarly, a child might be able to use *like* to accomplish various social actions without fully understanding the grammatical constraints on its placement. Some research has suggested that children's initial use of some aspects of grammar, such as inflectional morphology, might be the result of learning formulaic phrases rather than acquiring the underlying grammar (e.g., Wilson, 2003). Non-native adult speakers acquiring English have been found to use discourse markers in appropriate syntactic and discourse contexts, but often as part of repeated formulaic phrases, suggesting that the knowledge may not be productive (Fuller, 2003a). Consequently, the research questions guiding this study, listed below, focus on the relationships between observable patterns of use by children at various stages of development, the knowledge that children have about constraints on the placement of *like* in the structure of a sentence, and their beliefs about the acceptability of *like* and its use by different groups of speakers.

Q1. When does *like* appear in children's speech?

Prior research reports that preadolescent children use *like* as a discourse marker/particle and as a quotative. However, this research has not identified the point at which *like* is acquired. Also, Levey (2006) reported that in each of the two age groups in his study—seven- and eight-year-olds and nine- and ten-year-olds—boys and girls differed in the frequencies with which they used discourse *like* clause-initially and clause-internally. Examination of younger children's use of *like* can also help to understand when such gender differences might develop.

Q2. When do children develop knowledge of the constraints on the grammatical distribution of *like*?

Prior research on *like* has focused on patterns in speakers' use of *like*. D'Arcy's (2005) analysis of the syntactic contexts in which *like* appears in teenagers' and adults' speech indicates that, underlying their use of *like*, speakers have knowledge of the grammatical constraints on its distribution. Children's speech can be examined to determine if they exhibit the same constraints on the use of *like* that have been observed in adults; that is, if the syntactic contexts in which it is present and absent in children's speech match those in which it occurs in adult speech. It should also be possible to assess children's underlying grammatical knowledge independently of their use of *like*, by observing whether the grammatical constraints that have been identified in adults' speech are reflected in children's judgments of the acceptability of sentences with *like*.

Q3. Are children aware of ideologies about the use of *like* and beliefs about its sociolinguistic distribution?

As was described above, the use of innovative functions of *like* is associated most strongly with young female speakers (Blyth et al., 1990; Dailey-O'Cain, 2000). It is also stigmatized (Dailey-O'Cain, 2000) and believed to be ungrammatical or meaningless and something to be avoided (Fox Tree, 2007). At some point, maturing speakers will become aware of and internalize these ideologies; and this knowledge will be reflected in their judgments of speech that contains *like*. We don't know if and when younger children acquire these ideologies. Two experiments were designed to sort this out.

Q4. When does this social knowledge develop relative to grammatical knowledge or the ability to use *like* in discourse?

The first three questions concern the use of innovative functions of *like*, the grammatical knowledge underlying that use, and knowledge of the social meanings attached to that use. As mature speakers of English exhibit all three of these, children must also acquire them at some point in their development. The studies that are described in the following chapters are designed to assess each of these three types of knowledge. The fourth question focuses on what we can learn about the process of acquiring socially meaningful linguistic variables by comparing the ages at which these different types of knowledge appear. This will help us understand whether *like* is

acquired first as a linguistic form that carries social meaning or if it is acquired first as part of children's knowledge of grammatical and discourse structure and acquires social import later in development.

Another reason to consider the various aspects of children's developing knowledge separately is the difficulty of defining the end point of acquisition of variable linguistic forms, i.e., when it is possible to conclude that a variable form has been acquired. In general, it is fairly straightforward to determine that obligatory morphemes or rules have been acquired when a child produces the obligatory form in all—and only—the appropriate contexts. Dialect differences may complicate this somewhat: In some cases, linguistic behavior that would indicate an immature stage of linguistic development in one dialect may be a fully developed adult-like stage in another dialect. For example, consonant cluster reduction is a common feature of normally-developing children's immature speech (McLeod, van Doorn, & Reed, 2001); however, it is also the case that different dialects of English, for instance, differ systematically in the realization of consonant clusters. Thus, certain patterns of reduction by a child acquiring a dialect with less simplification of consonant clusters might indicate that the child is at an immature stage of linguistic development, the same pattern in a child acquiring a dialect with more frequent consonant cluster reduction might represent a mature stage of development (Ingram, Pittam, & Newman, 1985).

Another way in which attempts to measure the acquisition of variable forms may be complicated is when, as is true of innovative functions of *like*, the form in question is variable within the speech of individual adults in the community, as is usually the case with ongoing changes. In such a situation, adult speakers, by definition, do not produce a

particular form 100% of the time, so consistent production of a single form cannot be the criterion for identifying the point at which a child has attained an adult-like linguistic system. Researchers who have analyzed children's acquisition of phonological and morphological variables (Ladegaard & Bleses, 2003; Roberts, 1997a, 1997b; Roberts & Labov, 1995) have examined the proportion of tokens that are realized as different forms—for example, Roberts (1997b) looked at the proportions of children's vowel tokens that were fronted—and then compared these patterns to patterns observed in adults' speech. This approach cannot be directly translated to the analysis of children's acquisition of innovative *like*, however. Because the use of *like* is pragmatically conditioned, it is not possible to examine a child's speech and identify unequivocally those positions in which a mature adult speaker would use *like*, as one would in an analysis of phonological or morphological variation. Individual tokens of innovative *like* can be examined to evaluate whether they are comparable to adult uses of *like*, but it is not possible to specify a pattern of *like* use that would indicate that it has been fully acquired.

Finally, considering only children's use of *like*, or the grammatical knowledge underlying that use, would fail to take into account the sociolinguistic knowledge that mature speakers possess. As described above, a characteristic of innovative *like* that makes it an interesting object of study is the fact that there are strong beliefs about who uses innovative *like* and ideologies about the appropriateness of its use that are widely held by adult speakers of English. It could be argued that this social knowledge is an essential characteristic of a mature knowledge state and that *like* should not be considered to have been acquired until or unless this knowledge is in place.

Consequent to these concerns, the studies reported in this dissertation do not attempt to pinpoint when any particular child has completed the process of acquiring *like*. Rather, they examine separately several different types of knowledge about the use of innovative *like* with the goal of identifying what children know about *like* and when they know it. For example, the observation that a child uses *like* as a discourse marker or particle in spontaneous speech, and that individual tokens of discourse *like* are used in a way that is consistent with adults' usage, will be taken to suggest that the child, at that point in time, has acquired the knowledge necessary to use *like* in this way. Such an observation will not be taken to indicate the (in)completeness of that child's acquisition process except, sometimes, in comparison to the knowledge apparently acquired by other children in the sample.

Methodology

This dissertation comprises two studies. The first examines children's use of *like* in spontaneous speech produced in peer interaction. The second is an experimental study assessing children's knowledge of such grammatical constraints on the use of *like*, and when this knowledge appears relative to social beliefs about *like*—that it is prescriptively incorrect and that it is associated with female speakers.

While spontaneous speech data have been found to be useful for identifying general trends in language use, as well as individual differences in the course of development, they have the drawback of being unable to fully characterize the competence underlying those patterns (Demuth, 1996; Stromswold, 1996). In particular, it is impossible to conclude from a child's non-use of a construction (e.g., passives)

whether she or he has not acquired the relevant knowledge, or if the non-use is attributable to other factors. The experimental study is designed to gain a better understanding of the patterns arising in the spontaneous speech data by collecting children's judgments of the acceptability of sentences with *like*, and by collecting information about children's associations of *like* with speaker gender.

The spontaneous speech study includes children from five age groups, three-, four-, five-, six-, and ten-year-olds. With a few exceptions, most prior research has looked at *like* primarily in the speech of adults and teenagers; though D'Arcy (2005) included a ten- to twelve-year-old age group in her study of the use of discourse *like* by speakers in Toronto and Levey's (2006) study of the use of discourse *like* by preadolescents in London examined the speech of seven- to eleven-year-old children. The four younger age groups (three- to six-year-olds) in the spontaneous speech study fill a gap in the existing research, covering the period during which the use of *like* that this prior research has described in the speech of older children presumably develops. Anecdotal reports from informal conversations with teachers and parents and relatives of children in this age range suggest that *like* is widespread in the speech of five- and six-year-olds and rare in the speech of three- and five-year-olds, though present in at least some children of this age. The ten-year-old children are included for comparison with existing research. Comparable data from college-aged adult speakers provides an additional comparison to existing research. The coding and analysis of the data focus on the syntactic positions in which children use *like* and on the discourse contexts that favor its use. The patterns of *like* use are compared with those observed by D'Arcy (2005) and

Levey (2006) to map a developmental trajectory that extends the findings of that prior research.

The experimental study included five- to ten-year-old children. The age range was selected to parallel as closely as possible the age range of the children in the spontaneous speech study (in piloting, three- and four-year-olds were found to be unable to reliably perform the task). Participants completed two experimental tasks. In Task 1, they judged the acceptability of the sentences they heard; in Task 2 they were asked to decide whether the sentence was more likely to have been produced by a male or a female speaker. The analysis of children's responses focuses on the effects of participant age and gender and on whether *like* was used in a way that has been observed in adults' speech. All participants also completed a third, controlled production task, but this was unsuccessful (see Appendix).

Chapter II describes the spontaneous speech study and discusses the results. The experimental studies and their results are discussed in Chapter III. The concluding remarks in Chapter IV discuss the results of the two studies with respect to the broader research questions posed above and to remaining questions to be addressed in further research.

CHAPTER II:

Children's Use of *like* in Spontaneous Speech

In this study I collected samples of children's spontaneous speech produced in interactions with peers. The study focuses on children ages three to six, which fills a gap in our knowledge about innovative functions of *like*, with the goal of understanding when and how *like* becomes a part of the linguistic repertoires of maturing speakers. Participants were also selected to make it possible to examine the impact of speakers' age and gender on the frequency with which *like* is used, and on its grammatical distribution. Children were recorded multiple times, providing an opportunity to better understand the purposes for which children use *like* by examining patterns of *like* use in different interactions. The coding and analysis of the data focus on categories developed by D'Arcy (2005) and Levey (2006) in previous research on *like* that has included children, in order to facilitate comparison with that research and to map a developmental trajectory that extends those approaches.

Method

Participants

Participants were 20 children, one pair of boys and one pair of girls in each of five age groups: three-, four-, five-, six-, and ten-year-olds; the speakers are shown in Table II-1. They were recruited in pairs so that they were interacting with a familiar partner.

Most of the speakers were paired with friends; the pair of six-year-old boys were twin brothers (other sets of siblings participated in the study but were not paired with each other). The twins' play activities, topics of conversation, and, as will be seen below, patterns of using innovative functions of *like* were consistent with the other younger boys' behaviors. All were native English speakers and all attended elementary school, preschool, or daycare with other children at least part time. The four younger age groups fill a gap in the existing research—the youngest age group included in previous research was seven- and eight-year-olds (Levey, 2006)—and provide an opportunity to observe when and how children first begin to use *like*. The 10-year-olds serve as a comparison to previous research on older children.

Data from conversations between pairs of college-aged adults, a total of six male and six female speakers, were used as an additional comparison to the children. These are drawn from the Archive of Conversation and Narrative, an existing corpus of conversational speech collected at the University of Michigan. The data in this corpus were collected by college students as part of a course requirement and consist of recorded interactions between two or more acquaintances of the student researchers. All interactions in the corpus are free form, naturalistic conversations. The majority of the participants in the recorded interactions are more college students, though some include speakers who are older and younger. The conversations selected for analysis here were all two-person interactions between college-aged (18-22 years) acquaintances or friends. The data analyzed in the present study comprised ten consecutive minutes of speech from each of the six pairs of speakers.

Table II-1: Speakers

Age Group	Sex	Pseudonym	Age (years;months)		Total Recording Time (hr:min)
			1st recording	Last recording	
3 years	M	Jacob	3;3	3;7	1:44
		Caleb [a]	2;10	3;2	
	F	Isabel	3;6	3;9	1:37
		Bethany	3;8	3;11	
4 years	M	Jared	4;9	5;2	2:20
		Seth	4;10	5;3	
	F	Eva	4;6	4;11	2:37
		Kristi	4;7	5;0	
5 years	M	Cory [a]	5;1	5;5	2:29
		Damian	5;1	5;5	
	F	Amy	5;6	6;1	2:15
		Emily	5;6	6;1	
6 years	M	Walker [b]	6;1	6;7	2:41
		Jason [b]	6;1	6;7	
	F	Jessica [c]	6;7	6;11	2:26
		Mandy	6;5	6;9	
10 years	M	Paul [c]	10;0	10;6	2:41
		James	10;1	10;7	
	F	Elizabeth	10;0	10;5	2:14
		Michelle	9;6	9;11	

[a] Caleb and Cory are brothers.

[b] Walker and Jason are twin brothers.

[c] Jessica and Paul are sister and brother.

Procedure

Recordings took place at the home of one of the participants or at another familiar location arranged by the children's parents. To allow them to move freely, the children wore lavalier microphones (Shure PG185) attached to body-pack wireless transmitters (Shure PG1, transmitting to a Shure PG88 receiver); sound was recorded on a Samson Zoom H4n digital audio recorder. Each pair of children was recorded four different times. An exception was the three-year-old girls, who dropped out of the study after the third recording when one of the children declined to give her consent to participate in another recording. The recording sessions were scheduled approximately four to eight weeks apart over a period of three to six months, according to the availability of the participants. Each recording session lasted about 30 minutes, yielding a total of approximately two hours of recorded interaction from each pair.

Children were asked to play normally, with the restriction that they remain in a defined area to stay within the range of the microphones' transmitters. The researcher observed children's interactions during recording and took notes on their activities. The researcher interacted with the participants to suggest activities, ask or answer questions, or when asked by the children to participate in an activity. Because the recordings took place in children's homes, participants occasionally had brief interactions with parents or siblings during recordings.

Analysis

All tokens of the word *like* in the recordings were identified. From this group, tokens of two types of innovative *like* were identified: discourse *like*—both clause-initial

discourse marker *like* and clause-internal discourse particle *like*—and quotative *like*. Occasionally, speakers broke off an utterance immediately after the word *like*, as in (19); these tokens were excluded from analysis because, without the continuation of the utterance, it was not possible to determine the function or the structural position of *like*.

19. Don't the professional guys have <u>like</u>-- (James/10M_4/19:59)[4]

Discourse like

Tokens of *like* were considered potential instances of the discourse marker or discourse particle if they were not interpretable as examples of the more standard functions of the word *like* (e.g., 20-23) and if removing *like* from the utterance would result in a grammatical utterance.

20. Verb: I <u>like</u> to play soccer

21. Preposition: It tastes <u>like</u> chicken

22. Conjunction: It looks <u>like</u> it will rain

23. Noun: They sell books, magazines, and the <u>like</u>

For example, *like* in (24) cannot be interpreted as a verb—there is another main verb already present—and removing *like* would result in a perfectly grammatical utterance, so *like* is determined to be a discourse particle; whereas in (25), *like* must be interpreted as a

[4] Parenthetical information following examples taken from data collected in the present study marks the speaker's pseudonym, the speaker's age and sex, the recording session, and the time in the recording at which the utterance occurred.

verb—there is no other verb—and removing *like* would render the utterance ungrammatical.

24. You shouldn't <u>like</u> fly in the air (Michelle/10F_1/23:36)

25. I just don't <u>like</u> that name (Mandy/6F_2/36:37)

In prior research on discourse *like*, researchers have identified systematic uses of *like* that are not interpretable as fulfilling any of the more established grammatical or semantic functions of *like* but, though they may have characteristics in common with discourse *like*, have not been analyzed as productive uses of *like* as a discourse marker or particle. When *like* precedes a numerically quantified expression, as in (26), D'Arcy (2005, 2006) has argued that it functions as an approximative adverb, replacing other lexical items such as *about* or *approximately*, rather than as a discourse particle. Following the practice established in prior research (D'Arcy, 2005; Levey, 2006), tokens of *like* that were analyzed as functioning as an approximative adverb were excluded from the analysis of discourse *like*. All tokens of like that preceded a numerical expression were candidates to be considered an approximative adverb, but were coded as such only in contexts where approximation was possible, i.e., in contexts where substituting an alternate adverb for *like* would result in a felicitous utterance with similar truth conditions. For example, (26) was coded as an approximative adverb (cf. *There's about twenty of them or something*), and this token was excluded from the analysis of discourse *like*, but the first *like* in (27) was coded as a discourse particle because *two* is not readily interpretable as an approximation of the number of ears in a list of body parts.

26. There's <u>like</u> twenty of them or something. (Jessica/6F_1/1:34)

27. I saw <u>like</u> two ears and like a mouth. (Amy/5F_1/29:08)

A second systematic use of *like* that has not been analyzed as a productive use of the discourse particle is the sequence *it's like*, which has been described as a frozen form that patterns as a single lexical item (D'Arcy, 2005; Levey, 2006). Again following the practice established in prior research, tokens of *it's like* were excluded from the analysis of discourse *like* unless there was a clear referent for *it* in the context, so that *it's like* was decomposable into a pronoun-verb-particle sequence.[5] For example, (28) was excluded from the analysis of discourse *like*, but *like* in (29) was coded as a discourse particle because *it* was clearly interpretable in context as a pronoun co-referent with *story*. Also, sentences like (28) would be ungrammatical if *like* were removed, while sentences like (29) would remain grammatical, as is the case with instances of the clause-initial discourse marker *like*, as in (30).

28. <u>It's like</u> Amy (thought) for twenty minutes and Emma just stood there for twenty minutes. (Jessica/6F_4/9:13)
29. I keep on thinking of this story it's the grossest- <u>it's like</u> one of the grossest stories. (Michelle/10F_2/21:20)
30. <u>Like</u> if you set your heart on something you get it (Elizabeth/10F_2/27:44)

[5] Tokens of *it's like* were very uncommon in the speech collected in the present study. A total of five tokens were excluded, no more than two from any single speaker.

After tokens of *like* were identified as functioning either as a discourse marker or discourse particle, they were further subcategorized according to their structural position—the syntactic constituent to which they adjoined. According to D'Arcy's (2005) analysis, *like*'s structural position is as a left adjunct preceding phrases (maximal projections); for example, in (31) *like* would be analyzed as adjoining to, and thus modifying, the verb phrase *fly in the air*, rather than only the verb *fly* or a part of the phrase (although phrases may occasionally contain only one lexical item, such as the verb phrase in *I already ate*).

31. You shouldn't <u>like</u> [$_{VP}$ fly in the air] (Michelle/10F_2/21:20)

In most cases, the type of constituent could be straightforwardly identified. For example, if a clause-initial *like* precedes an overt complementizer or other overt element in the left periphery of the sentence (e.g., in the specifier of the complementizer phrase), as in (32), then *like* can only be analyzed as adjoining to the full clause: If *like* adjoins only to phrases and not to individual lexical items, then *like* must adjoin to the entire clause, as there is no phrase smaller than the clause that contains the complementizer.

32. <u>Like</u> if you set your heart on something you get it (Elizabeth/10F_2/27:44)

On the other hand, when *like* precedes a clause without an overt complementizer, as in (33), there is no way to distinguish between the potential structures in (33.a), in which *like* adjoins to the entire clause, and in (33.b), in which *like* adjoins to, and forms a

constituent with, only the subject. Following the practice established in previous research (D'Arcy, 2005), clause-initial *like* was always analyzed as adjoined to the full clause (33.a), rather than to the subject.

33. Like I eat three truffles (Michelle/10F_2/18:43)

    a. Like [I eat three truffles]

    b. [Like I] eat three truffles

Generalizing this approach to tokens of discourse *like* appearing in positions other than clause-initially, when more than one analysis was possible, tokens of discourse *like* were analyzed as being adjoined in the higher structural position, i.e., the largest constituent that contains the lexical item immediately to the right of *like* in the string. For example, (34) is analogous to (33) in that *like* could be analyzed as adjoined to the full noun phrase, *best friend* (34.a), or only to the adjective phrase, *best* (34.b); in this case, the structure in (34.a) was selected and *like* was coded as adjoined to the noun phrase.

34. Willy's our like best friend pretty much (Paul/10M_2/28:30)

    a. He's our [like [best friend]] pretty much

    b. He's our [like [best]] friend pretty much

The speakers in the present study were observed to adjoin discourse *like* to seven difference types of phrases (35-41). The clause-initial discourse marker use of *like* was coded as adjoining to the sentence at the level of the complementizer phrase; if *like*

preceded the subject of a sentence but followed an overt complementizer or other overt element in the left periphery, it was coded as being adjoined to the tense (inflectional) phrase. When *like* was adjoined to a nominal phrase, it was coded as adjoining at the level of the determiner phrase if it preceded an overt determiner or if there was no lexical determiner present (as in bare plurals); it was coded as adjoining to the noun phrase if *like* was preceded by an overt determiner.

35. Complementizer Phrase (CP): <u>like</u> [$_{CP}$ you deserve to get a spanking] (Jessica/6F_2/6:35)
36. Determiner Phrase (DP): she had <u>like</u> [$_{DP}$ a part right here] and then hair coming back (Michelle/10F_2/9:23)
37. Predicate Adjective Phrase (AP): are they <u>like</u> [$_{AP}$ smellable] (Jessica/6F_1/1:22)
38. Verb Phrase (VP): I'm gonna <u>like</u> [$_{VP}$ cut a hole in this] (Jessica/6F_2/3:36)
39. Prepositional Phrase (PP): look at how mine landed <u>like</u> [$_{PP}$ in the crack of the chair] (Paul/10M_2/19:11)
40. Tense Phrase (TP): and then <u>like</u> [$_{TP}$ the rest was coming forward and it was bangs] (Michelle/10F_2/9:30)
41. Noun Phrase (NP): Well he's doing this <u>like</u> [$_{NP}$ bike camp thing] (Paul/10M_2/28:41)

Quotative like

Tokens of *like* were identified as quotatives when they directly preceded a representation of reported (42) or hypothetical (43) speech or thought/internal dialogue, reported non-lexical sounds (44), or quoted action or gesture (45).

42. He's like "what the heck" when you didn't even do anything to him. (James/10M_1/23:31)
43. (You) can be like "hi I have a southern style hair". (Elizabeth/10F_2/38:24)
44. They're like gonna be like "AH:::". (Eva/4F_3/34:23)
45. I was like ((shows what he did with his paper airplane)). (James/10M_2/31:59)

In prior research it has been noted that *BE+like* can introduce reported gesture and that reported speech introduced by *BE+like* is frequently accompanied by physical gesture and facial expression (Ferrara & Bell, 1995; Streek, 2002). Utterances like (45) were coded as quotative because they directly report a prior physical action in the same way that the quotative is used to reenact prior linguistic action and because they have the same structure as reported speech constructions: *BE+like* followed by an quote reproduced as it would have been produced (verb tense, pronoun use, etc.) in its original context.

The canonical form in which *like* appears in quotative constructions is in combination with the verb *to be*. While the majority of *like* tokens that directly preceded a quote occurred with *be*, the younger children sometimes produced *like* in a position

directly preceding a quote, but following a verb other than *be*, such as *go* or *say* (e.g., 46). Because these utterances are structurally and, apparently, functionally identical, or very similar, to quotation with *BE+like*, these were grouped with the *BE+like* quotatives for this analysis. So, any token of *like* that directly preceded quoted material, regardless whether it occurred with *be*, was coded as quotative.

46. That's kind of annoying when you go like "eee". (Jessica/6F_2/7:55)

Results

The frequencies with which the speakers in the present study were observed to use *like* as a discourse marker/particle or quotative marker are shown in Table II-2. These innovative functions of *like* appear as part of the linguistic repertoires of children age four and older—it appeared only once in the speech of a three-year-old girl.

Four-year-olds used discourse *like* infrequently, but it was used considerably more often by five- and six-year-old girls, and was observed with greater frequency as the age of the children increased. All of the girls age four and older used *like* as a discourse marker/particle, but discourse *like* was used less frequently by the younger boys; by age ten, girls and boys used innovative forms of *like* with comparable frequencies.

Table II-2: Frequencies with which *like* was used as a discourse marker/particle or quotative marker

Speaker Age / Gender		Total *like* Tokens	Discourse *like*		Quotative *like*	
			raw freq.	*per 500*	*raw freq.*	*per 500*
3 years	*Girls*	1	0 (.00)	0	1 (1.0)	0.5
	Boys	0	0 (.00)	0	0 (.00)	0
4 years	*Girls*	26	15 (.58)	1.3	11 (.42)	1.0
	Boys[a]	6	6 (1.0)	0.5	0 (.00)	0
5 years	*Girls*	36	35 (.97)	1.8	1 (.03)	0.1
	Boys	0	0 (.00)	0	0 (.00)	0
6 years	*Girls*	64	59 (.92)	2.0	5 (.08)	0.2
	Boys	11	7 (.64)	0.8	4 (.36)	0.4
10 years	*Girls*	60	46 (.77)	1.9	14 (.23)	0.6
	Boys	68	61 (.90)	2.4	7 (.10)	0.3
Adults	*Women*	174	137 (.79)	11.3	37 (.21)	3.0
	Men	73	60 (.82)	5.5	13 (.18)	1.2

Note: Numbers in parentheses are the proportion of the total number of *like* tokens that were discourse markers/particles and quotatives. Raw frequencies are exact. Frequencies per 500 words are calculated from estimates of the total number of words produced that are based on word counts from a 20-minute sample of speech from each pair of speakers.

[a] Only one of the two four-year-old boys produced *like*.

Quotative uses of *like* were less frequent overall, and exhibit a less clear developmental trajectory, than discourse *like*. This results in part from the fact that, while almost every utterance has at least one position where *like* could potentially appear as a discourse marker or discourse particle, quotative *like* is constrained only to appear in reported speech constructions, which occur less regularly. In general, quotative *like* was used very rarely by children less than six years old, with six- and ten-year-olds using it more frequently, and it was used most frequently by ten-year-old girls. However, the four-year-old girls produced a relatively high number of tokens of quotative *like*, while some of the older children produced fewer. This was due in part to the fact that one of the four-year-old girls, as will be seen below, had a speech style in which she relatively frequently produced reported speech, and thus created contexts in which quotative *like* could appear.

Children's Use of *like* as a Discourse Marker and Discourse Particle

Previous research has shown that attending to the syntactic positions in which discourse *like* occurs is important for understanding the way it is used by speakers of different ages and how its use has changed over historical time (D'Arcy, 2005; Levey, 2006). For those speakers who did use discourse *like*, Table II-3 shows the frequency with which it was observed in different syntactic positions. Six of these—all except prepositional phrases (PP)—are positions that D'Arcy (2005) considered in her examination of the apparent historical development of discourse *like*.

Table II-3: Frequency with which *like*, used as a discourse marker or particle, was observed in different syntactic positions

Age / Gender		Total	CP	DP	VP	AP	PP	TP	NP
4 years	*Girls*	15	3	7	3	1	1	--	--
	Boys	6	4	2	--	--	--	--	--
5 years	*Girls*	35	4	27	2	1	1	--	--
	Boys	0	--	--	--	--	--	--	--
6 years	*Girls*	59	8	30	8	6	5	2	--
	Boys	7	4	3	--	--	--	--	--
10 years	*Girls*	46	9	21	9	3	1	2	1
	Boys	61	11	20	15	7	5	2	1
Adults	*Women*	137	67	31	28	4	2	3	1
	Men	60	15	30	9	2	3	1	1

Note: No three-year-olds were observed to use *like* as a discourse marker or discourse particle, so they are not shown in this table.

Examples:

Complementizer Phrase (CP): <u>like</u> you can find stuff easier

Determiner Phrase (DP): she had <u>like</u> a part right here and then hair coming back

Verb Phrase (VP): I'm gonna <u>like</u> cut a hole in this

Predicate Adjective Phrase (AP): these are <u>like</u> soft you know

Prepositional Phrase (PP): look at how mine landed <u>like</u> in the crack of the chair

Tense Phrase (TP): and then <u>like</u> the rest was coming forward and it was bangs

Noun Phrase (NP): and um she took me to this <u>like</u> cabin and I had these rocks

All groups who were observed to use discourse *like* used it in at least two contexts: clause-initially as a discourse marker adjoined to the complementizer phrase and as a discourse particle adjoined to determiner phrases. With age, *like* began to be used in an increasing number of grammatical positions, forming an implicational hierarchy: if a group of speakers was observed to use *like* in any of the syntactic positions in Table II-3, then that group also used *like* in all of the positions to the left of that column. The younger boys (ages four and six) had the most restricted set of grammatical contexts for *like*, the four- and five-year-old girls used *like* in three additional contexts, and the two final positions—preceding a tense phrase and preceding a noun phrase—were only used by the older children.

The order in which children begin to use *like* in different syntactic positions corresponds very closely to the order in which, historically, English speakers began to use *like* in these positions. The exception is the relative order in which verb phrases and adjective phrases are acquired as potential syntactic positions for *like*. The data from the present study suggest that verb phrases are acquired prior to predicate adjective phrases as potential sites for *like*, while D'Arcy (2005) found that the use of *like* with adjective phrases apparently predated its use with verb phrases. So, if speakers use discourse *like* in a more recently emerging position, then they are very likely to also use it in all of the positions that emerged earlier in time; and, as children get older, the order in which they acquire different grammatical positions for *like* approximates very closely the order in which the language likely acquired those positions historically.

Although D'Arcy (2005, p. 21) lists the prepositional phrase as one location where English speakers use *like* as a discourse particle, she did not include prepositional

phrases in her apparent time analysis of the historical development of discourse *like*. In the present study the use of *like* preceding prepositional phrases patterns similarly to its use with verb and adjective phrases. If the pattern of individual development paralleling the historical development of the language holds, then we would expect to find that the prepositional phrase emerged as a site for *like* at approximately the same time as verb and adjective phrases, or that patterns of use in the input that children receive have characteristics in common with them.

It can be seen clearly in Table II-3 that *like* is generally used with greater frequency in the grammatical positions that appear earlier in children's acquisition—columns to the left in the table—and that emerged earlier in the development of the language as potential sites for discourse *like*. For example, *like* more frequently precedes determiner phrases and verb phrases, which are acquired earlier as positions for *like*, than before tense phrases and noun phrases, which are acquired later. The exception to this pattern is the frequency with which children used *like* as a clause-initial discourse marker adjoined to the complementizer phrase. The discourse marker use of *like* (CP), which was an earlier historical development in the language and is the most frequent use of discourse *like* in the adult women's speech and when adult men and women are considered together, is less frequent than the discourse particle preceding a determiner phrase (DP) for nearly all of the pairs of speakers, with the exception of the younger (four- and six-year-old) boys.

In addition to the increase with age in the number of grammatical positions in which discourse *like* appears, the relative frequency with which it occurs in different contexts also changes. This change in relative frequency can be clearly seen in an

examination of the contexts in which *like* occurs most often, where frequencies are great enough to observe meaningful differences. Table II-4 shows the distribution of discourse *like* tokens across the three most frequently observed syntactic positions; the younger children are grouped into two age groups—three- and four-year-olds who used *like* infrequently, if at all, and five- and six-year-olds who used *like* more consistently—for comparison with the ten-year-olds and with data from the sample of college-aged adults' speech.

The primary difference between adults and children, and between children of different ages, in the distribution of tokens of discourse *like* across syntactic contexts is in the relative frequencies with which *like* is used clause-initially, as a discourse marker adjoined to CP, and clause-internally as a discourse particle adjoined to DP. Adults use *like* more frequently as a clause-initial discourse marker than in any other position in the sentence, while children use discourse *like* most frequently as a discourse particle preceding determiner phrases. The youngest children, who use discourse *like* infrequently, show a slight preference for the DP-initial discourse particle. The increase in the frequency of discourse *like* use by the five- and six-year-olds is the result, in large part, of frequent use of the DP-initial discourse particle. The percentage of *like* tokens that precede DP decreases for ten-year-olds, who utilize other positions for *like* more frequently.

Table II-4: The three most frequent uses of discourse *like* as a percentage of all occurrences of discourse *like*

Age / Gender		Total Discourse *like*	CP	DP	VP
3-4 years	*Overall*	21	33%	43%	14%
	Boys	6	67%	33%	0%
	Girls	15	20%	47%	20%
5-6 years	*Overall*	101	16%	59%	10%
	Boys	7	57%	43%	0%
	Girls	94	13%	61%	11%
10 years	*Overall*	107	19%	38%	22%
	Boys	61	18%	33%	25%
	Girls	46	20%	46%	20%
Adults	*Overall*	197	41%	31%	19%
	Men	60	25%	50%	15%
	Women	137	49%	23%	20%

Examples:

CP: <u>like</u> you can find stuff easier

DP: she had <u>like</u> a part right here and then hair coming back

VP: I'm gonna <u>like</u> cut a hole in this

The apparent preference among younger children in the present study to use *like* preceding determiner phrases, with the relative frequency of clause-initial *like* increasing with age, extends a trend emerging from prior research. The youngest speakers whose use of *like* has previously been studied were seven- and eight-year-olds included in

Levey's (2006) study of preadolescents' use of *like*, and these data represent the closest available comparison to the present study. Although there is a potential for dialect differences—the speakers in the present study live in Michigan, while Levey's data were collected in London—other research that has examined London teenagers' use of *like* (G. Andersen, 2001) suggests that the relative frequencies with which *like* occurs in different structural positions are comparable to those observed in the college-aged American adults in the present study. Andersen found that *like* was used most frequently "clause-externally"—the position that I have described as clause-initial—and that the clause-internal positions in which *like* was most frequently observed were before noun phrases—described here as determiner phrases—and verb phrases.

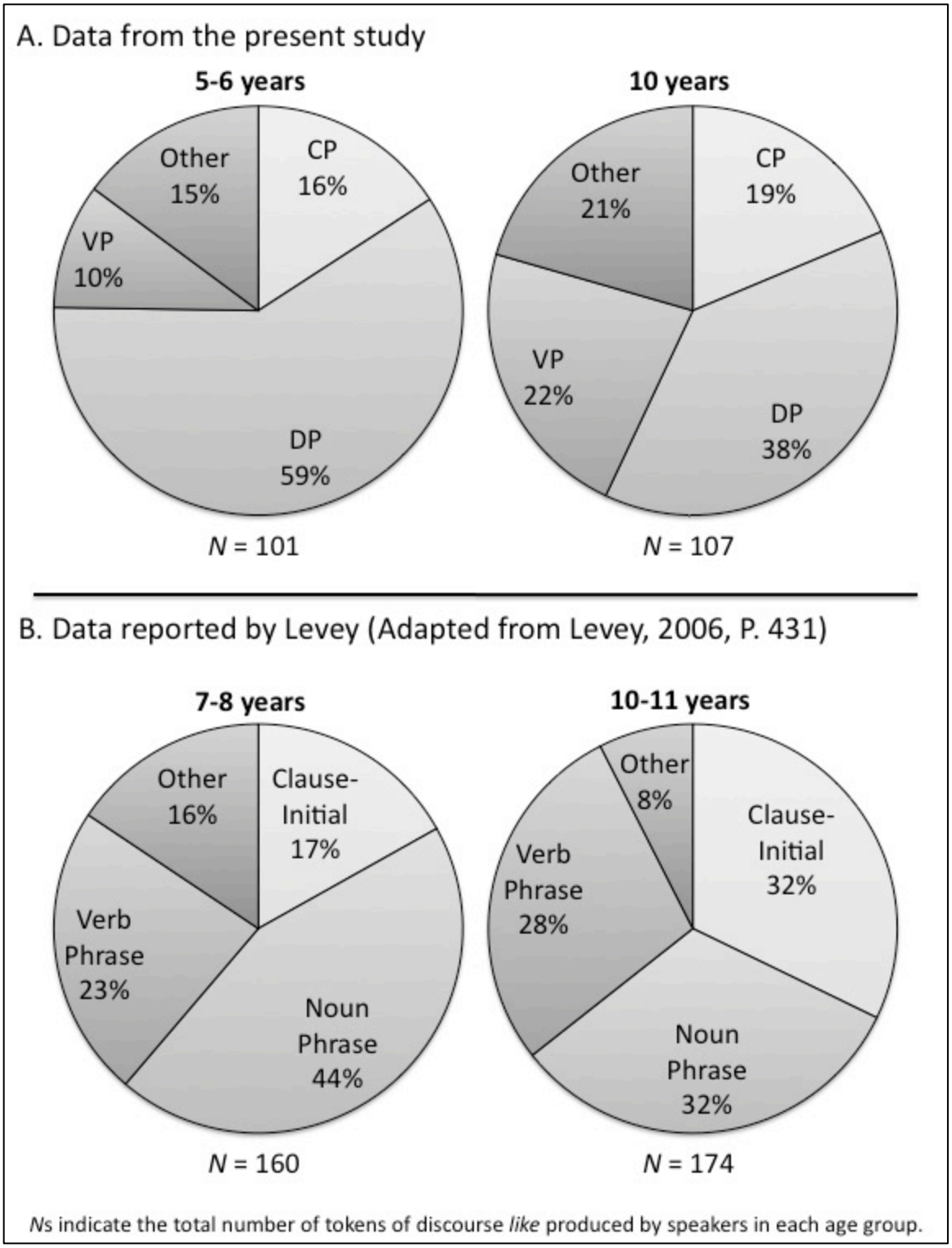

Figure II-1: Percentage of *like* tokens occurring in different syntactic positions, by age group, compared to findings of prior research

One of Levey's (2006) findings was that seven- and eight-year-old children used *like* most frequently preceding, or within, noun phrases, while ten- and eleven-year-olds used *like* with equal frequency with noun phrases and clause-initially.[6] Figure II-1 compares the percentages of discourse *like* tokens occurring in different syntactic positions for children in the present study (A) with percentages for the Levey's two age groups (B). The five- and six-year-old children in the present study show an even greater preference for *like* preceding determiner phrases than Levey's seven- and eight-year-olds, so the pattern that Levey observed is even more pronounced in these younger speakers. Meanwhile, the proportion of *like* tokens produced by the ten-year-olds in the present study that preceded determiner phrases was greater than that of Levey's seven- and eight-year-olds, but less than Levey's ten- and eleven-year-olds. So, the data from the present study, in combination with those reported by Levey, appear to confirm a trend in which younger children primarily use discourse *like* preceding determiner (or noun) phrases, with a greater proportion of tokens shifting to clause-initial position as they get older.

Gender Differences in the Use of *like*

Because *like* is commonly thought to be associated with teenage girls, one central question about the acquisition of *like* is whether and how gender differences emerge among young children. Researchers who have explored the relationship between speaker gender and use of innovative functions of *like* report conflicting results, with some

[6] Levey (2006, p. 424) uses slightly different categories than I use here; he does not distinguish between noun and determiner phrases and combines the position "preceding" a noun phrase and positions "within" a noun phrase into a single category. Those tokens of *like* that Levey describes as preceding a noun phrase correspond to those uses of *like* that I have described as preceding determiner phrases, while those tokens that Levey describes as occurring within a noun phrase include those that I have described as preceding a noun phrase.

finding that female speakers use innovative *like* more often (e.g., Siegel, 2002) and some finding that male speakers do (e.g., Blyth et al., 1990). D'Arcy (2005) found that the effect of speaker sex differed according the to specific form of *like*: female speakers led in the use of *like* as a discourse marker (clause-initially) while male speakers led in the use of *like* as a discourse particle (clause-internally). Examining patterns in children's acquisition of *like* might give an indication of how and when any potential gender differences develop, and whether patterns of use are consistent with ideologies about the use of *like*.

Quotative like

One of the classic innovative uses of *like* that is associated with girls is the use of *like* as part of the *BE+like* quotative marker (Blyth et al., 1990). Although the belief that *like* is used most frequently by teenage girls appears not to be accurate with respect to its use as a discourse marker and discourse particle, it does appear to be true that quotative *BE+like* is used more frequently by female speakers than by male speakers, and that teenage girls are the most frequent users of *BE+like* (Barbieri, 2007; Tagliamonte & D'Arcy, 2007). Apparent time analysis of the development of the English quotative system has also suggested that the use of *BE+like* as a quotative marker is an innovation that may actually have been introduced by Valley Girls, or have entered the language at about the time that the Valley Girl style was recognized (D'Arcy, 2007).

The use of *like* as a quotative marker is one way in which gender differences that have been observed in teenagers and younger adults are evident in the children in the present study: The girls in the present study used *like* in quotative constructions more

often than boys did. Boys younger than six never used *like* to introduce quotations, while girls younger than six used it occasionally, and one four-year-old girl used it quite frequently (Table II-2). Aside from the one four-year-old girl, whose use of quotative *like* was somewhat idiosyncratic (this is described in more detail below), both boys' and girls' use of *like* in quotative constructions increases in frequency around age six; however, while ten-year-old boys did not use it much more frequently than six-year-olds, the ten-year-old girls used quotative *like* much more frequently than six-year-olds and more frequently than their male peers. This was true even for the ten-year-old girl who was a very infrequent user of *like* overall. The two ten-year-old girls, Elizabeth and Michelle, combined to produce 47 tokens of discourse *like* and 14 tokens of quotative *like* (see Table II-2). Elizabeth produced only two of the discourse *like* tokens (see Table II-5), but still accounted for 6 of the 14 uses of quotative *like* that she and her friend produced. The two ten-year-old boys, on the other hand, combined to produce only seven tokens of quotative *like*.

Among the ten-year-olds, girls and boys also differed from each other in the types of speech or action that they used *like* to introduce. The boys tended to use *like* to report things in the immediate or very recent past, while the girls were more likely to use it to construct narrative or to talk about hypothetical activities. For example, in the exchange in (47) Paul and James use *BE+like* to talk about the ongoing activity of playing with their paper airplanes, quoting sounds made by the airplanes and their own actions.

47. (Paul and James/10M_2/31:42-32:01)

Paul: DUDE did you see that? Like it <u>was like</u> (.) whoosh,

James: I wanna try that. AH.

Paul: Whoa, oh you're gonna kill me.

James: Oop- AH. I was like, ((shows what he did with his paper airplane))

In contrast, in (48) Michelle uses *BE+like* in combination with other verbs of quotation to construct her narrative (about a raven that wanted to eat a whale and got trapped inside it).

48. (Michelle/6F_2/24:21-24:44)

And then he- and then he thought, "I'm trapped inside the whale's belly, surely there is some way to get out." So, he goes along, and soon, fishermen find a dead whale, close to their shore, where it had been washing up? They pulled to shore and they're like "meat meat meat meat mea::t."

Discourse like

Girls and boys also differed in their patterns of use of *like* as a discourse marker and discourse particle. As described above (Table II-2 and Table II-3), boys and girls in the younger age groups (three- to six-year-olds) differed from each other in that boys were less likely to use discourse *like* at all, used it less frequently than girls, and used it in a more restricted set of grammatical contexts. Boys and girls also differed in the relative frequency with which they used *like* in different syntactic contexts; however, in the case of discourse *like*, the gender differences observed in the children do not reflect differences that have been observed in older speakers.

Above, it was shown that younger children exhibit a strong preference for using *like* as a discourse particle preceding determiner phrases. Table II-4 also shows the breakdown by gender of the relative frequency with which *like* was observed in more frequent grammatical positions. Among the younger children, girls exhibit the strong preference for *like* as a discourse particle preceding determiner phrases, and this is particularly pronounced among the five- and six-year-olds. Boys do not show such a preference; they used *like* slightly more often clause-initially (4 tokens) than before determiner phrases (2 tokens). Ten-year-old girls and boys both exhibit a preference for the DP-initial position over the clause-initial position, but this difference is more pronounced for the girls than for the boys. Among adults, the men used *like* more often with determiner phrases while the women prefer the clause-initial discourse marker; this is consistent with D'Arcy's (2005) finding that men tend to lead in the use of *like* as a discourse particle, while women lead in using *like* as a discourse marker.

So, children's preference for using *like* as a discourse particle adjoined to determiner phrases, rather than as a clause-initial discourse marker (Table II-4), is primarily the result of the girls' use of *like* and is not evident at all in the youngest boys. This gender difference is the opposite of that observed in adults. It also differs from gender differences observed in prior research on children. Seven- and eight-year-old girls and boys in Levey's (2006) study both used *like* more frequently before noun phrases than clause-initially, but the difference was more pronounced among boys, while the ten- and eleven-year-olds exhibited the same gender differences seen in adults in the present study.

The fact that the younger girls used discourse *like* more frequently than boys is consistent with ideologies about the relationship between *like* and speaker gender. However, boys' and girls' patterns of discourse *like* use did not reflect gender differences that have been observed in adults. This contrasts with quotative *like*, in which gender differences in children did reflect those that have been observed in adults. Thus, while gender differences in the use of the quotative might potentially result from children's emulating the speech patterns of same-gender adults, this explanation could not account for gender differences in the use of discourse *like*.

Patterns in Individual Children's Use of Discourse *like*

As seen above, the relative frequency with which *like* was used as a clause-initial discourse marker and as a clause-internal, DP-initial discourse particle was a primary characteristic distinguishing patterns of *like* use by children of different ages, distinguishing between girls' and boys' use of *like*, and distinguishing children's speech from adults'. It was also a characteristic that distinguished the speech styles of individual children.

In each of five pairs of speakers (out of the 10 pairs in the study), the two members of the pair combined to produce more than ten tokens of discourse *like*: the four pairs of girls age four and older, and the ten-year-old boys. The numbers of *like* tokens that each child in those pairs produced, and the number that preceded DP, are shown in Table II-5. While the ten-year-old boys used *like* with similar frequency, in each pair of girls, one speaker used discourse *like* with much greater frequency than the other: Kristi, Amy, Jessica, and Michelle. The greatest difference between each of these four girls and

her conversation partner was the frequency with which *like* appeared before determiner phrases. Though Paul used *like* before determiner phrases more often than did his conversation partner, James, the difference in frequency was less than the differences that the girls exhibited. Thus, the girls in the present study exhibited greater variation in their styles of *like* use than the boys did, and the girls' patterns of *like* use were manifested most specifically in their use of *like* preceding determiner phrases.

Table II-5: Number of *like* tokens produced by individual children

Age / Gender	Speaker 1			Speaker 2		
	Name	*Total*	*DP*	*Name*	*Total*	*DP*
4-year-old girls	*Eva*	**3** (0.6)	0	*Kristi*	**10** (1.7)	7
5-year-old girls	*Emily*	**8** (1.1)	4	*Amy*	**27** (2.3)	23
6-year-old girls	*Mandy*	**16** (0.9)	10	*Jessica*	**43** (3.4)	20
10-year-old girls	*Elizabeth*	**3** (0.3)	1	*Michelle*	**44** (2.3)	20
10-year-old boys	*James*	**28** (2.1)	7	*Paul*	**33** (2.7)	13

Note: Numbers in bold in the 'Total' columns represent the total number of times that the child used *like* as a discourse marker/particle, the number in parentheses is the total per 500 words; the 'DP' column shows the number of those occurrences in which *like* was a discourse particle preceding determiner phrases.

Next, the girls who were frequent users of *like* were considered more closely in order to examine the discourse contexts in which *like* occurs most frequently. Table II-6 shows the number of discourse *like* tokens in the speech of frequent users in each of the

four recording sessions. It is apparent that these children did not consistently produce high numbers of *like* tokens—with the exception of the four-year-old, Kristi, there is considerable variation in the frequency with which they used *like* in the different interactions; instead, each had one or, in Jessica's case, two interactions in which they used *like* a relatively large number of times and others in which they used it less frequently. In each case, this variation results entirely, or in large part, from more frequent than average use of *like* preceding determiner phrases. For example, in each of Amy's recording sessions all except one use of *like* preceded determiner phrases, so differences in frequency were determined entirely by the number of times that *like* preceded a determiner phrase.

Table II-6: Variation in the use of discourse *like* by recording session for the most frequent users of *like*

Name	Age	Recording Session			
		1	*2*	*3*	*4*
Kristi	4 years	**4** (3)	**1** (1)	**4** (2)	**1** (1)
Amy	5 years	**8** (7)	**15** (14)	**1** (0)	**3** (2)
Jessica	6 years	**16** (12)	**19** (7)	**1** (0)	**7** (1)
Michelle	10 years	**9** (7)	**26** (10)	**5** (1)	**5** (2)

Note: Numbers in bold represent the total number of times the child used discourse *like* in each session; numbers in parentheses indicate the number of those occurrences in which *like* was a discourse particle preceding determiner phrases.

In order to identify characteristics of the discourse context that might contribute to more frequent use of *like,* those interactions in which a child used *like* with high frequency were examined more closely. Amy, Jessica, and Michelle each had one interaction with a stretch of interaction during which there was a particularly high concentration of *like*s. In Amy's second recording there was a ten-minute period during which she produced 13 of 15 total tokens of discourse *like*; there was no other ten-minute period during any of the four recordings in which either speaker produced more than five tokens of *like*. In Jessica's first recording there was a ten-minute period in which she produced 13 of 16 total tokens of discourse *like*; there was no other ten-minute period in which either speaker produced more than eight. In Michelle's second recording there was a ten-minute period during which she produced 9 of 26 total tokens of discourse *like* (and four out of five total tokens of quotative *like*); there was no other ten-minute period with more than six *like* tokens.

In each of these periods of higher frequency *like* use, the speaker was engaged in a discourse activity that involved description of objects or situations that were unknown or unfamiliar to their interlocutors. Amy gives an extended description of the pens that she is using to draw; Jessica is playing a card game in which she has to describe pictures; and Michelle tells an extended narrative. In each case, these speakers use *like* as a resource in constructing their descriptions.

During the period in which Jessica used *like* with high frequency, she and Mandy were playing the card game, Go Fish, in which they had to ask each other for cards matching the ones in their hand. The cards they were using depicted objects in different contexts, so that in order to make a match they had to look for the same object appearing

across a set of pictures. The game thus came to function similarly to a referential communication task. Jessica used *like* to produce her own descriptions of the images as well as to clarify those given her by Mandy (49).

49. (Jessica and Mandy/6F_2/23:28-23:46)

Jessica: Do you have a bee? Like a bug bee?

Mandy: M-m. Go fish. (…) Do you have a bus?

Jessica: Like a school bus?

Mandy: Mhm.

Amy used *like* in a similar fashion in an extended description of her drawing implements, which were apparently a hybrid of marker and paintbrush and, as such, not easily characterized. Both the extended description and her frequent use of the suffix *-ish* in addition to *like* (50, 51), indicate that *like* is used to mark the fact that her descriptions and comparisons are not exact.

50. It's like old time-ish paintbrushes (Amy/5F_2/11:24)

51. They're like paintbrushes ink-ish (Amy/5F_2/17:27)

Michelle's high frequency use of *like* occurred during the telling of a narrative when she described objects and situations that were both unfamiliar to her friend and not physically present at the time of the telling so that she could not rely on shared knowledge or visual aids in telling her story. In this case she was telling a story that she

described as a folktale, about a raven that wanted to eat a whale and became stuck inside the whale, which died and washed ashore where the raven eventually ate it. In (52), Michelle uses *like* similarly to the younger girls to mark inexact descriptions of objects. She also uses *like* to mark descriptions of actions, which the younger girls do not do in their descriptions. While the interpretation that Michelle views the object descriptions as inexact is supported by her use of the nonspecific *thing* as a descriptor, there is no equivalent lexical evidence to support the interpretation that *like* marks the descriptions of actions as inexact; however, the fact that the actions described in (52) are things that neither she nor her listener is likely to have done suggests that *like* may mark a lack of first-hand knowledge.

52. (Michelle and Elizabeth/6F_2/30:46-31:01)

Michelle: And then of course you- you have to <u>like</u> clean out the whale's <u>like</u> bladder system.

Elizabeth: STOP. That's disgusting.

Michelle: Oh and you can <u>like</u> take the bladder and blow it up? Kind of like pigs' bladders and make it <u>like</u> a balloon thing?

Elizabeth: OH.

Unlike the ten-year-old Michelle, who used *like* preceding verb phrases as a resource to enrich her descriptions of unfamiliar and non-immediate actions, the younger girls used *like* preceding verb phrases similarly to the way they use *like* with determiner phrases—to talk about objects that are physically present in the context of the interaction.

They use *like* to modify verbs that describe properties of objects (53), actions to be performed on them (54 and 55), and what they are used for (56).

53. This microphone <u>like</u> gives out a Hannah Montana voice. (Kristi/4F_1/46:06)
54. Give them to me for <u>like</u> paying. (Amy/5F_3/16:25)
55. I'm gonna <u>like</u> cut a hole in this when I get home. (Jessica/6F_2/3:46)
56. We have to wear this microphone because people <u>like</u> wanna know what we're doing. (Mandy/6F_2/34:03)

Thus, the younger girls did not systematically use *like* to qualify, or otherwise mark, descriptions of hypothetical or unfamiliar actions, as ten-year-old Michelle did, but rather as a resource when discussing objects in the immediate context.

In order to better characterize how children employ innovative uses of *like* as a resource during peer interaction, the preceding discussion identified several specific discourse contexts in which some individual speakers used *like* with particularly high frequency. One of these contexts, ten-year-old Michelle's extended (nearly ten minutes in length) narrative re-telling of a folktale, was unique: At no point during any of the recorded interactions collected in this study did any other child, girl or boy, produce such an extended narrative. Aside from this narrative, the types of discourse in the specific examples described above are not unique to the specific speakers involved, nor do they represent global differences between the interactions of boys and girls during the study.

Although Jessica produced *like* with particularly high frequency while playing a card game, Go Fish, which, as was described above, functioned similarly to a referential

communication task, she and her friend were not the only children to play that particular game (it was one of several toys and games that the researcher brought to recording sessions for participants to use if they so chose), or to produce *like* while playing it. For example, the six-year-old boys once played the same game. During the game, Jason (57) produced two tokens of discourse *like* that did not appear in truncated utterances (according to the coding criteria described above, the two tokens of *like* that appeared in truncated utterances were excluded from the analysis presented in this chapter).

57. Or maybe they're not <u>like</u> matching things, or maybe they're matching. But see <u>like</u>-- How they're <u>like</u>-- See <u>like</u> how that's a fish and that's the exact same fish. (Jason/6M_1/9:57-10:07)

Similarly, Amy produced *like* with particularly high frequency during an extended description of her drawing implements, but this description, though extended, was not qualitatively different from those produced by other children, nor was it the only time that a child used *like* as part of a description. In the example below (58), Paul and James use *like* several times as they describe the game they are playing to the researcher.

58. (Paul and James/10M_2/1:43-2:22)

    Paul: It's <u>like</u> (..) I'm on--

    James: A person's like--

    Paul: If you're on here and the tagger- the tagger [is--]

    James: If they're on the ground and you call "groundies" they're it,

…

Paul: So <u>like</u> if I'm on the ground, then I'm,

James: It yeah.

…

Paul: Yeah, 'cause he was <u>like</u> closing his eyes and, trying to--

Thus, the use of *like* as a resource when engaging in discourse activities requiring description is not best understood as a characteristic of the speech of those girls who were frequent *like* users, or of girls in general. Rather, it is characteristic of the way that children employ discourse *like* and, for the girls who were frequent users of *like*, the specific discourse contexts described above provided an opportunity to demonstrate that aspect of their speech style.

Innovation in Children's Use of *like* as a Quotative Marker

While patterns in young children's use of *like* as a discourse marker and discourse particle differed from adults in several ways, the young children did not exhibit any uses of discourse *like* that have not been observed in adults—there is no evidence that they overgeneralize *like* or that these children are participating in any further innovation. However, the younger children did differ qualitatively from ten-year-olds and adults in the way they used *like* in quotative constructions.

As has been described in the literature, the canonical form in which *like* appears in quotative constructions is in combination with the verb *to be*. Andersen (1998) has suggested that the quotative and discourse marker/particle functions of *like* are different

uses of the same lexical item, based on the observation that they both function pragmatically to mark "loose talk"—speech that is accurate enough for current purposes, but may not represent the exact truth. However, researchers who have examined *like* from a historical or grammaticalization perspective (e.g., D'Arcy, 2005; Romaine & Lange, 1991) have generally argued that *like* used as a discourse marker/particle and *like* used as part of the quotative *BE+like* should be considered separate lexical items because they have different histories and have undergone separate processes of grammaticalization. From this perspective, *BE+like* is considered to have grammaticalized as a single complex lexical item, so that *like* in (59) would be analyzed as forming a unit with the verb, rather than as a separate element inserted between the verb and its complement, as is the case with discourse particle *like* (60).

59. You can <u>be like</u> "hi I have southern style hair" (Elizabeth/10F_2/38:24)

60. They're <u>like</u> kindergarteners and first graders (Mandy/6F_2/31:23)

Consistent with previous descriptions of quotative *like*, in adults' and ten-year-olds' speech, *like* categorically appeared with some form of the verb *to be* when used in quotatives. As was mentioned above, the younger children also used *like* in a position where it directly preceded a quote but did not combine with a form of *to be*: Children ages three through six used *like* in a quotative construction a total of 22 times; twelve of those (55%) used *BE+like*. In most of the remaining uses, *like* was combined with another quotative verb—*go* (61) or *say* (62).

61. That's kind of annoying when you go like "eee" (Jessica/6F_2/7:55)

62. I do have a sign on both of my doors to say like "no mom"
(Jessica/6F_2/4:04)

One of the four-year-old girls, Eva, also occasionally used *like* on its own, without a verb, to introduce quotes, as in (63).

63. Like "what was I doing oh yeah" (Eva/4F_1/24:11)

One of the idiosyncrasies of her speech style is to point out utterances that she seems to find amusing—they are frequently accompanied by laughter—by repeating them and marking the repetitions as reported speech. In the examples below, she uses *BE+like* to mark repetitions of others' utterances (64) and of her own utterances (65) as reported speech.

64. Researcher: I get it now
Eva: @@ You're like "I get it now" (4F_3/22:51)

65. Eva: Dee dee doo doo dah dee dee
Eva: Okay ((both laugh))
Eva: I'm like "doo dee dah dee doo dee dah" (4F_3/26:12)

On occasion, she also marked these repetitions with only *like*, as in (66), where the bare *like* appears to function in the same way as *BE+like* to mark the repeated utterance as reported speech.

66. Eva: Where's yours

Eva: @@@@ Like "where's yours" (4F_1/23:49)

These uses of *like* could be described as instances of *like* being used as a discourse marker or discourse particle that happens to have been located in a position where it precedes a quote; however, there are reasons to believe that these are not entirely dissimilar to *like* as it is used in the *BE+like* quotative. When *like* precedes a quote introduced by *say* or *go*, it is structurally similar to the canonical *BE+like* quotative—*like* is immediately preceded by a verb and its complement is a quotation—and it apparently functions in the same way as *BE+like*—replacing *say* or *go* with *be* should result in an utterance that has the same meaning and fulfills the same interactional purpose. When *like* on its own introduces a quote, its structure apparently differs from that of *BE+like* constructions because *like* does not immediately follow a verb, but it clearly is functionally equivalent—Eva alternates between *BE+like* and bare *like* to introduce her reported speech repetitions.

A key difference between these and the canonical *BE+like* quotatives is the fact that, as is the case with discourse *like*, removing *like* from utterances *like* those in (61), (62), and (66) would result in a perfectly well-formed reported speech construction; whereas removing *like* from *BE+like* constructions like those in (64) or (65) would

generally not result in a well-formed reported speech construction, although at least some cases would conform to the "pseudo zero quotative" that Keller-Cohen and Gordon (2003) describe.

Thus, these uses of *like* can be seen as having characteristics of both the discourse marking and quotative functions of *like* and are not perfectly described as falling into either category. The fact that they are used only by the younger children may indicate that they reflect a developmental stage at which children have an incomplete, i.e., not yet adult-like, understanding of how *like* is used in discourse. It may also be that this pattern of using *like* for quotation may signal a future change in the language in which quotative *like* is reanalyzed as a discourse particle inserted into quotative constructions, rather than as part of a complex quotative verb.

Discussion

The study focused on children ages three to six, which fills a developmental gap in our knowledge about innovative functions of *like*, with the goal of understanding when and how *like* becomes a part of the linguistic repertoires of maturing speakers. Analysis focused on examining the impact of speakers' age and gender on the frequency with which *like* is used, and on its grammatical distribution. Data from multiple recording sessions provided the opportunity to more closely examine the purposes for which children used *like* through consideration of intra-speaker variation in the use of *like* across different discourse contexts.

Children as young as four years old were observed to use *like* as a discourse marker and discourse particle and as a quotative marker. Previously, discourse *like* has

been observed to be used by preadolescent children as young as seven or eight years (Levey, 2006) and by adults of all ages, including older adults age eighty or more (D'Arcy, 2005), while quotative *like* has been observed in the speech of children as young as ages nine to fourteen, and of adults age fifty or older (Tagliamonte & D'Arcy, 2007). In combination with this previous research, the evidence from the present study of early acquisition of *like* is further contradiction of the common belief that *like* is an adolescent and young adult peer group phenomenon, which has been observed by researchers (Blyth et al., 1990; Dailey-O'Cain, 2000) and is reflected in journalists' representations of *like* as an aspect of "teenspeak" (Bernstein, 1988) or "a sort of insipid shorthand among the young" (Lehigh, 1999). It is clear that the use of innovative functions of *like* is not an age-graded adolescent phenomenon, nor is it acquired in adolescence or later childhood and maintained into adulthood. Rather, *like* is part of speakers' repertoires from a young age.

The findings from the present study extend those of prior researchers who have observed children age ten and younger using discourse *like* (D'Arcy, 2005; Levey, 2006). In addition to contradicting popular perceptions about the age groups who are likely to use *like*, the finding that the uses of *like* as a discourse marker and discourse particle are acquired in early childhood also appears to be further disconfirmation of Miller and Weinert's (1998) hypothesis that discourse functions of *like* are acquired later in childhood, after age ten. This hypothesis was based on their observation (Miller & Weinert, 1995, 1998) that eight- and ten-year-old children used *like* very rarely in dialogue produced during an instruction-giving task. Older children performing the same task used *like* as a discourse marker to perform conversation management functions

(questioning, checking understanding, etc.) while younger children produced much less speech that was directed at conversation management, leading Miller and Weinert to hypothesize late acquisition of *like* resulting from later acquisition of the discourse management functions for which it was used.

At the same time, the present findings also point to one respect in which Miller and Weinert's (1998) hypothesis is partially confirmed: Although children begin using discourse *like* very young, the young children used it primarily as a discourse particle, taking scope over phrases inside the clause, and only very rarely used *like* as a clause-initial discourse marker, in which form it serves to organize discourse at the level of the proposition. Thus, although the younger children did use discourse *like*, they did not use it to mark larger segments of discourse necessary to perform the discourse management functions for which Miller and Weinert observed *like* being used. The particular use of *like* that Miller and Weinert observed, then, does in fact appear to develop later in childhood, or at least to come into regular use later in childhood.

The youngest children's use of discourse *like* was initially quite limited, appearing first in syntactic positions that emerged earliest historically as potential sites for speakers to use *like*. The full range of positions in which adults are observed to use *like* is present in children's speech by age ten. The order in which additional syntactic positions for *like* are added to children's repertoires mirrors the order in additional syntactic positions for discourse *like* were added to the language as the discourse particle generalized to different types of phrases within the clause (D'Arcy, 2005).

As children obviously do not have access to historical data, it is important to ask why it should be the case that individual development appears to recapitulate the

historical development of the language; that is, why ontogeny recapitulates phylogeny. Labov (1989) has pointed out that, in some cases, the historical record of language change can be observed in synchronic patterns of variation and that children, by acquiring these patterns preserve that historical record, even though they are, of course, ignorant of that history. Labov focused on cases of stable phonetic variation that is not conditioned by any linguistic or social factors. *Like* does not fit this description—I am aware of no evidence to suggest that *like* is no longer undergoing change and, because its use is pragmatically conditioned, it will always be variable. However, the apparent historical development of discourse *like* is, to some extent, observable in adults' speech, and thus in the input that children receive.

In the case of discourse *like* the historical record is (mostly) preserved in the frequency with which it appears in different syntactic positions in adults' speech. Children's apparent recapitulation of the historical development of *like* may then be the result of its distribution in the input that they receive. D'Arcy (2005) used the ages of speakers in a large cross-sectional sample to analyze the apparent historical development of *like*, e.g., speakers in their eighties used *like* clause-initially, but never preceding determiner phrases, while speakers in their seventies used *like* in both positions, leading to the conclusion that the use of *like* as a clause-initial discourse marker developed earlier in time than the DP-initial discourse particle. However, it is also true that, in adults' speech, *like* generally appears more frequently in those positions that developed earlier as sites for *like*. In D'Arcy's data, as well as in the smaller sample of adult speech in the present study, *like* occurs most frequently in the clause-initial position, followed by the DP-initial position, which appear to be the first two locations in which *like* began to be

used; conversely, *like* appears least frequently preceding noun phrases, which D'Arcy found to be the most recent development.

The one point at which the order of acquisition deviates from the order in which they developed historically further suggests that the order of acquisition of syntactic positions for *like* is influenced by their frequency. D'Arcy (2005) found that *like* apparently began to be used preceding predicate adjective phrases before it began to be used preceding verb phrases; however, the data from the present study suggest that children begin using *like* preceding verb phrases before they use it preceding adjective phrases. This could be an accident of the current data, but the relative ordering of the verb and adjective phrase positions for *like* is the one point at which the order of apparent historical development differs from the ordering of syntactic positions by relative frequency. In the adult data in the present study and in D'Arcy's data, *like* precedes verb phrases more frequently than it precedes adjective phrases. Thus, children listening to adults' speech are likely to observe *like* more often before verb phrases than before adjective phrases. If children wait until they have received sufficient evidence from their input before beginning to use discourse *like* in a particular position, then the verb phrase position is likely to reach that threshold before the adjective phrase position, which would lead to the patterns observed here.

That it may be possible to observe patterns of historical development of the language in children's acquisition is intriguing; however, it is unclear at this point where to look for a potential replication of this pattern or, indeed, what an appropriate comparison would be. The generalization of discourse *like* to multiple syntactic positions can be viewed as a set of multiple related linguistic changes. As D'Arcy (2005) points

out, the gradual generalization of the change to different contexts is consistent with the patterns found in phonological change; however, while it is possible to identify a point at which a phonological change, for example, is complete—when it is no longer variable—*like* will always remain variable, i.e., there is not projected to be a point at which speakers will produce *like* in 100% of in which it may occur. In order to compare the acquisition of *like* to the acquisition of another linguistic variable, it would be necessary to identify a system of related changes in which all of the changes in progress remain variable, so that children are able to observe variation in adults' speech.

Another interesting aspect of the acquisition of *like* observed in the present study is the fact that young children appear to be fairly conservative in their use of *like*, not taking advantage of the full spectrum of structural positions for *like* and initially producing *like* only in the most long-established syntactic positions. This differs from what researchers have observed in children's acquisition of phonological variables, where, by age three, children have been found to have acquired the structural constraints on variation that are observed in their parents' speech (Foulkes et al., 2001; Roberts, 1997a, 1997b), or at least the patterns that parents produce in child-directed speech (Foulkes et al., 2005), sometimes even pushing ongoing changes farther than their parents do (Roberts & Labov, 1995). This difference may stem from the fact that discourse *like* is always optional, while it is probably impossible to speak without producing vowels, for instance. Thus, children speaking normally have no choice but to demonstrate their knowledge of constraints on variable phonetic forms, but it remains possible that children may have sophisticated knowledge of the constraints on where *like* can appear in the sentence, but not demonstrate that knowledge by their actual use of *like*. The question of

exactly what knowledge underlies children's use of *like* then needs to be addressed by methods other than observing spontaneous speech; the experimental study described in the following chapter takes one approach to examining what children know about how *like* is used.

The examination of the distribution of *like* tokens across the various syntactic contexts found that the determiner phrase, rather than the clause-initial position, which is most frequent in adults, was the most frequent position for *like* in the children's speech. This preference was particularly pronounced in five- and six-year-old children and the increased use of *like* preceding determiner phrases accounted for much of the observed increase in frequency of discourse *like* over four-year-olds. This confirms and extends previous findings that suggested a trend in that direction (Levey, 2006). Because the determiner phrase has scope over, and organizes, smaller units of talk than the discourse marker, one explanation for the preference for the discourse particle is that the pragmatic functions performed by the discourse particle are less complex and are mastered earlier than the higher-level discourse management functions for which the discourse marker is used (Fuller, 2003b; Miller & Weinert, 1995). This would be consistent with findings that younger children use discourse markers primarily to signal local, rather than global, relations between units of talk and that the discourse markers they use operated primarily at lower levels of discourse structure, e.g., at the action level rather than the level of participation frameworks (Kyratzis & Ervin-Tripp, 1999; Pak, Sprott, & Escalera, 1996; Sprott, 1992).

In the present study, gender differences in the use of *like* were evident in very young children. Boys ages six and under were less likely to use *like* than girls of the

same ages, those boys who did use *like* used it less frequently and in a more restricted set of syntactic positions. Also, the strong preference that was observed in children's speech for using *like* preceding determiner phrases rather than as a clause-initial discourse marker, was found to be stronger among girls, and not observable at all in the four- and six-year-old boys. As was described above, these patterns are consistent with ideologies about *like*, but the gender differences in the use of discourse *like* do not reflect differences that are found in adults' speech: Among adults, women have been found to lead in the use of *like* as a clause-initial discourse marker, while men have been found to lead in the use of *like* as clause-internal discourse particle (D'Arcy, 2005); Levey (2006) found similar differences among ten- and eleven-year-old children. In the present study girls showed a stronger preference for the discourse particle than boys did, a trend opposite that observed in adults.

There are certainly a variety of factors unrelated to the speakers' gender that could underlie the observed gender differences in the use of *like*. Children will have had different linguistic experiences; given the relatively small sample sizes, the apparent gender differences could be an accident of the fact that the participants will have developed different speech styles as a result of individual—as opposed to gendered—experience. One aspect of their experience that might be expected to have an impact on children's use of *like* is their degree of interaction with older children, who are likely to use *like* more frequently. It was not possible to reliably estimate participants' interaction with older children in general, but it was possible to ascertain the number and ages of their siblings. It did not appear that individual or gender differences could be directly attributed to siblings: The ten-year-olds were all first-born children; the four- to six-year-

old children all had at least one older sibling who was at least eight years old, so boys and girls of the same age also had older siblings of similar ages.

Although differences in birth order could not straightforwardly account for the observed gender differences, the children participating in the study had different parents, different teachers, and different friends (other than their conversation partners) who, among other people, could have influenced the development of children's speech styles. This could be because parents or teachers speak differently to girls and boys—as has been observed in some cases of phonological variation (Foulkes et al., 2005)—or simply reflect that the speakers who provide the linguistic input that children receive have different speech styles and use *like* differently. Further research would be required to determine if these patterns hold up over a larger number of speakers; however, if the differences are related to speakers' gender, then it is important to examine how and why these differences develop.

There have been several hypotheses proposed to explain how gender-linked patterns of language use are passed from adults to children. Labov (1990) suggested that, because young children are likely to spend more time with female caregivers than with males, due to the asymmetry in child-rearing responsibilities, young children, regardless of gender, are likely to first acquire the vernacular used by female speakers. Some studies of children's acquisition of sociolinguistic knowledge supports this hypothesis (e.g., Foulkes et al., 2005; Roberts, 1997b). This does not appear to be the case with the speakers in the current study, as trends among both boys and girls are more similar to patterns observed in adult men than adult women. Other research suggests that gender differences result from children modeling their speech on the vernacular of same-gender

parents or role-models (Ladegaard & Bleses, 2003). Again, this could not account for the gender differences observed here, as girls' patterns of *like* use are more similar to those of adult men than those of women, while the younger boys pattern more closely with adult women, although they used *like* so infrequently that it is difficult to determine if a pattern exists.

There must then be some other explanation for the patterns in these data. Girls' more frequent use of *like* may be understood as a reflection of broader differences between girls' and boys' speech styles. Kyratzis and Ervin-Tripp (1999) found that four- and seven-year-old girls used discourse markers more frequently than boys, and used them for more global discourse marking functions. They also found that girls more often engaged in the types of interaction—plotting and enacting pretend play situations—that favored the use of global discourse markers and, likely as a result of greater exposure to these types of activities, exhibited more sophisticated uses of discourse markers at an earlier age than boys did; Escalera (2009) similarly reported that girls' greater frequency use of discourse markers could be attributed to the types of discourse in which boys and girls engaged.

Kyratzis and Ervin-Tripp's (1999) finding that girls spent more time than boys engaged in pretend play is consistent with prior research on children's play, which has found that girls are more likely to engage in pretend play, while boys more often engage in physical play (DiPietro, 1981). This gender difference in play styles most likely stems, at least in part, from parents' socializing girls and boys to different types of play—parents are more likely to engage in pretend play with girls and physical play with boys (Lindsey, 2001). This, in turn, leads to boys and girls having greater experience with

types of speech, and speech acts, associated with those play activities (Leaper & Gleason, 1996).

If we consider *like* as a member of a class of linguistic elements used to mark relations between units of talk (i.e., discourse markers, Schiffrin, 1987) or more broadly as pragmatic markers that signal to the listener how to interpret speech (G. Andersen, 1998; Siegel, 2002), then girls' more frequent use of *like* can be understood as one manifestation of their more frequent use of such elements resulting from their greater experience with play activities conducive to their use. The use of *like* would then be a realization of a gender differences in linguistic experience and language use that are independent of the use of *like* itself.

The same approach might also explain girls' more frequent use of *like* as a quotative marker. Kyratzis and Ervin-Tripp (1999) found that girls spent more time plotting and enacting pretend play scenarios than boys did, while boys spent more time negotiating the use of toys. While negotiation focuses on the immediate, shared context, pretend play would be more conducive to talk about hypothetical or less familiar situations and about other people. If this type of talk is more conducive to the production of narrative and, consequently, reported speech, then girls might also have greater experience with reported speech and thus more likely to use reported speech constructions.

The five- and six-year-old girls present study did occasionally engage in pretend play, while boys of the same age were not observed to engage in the same type of pretend play—boys occasionally spoke in the characters of action figures, but did not create fully imaginary pretend play scenarios. However, the girls' pretend play was still infrequent

and their play *during the present study* was not sufficient to account for the observed differences between boys' and girls' use of *like*. Kyratzis and Ervin-Tripp (1999) pointed out that girls greater experience with discourse activities favoring more frequent use of discourse markers could lead to their becoming more sophisticated users of discourse markers at an earlier age than boys. Thus, it would be the girls overall *experience* with play conducive to using discourse markers, rather than their particular play activities during the study.

This possibility points to the importance of accounting for speakers' pragmatic intent in addition to the lexical choices they make to accomplish it. In future research it will be important to consider not only when speakers choose to use *like*, as opposed to not using *like*, but also to work towards developing a model that considers pragmatic alternatives in order to quantify not only how frequently speakers use *like*, but also how frequently they select *like* from among the set of pragmatic markers available to them. Also, if this explanation were correct, and gender difference in *like* use are an instantiation of other differences in speech styles rather than a performance of gender identity, we would expect that the younger children might not yet have identified *like* as a characteristic that differentiates masculine and feminine speech styles, or acquired the belief that it is. One of the experiments described in the next chapter attempts to determine whether, and at what age, children begin to associate *like* with female speakers.

The other studies that have examined children's use of *like* collected data in sociolinguistic interviews (D'Arcy, 2005; Levey, 2006). In sociolinguistic interviews, all speakers in a sample are asked to perform very similar discourse activities. This has the effect of making the speech more comparable across speakers, but it may also obscure

differences in the types of discourse in which speakers generally engage. For example, the children in the present study were allowed to select their own play activities. One result of this was that, with a few exceptions, the pairs of speakers did not engage in the same activities as other pairs during the recordings. Some specific discourse contexts were identified that apparently favored more frequent use of *like* by individual girls, no contexts were observed that favored any individual boy's use of *like*. Thus, the gender differences in the use of *like* that were observed in the present study might simply reflect that the younger boys were less likely than the girls to spontaneously engage in activities—whatever those may be—that favor their more frequently producing *like*. If such is the case, the present data may not fully represent the boys' competence in the use of *like*; however, they are still an accurate representation of the frequency with which one might expect to hear boys produce *like* in peer interactions.

Comparing individual children's use of *like* across different interactions revealed that different discourse contexts seemed to encourage the use of *like* by those children who were more frequent users of *like*. However, there was one opportunity to compare how boys and girls of the same age used *like* in a comparable activity. Both pairs of six-year-old dyads played the same card game, Go Fish, during the recording sessions, both using the set of cards that was described above. During the game, one of the boys, Jason, produced two tokens of *like*, as compared to the 13 that Jessica produced. Because the six-year-old boys used *like* very infrequently, producing two tokens during the same activity was relatively frequent use of *like* from Jason's perspective. This suggests that this activity was likely to elicit *like* from both boys and girls, but still yielded more, and more varied, tokens from the girls. Future research that engages speakers in activities of

this type that elicit *like*, such as a more formally structured referential communication task, might enable a more direct assessment and comparison of girls' and boys' underlying competence.

Finally, although they were fairly conservative in using discourse *like*, the young children appeared to be experimenting somewhat with *like* in quotative constructions. This suggests a developmental phase during which they may not distinguish discourse *like* and quotative *like* as two different lexical items. It is unclear at this point whether this is a stage in the maturation of children's linguistic knowledge, if it is an indication of a possible future change in the language, or if it is merely an artifact of the construction of the sample in the present study. It will be important to conduct future research that focuses specifically on eliciting reported speech to further examine this innovation.

CHAPTER III:

Experimentally Assessing Children's Grammatical and Social Knowledge about *like*

This chapter presents the results of a two-part experiment designed to assess children's knowledge of grammatical constraints on innovative *like*, and when this grammatical knowledge appears relative to social beliefs about *like*—that it is prescriptively incorrect and that it is associated with female speakers. Children ages 5 through 10 listened to sentences that contained a use of innovative *like* that has been observed in adults' speech, a use of *like* that has been found to be categorically absent from adults' speech, or no *like* at all. In the acceptability judgment task, participants were asked to decide if the speaker had made a mistake; in the speaker identification task, participants were asked to decide whether the sentence was more likely to have been produced by a male or a female speaker. The analysis of children's responses focuses on the effects of participant age and gender and of the way *like* is used in the stimuli. All participants also completed a third task, a controlled production task aimed at discovering whether children use *like* to distinguish the speech styles of speakers differing in age or gender. This experiment was not successful and is described in the Appendix.

Method

Participants

Participants were 57 children between the ages of 5 and 10, 19 in each of three age groups: 5- and 6-year-olds (5 years; 2 months to 6 years; 11 months, *M* = 6;2, 9 boys and 10 girls), 7- and 8-year-olds (7;0 to 8;10, *M* = 8;0, 10 boys and 9 girls), and 9- and 10-year-olds (9;0 to 10;10 *M* = 9;10, 9 boys and 10 girls). All were acquiring English as a native language in the home and were enrolled in elementary school; none had received referrals for special education.

Materials

The stimuli used in both tasks were sentences naturally occurring in child-directed speech, drawn from a recent corpus of parent-child interaction (the Weist corpus, http://childes.psy.cmu.edu/data/Eng-USA/). The stimuli were selected to represent three different structures in which innovative functions of *like* occur: clause-initial discourse marker (67), clause-internal discourse particle (68), and quotative *BE+like* (69). In all sentences in which it appeared as a discourse particle, *like* preceded a verb phrase. For all of these structures two types of stimuli were created: stimuli in which *like* appears in a position in which it has been observed in adults' speech and stimuli in which *like* appears in a position from which it is categorically absent from adults' speech.

67. Like I was about to get a goal but this other kid got the ball before I did

68. We could like pretend that they're a family or something

69. That was funny because I came home and I <u>was like</u> "your hair is so sticky" (cf. … I said "your hair is so sticky")

Example stimuli are shown in (67-72). Adult English speakers use clause-initial discourse marker *like* preceding the main clause of the sentence (67), but it is never observed preceding non-restricted relative clauses (70). Discourse particle *like* frequently precedes verb phrases in adults' speech (68), but never precedes a tensed copula (71). Quotative *BE+like* is used to introduce directly quoted speech (69), but not in indirect reported speech constructions in which the reported speech is paraphrased as a relative clause (72).

70. We went to see a movie at the opera house <u>like</u> which is very interesting
71. This <u>like</u> is the upstairs and underneath is the downstairs
72. Remember Daddy <u>is like</u> that sometimes the batteries will get loose (cf. … Daddy says that sometimes the batteries will get loose)

When *like* appeared in a stimulus in an observed context, it was present in the original utterance in the corpus. Because *like* does not naturally occur in the unobserved contexts, the stimuli with *like* in an unobserved context were created by inserting *like* into a naturally-occurring utterance—drawn from the same corpus—that contained the desired syntactic environment. Unobserved discourse marker or particle uses of *like* were inserted without any further modification to the original utterance; unobserved uses of quotative *like* were created by substituting a form of *BE+like* for a form of *say*.

To confirm that mature speakers perceive a difference between the observed and unobserved uses of *like* in the stimuli, the stimuli were presented to five adult English speakers without training in linguistics. They were first presented with individual stimuli and asked to decide if each one sounded like something that they might say or could imagine hearing someone else say. The observed uses of *like* were identified as potential legitimate utterances (82%) nearly twice as frequently as the unobserved uses of *like* (42%). The stimuli were presented again in pairs of one observed and one unobserved use of *like* and the speakers were asked which of the two sentences in the pair sounded more like something they would expect to hear. The sentence with the observed use of *like* was selected as the more likely utterance 87% of the time.

In both tasks, participants were presented with test stimuli that contained *like* and with control stimuli—grammatical sentences that did not contain *like*. In order to be able to confirm that differences in responses could be attributed to the presence or placement of *like*, rather than some other aspect of the content or structure of the stimuli, the control stimuli were created by removing *like* from the test stimuli. This was accomplished by simply deleting discourse marker or discourse particle *like* without any further modification to the sentence; however, merely removing quotative *like* would result in an ungrammatical sentence, so *BE+like* was replaced with a form of *say*.

Each test sentence was paired with a preceding utterance that established the discourse context for the sentence, as in (73). The contextualizing utterances were taken from the original context of the test sentences.

73. A: Last year you were so close to getting a goal. Remember that?

B: (like) I was about to get a goal but this other kid got the ball before I did.

For the acceptability judgment task, the contextualizing utterance and the test sentence were presented in mini-interactions between two different speakers (puppets). The speaker identification task was set up to disassociate the puppet and its voice from what was said, so that participants would respond to the content of a sentence and not to qualities of the voice producing the sentence. To do this, a single speaker was represented to be reporting another's speech; the stimuli were presented as a report of a two-turn exchange, as in (74):

74. I said, "Last year you were so close to getting a goal. Remember that?" And then my friend said, "like I was about to get a goal but this other kid got the ball before I did."

Because of prevalent ideologies associating *like* with female speakers, it was important to avoid assigning a gender to the speakers that participants heard. The stimuli that participants heard were 'spoken' by puppets representing non-human animals. Both puppets used were birds; they were the same size and of similar design except for their color—one was blue and one was black. Puppets were given gender-ambiguous names and the scripts used to introduce the tasks did not contain any gendered pronouns so that the experimenter never referred to puppets as having a particular gender. Recordings were made of two 11-year-old speakers producing each of the test sentences and

contextualizing utterances for presentation to participants. Although one speaker was a girl and one a boy, their voices had similar pitch. Five adult speakers were asked to judge the gender of the speakers and were inconsistent in their choices, indicating that the voices were ambiguous with respect to gender. Each voice was assigned to one of the two puppets, and the puppet-voice pairings remained constant for all participants.

To prepare the stimuli for presentation to participants, audio recordings were paired so that one voice produced the test sentences and the second produced the accompanying contextualizing utterances. In pilot experiments, participants were confused when live puppets were paired with recorded voices. To avoid this confusion, and to avoid any inconsistencies in the handling of the puppets, video recordings were made of the puppets. The videos showed only the puppets—the puppeteer was not visible—in front of a plain background. As is shown in Figure III-1, for the acceptability judgment task, the (blue) puppet producing the contextualizing utterances always appeared on the left of the screen in the video and the (black) puppet producing the test sentences appeared on the right; for the speaker identification task, the single puppet appeared alone in the center of the screen.

Figure III-1: Screen shots of the videos that participants viewed in the acceptability judgment (left) and speaker identification (right) tasks

The stimuli for the acceptability judgment task consisted of 18 sentences, 12 that contained a use of *like* and 6 that did not contain *like*. The 12 stimuli that contained *like* consisted of two examples of each of the structures shown in (67-72) above, so that *like* appeared in a position in which it has been observed in adults' speech in one half of them, and appeared in an unobserved position in the other half, and there were equal numbers of *like* tokens used as discourse markers, discourse particles, and quotatives.

The stimuli for the speaker identification task consisted of 12 sentences, 6 that contained a use of *like* and 6 that did not contain *like*. The stimuli that contained *like* consisted of one example of each of the structures shown in (67-72) above.

Procedure

The experiments were conducted by the author or by a research assistant in a one-on-one interaction with the participant in a quiet room at the participant's childcare facility, school, or home. The experimenter and the participant sat at a table. All stimuli were played on a laptop computer placed on the table in front of the participant. The movies were displayed full-screen, with the audio played through external speakers; the experimenter controlled the playback of the stimuli. The order in which the two tasks were presented was counterbalanced across participants. Between the two tasks, each participant was asked to work with the experimenter to perform a puppet show, to provide a break from the work of responding to a task.

Acceptability Judgment Procedure

Participants were first shown a puppet—the blue bird, introduced as Alex—and told that their task is to help Alex learn English:

> This is Alex. Alex is learning to speak English and sometimes when you are learning something you make some mistakes. In this game you're going to help Alex by listening carefully when Alex is speaking. We need to listen carefully so we can tell Alex when there's a mistake so that we can help Alex learn.

They were then shown the second puppet—the black bird, introduced as Alex's friend, Casey—and told that they will listen to the two puppets talking to each other:

> This is Alex's friend Casey. We'll listen to Alex and Casey talking. First Casey will say something to Alex and then Alex will say something back to Casey. After Alex says something you can tell me if you think that Alex made a mistake. If Alex makes a mistake, you can say "Oops!" or "Mistake." If Alex doesn't make a mistake, you can say "Good job!" or "That's right" or "No mistake." If you don't hear something, or you want to listen again, just tell me and we can repeat it. It won't take us very long, but if you feel tired just tell me and we can take a rest. Do you have any questions?

After any questions were asked and answered, a separate block of four practice stimuli was presented before the main block of stimuli. The practice block included two grammatical sentences and two ungrammatical sentences, to ensure that participants understood how to perform the task. The ungrammatical sentences contained inserting superfluous function words (e.g., *we played on the a swings*), a grammatical violation that children can detect at a young age (McDaniel & Cairns, 1996). During the practice, the experimenter also confirmed that the participant could hear the stimuli clearly and could accurately identify the puppet Alex on the screen.

After completing the practice, participants were again asked if they had any questions before moving on to the main block of stimuli. These were presented one at a time, pausing after each one to record the participant's response; the order in which the stimuli were presented was randomized for each subject. If a participant's response did not explicitly state whether or not a mistake was made (e.g., if a participant responded by repeating the part of the sentence that contained the potential error), the experimenter asked, "Was there a mistake?" to elicit an explicit response. If the participant hesitated and appeared to have difficulty deciding on a response, and did not ask for the stimulus to be repeated, the experimenter asked if the participant would like to listen to it again.

Speaker Identification Procedure

Participants were first shown the puppet—the black bird, introduced as Casey—and told that their task is to help Casey with a problem:

> This is Casey. Casey has a problem that we'd like your help with. Casey was talking to two different friends. Here are Casey's two friends; one is a woman and one is a man.

Participants were shown two puppets that represented the two friends. These puppets are part of a set and are similar in appearance, with the same color skin and hair and similarly colored clothes . The woman has longer hair and is wearing a dress, while the man has shorter hair and is wearing a tie (see Figure III-2).

Figure III-2: Puppets used to represent the two potential speakers in the speaker identification task

The two puppets were placed on the table, one on each side of the computer, and remained there for the duration of the task. The experimenter then explained the task to the participant:

> Casey has a pretty good memory and remembers a bunch of things that the friends said while they were talking. But Casey is having trouble remembering which friend said which thing. In this game you're going to help Casey by listening carefully. Casey will tell you something that the friend said, and then you can help Casey decide which friend it was who said that. Okay? After Casey says something you can show me which friend you think said it. Remember nobody knows who said it, so nobody knows the right answer, but sometimes we can guess by listening very carefully and thinking about what kind of person might say something like that, so we'll just try to help the best we can. If you don't hear something, or you want to listen again, just tell me and we can repeat it. It won't take us very long, but if you feel tired just tell me and we can take a rest. Do you have any questions?

After any questions were asked and answered, participants were presented a block of four practice stimuli—grammatical sentences not used for any of the primary experimental stimuli. The practice allowed the participants to become familiar with the structure of the stimuli and allowed the experimenter to confirm that the participant could hear the stimuli clearly and was attending to the part of the utterance attributed to the friend.

After completing the practice, participants were again asked if they had any questions before moving on to the main block of stimuli. If the participant hesitated and appeared to have difficulty deciding on a response, and did not ask for the stimulus to be repeated, the experimenter asked if the participant would like to listen to it again. Occasionally, participants indicated that they didn't know the answer; in these cases, the experimenter reminded them that there was no correct answer and asked them to provide a guess.

Results

Analysis Strategy

The analysis of the data collected in the experiments considers both subject-level variables—characteristics of the participants—and item-level variables—characteristics of the stimuli that participants evaluated. The subject-level variables are the age and gender of the participants; item-level variables include whether or not *like* was present in the stimulus, whether *like* was used in a structure that has been observed in adults' speech, and *like*'s function in the stimulus—whether it appears as a clause-initial

discourse marker, and clause-internal discourse particle, or as part of the *BE+like* quotative marker.

Data collected in Task 1 (acceptability judgment) and Task 2 (speaker identification) are analyzed separately. Preliminary analyses for Task 1 compared the frequencies with which different groups of participants judged stimuli to be acceptable, examining each of the variables separately; preliminary analyses for Task 2 compared the frequencies with which participants attributed stimuli to a female speaker, again considering the variables separately. Mixed-effects logistic regression analyses are used to simultaneously model the effects of multiple variables on participants' responses in each task.

Stimuli check

The analyses below compare participants' responses to different subsets of the test stimuli that contained *like*. In addition to the position and function of *like*, the stimuli also necessarily differ from each other in semantic content. In order to attribute different patterns of judgments to differences in the use of *like*, it is necessary to first rule out the possibility that the semantic content of the stimuli in the different subsets results in different judgments independently of *like*. In addition to test stimuli that contained *like*, participants were presented with grammatical control sentences that did not contain *like*. As described above, these control sentences were derived from the test sentences and were identical to them except that they did not contain *like*. Prior to analyzing responses to the stimuli that contained *like*, the responses to these control sentences were examined to assess whether there were differences in the patterns of responses to sets of sentences

that fell into different groups when *like* was present. No significant differences in responses to control sentences were observed in either of the tasks.

Task 1: Acceptability Judgment

Method Check

Prior to the acceptability judgment task, participants were presented with a block of four test stimuli, two grammatical and two ungrammatical sentences. The responses to the practice stimuli were analyzed in order to establish that participants, particularly the youngest children, were able to perform the grammaticality judgments required in the task. Participants performed the grammaticality judgment task with a high degree of accuracy: No participant responded incorrectly to more than one stimulus and there was no significant difference between the age groups in either the number of grammatical sentences incorrectly judged unacceptable, or the number of ungrammatical sentences incorrectly judged acceptable (Fisher's exact $p > .499$). This indicates that participants understood and were capable of performing the task, and the youngest participants' performance was comparable to the older children.

Judgments of Observed Uses of like

Despite the widespread use of *like* as a discourse marker/particle and as a quotative marker, these innovative functions of *like* are often perceived as invasive and meaningless and generally something to be eliminated from speech (Fox Tree, 2007), and can lead to negative evaluations of speakers who use *like* (Dailey-O'Cain, 2000). As

members of the speech community, children must at some point become aware of these beliefs about *like*.

In order to assess whether such negative beliefs about *like* affect children's judgments, the first set of analyses focuses on responses to stimuli containing uses of innovative *like* that are observed in adults' speech. Because speakers systematically produce *like* in sentences like these, these uses of *like* can be considered descriptively grammatical in the sense that they are regularly generated by mature speakers' grammars. These are compared to responses to the stimuli that did not contain *like*. This comparison can indicate whether participants' judgments are influenced by prescriptive beliefs about the (un)acceptability of *like*: If observed uses of *like* are descriptively grammatical, then they should be judged acceptable with the same frequency as the stimuli that do not contain *like* unless those judgments are affected by some factor other than grammaticality.

Table III-1 shows the proportion of stimuli without *like* and the proportion with observed uses of innovative *like* that were judged acceptable, by participant age group and gender. The two older age groups differentiated between sentences with and without *like* in their acceptability judgments: Sentences with *like* were less likely to be judged acceptable. The five- and six-year-olds did not differentiate between sentences with and without *like*, judging them acceptable with equal frequency.

Table III-1: Acceptability judgments of sentences without *like* and with observed uses of *like*, by participant age group and gender (Task 1)

Participant Age / Gender		Proportion Judged Acceptable		χ^2 (*df* = 1)
		No like	*Observed* like	
5-6 years	*Overall*[a]	.75	.77	0.22
	Girls[b]	.73	.80	0.75
	Boys[c]	.76	.74	0.05
7-8 years	*Overall*[a]	.93	.72	17.46***
	Girls[c]	.89	.74	3.93*
	Boys[b]	.97	.70	15.36***
9-10 years	*Overall*[a]	.95	.58	42.80***
	Girls[b]	.95	.50	30.47***
	Boys[c]	.94	.67	13.30***

Note: Each participant evaluated six stimuli of each type.

[a] $n = 19$ participants

[b] $n = 10$ participants

[c] $n = 9$ participants

*** $p < .001$. * $p < .05$.

Although all of the sentences without *like* were grammatical, they were not uniformly judged acceptable. In particular, the five- and six-year-old children judged about one in four of the stimuli without *like* to be unacceptable. Because the five- and six-year-olds' performance in the practice demonstrated that they understood the task, it is unclear what led them to judge so many of the sentences without *like* unacceptable. As

will be seen below, they did systematically differentiate between sentences with observed and unobserved uses of *like*, so it is unlikely that their treatment of sentences without *like* is the result of inattention to the stimuli. It is possible that the youngest children used a slightly broader interpretation of what a "mistake" was, and also judged unacceptable sentences that they found infelicitous for some reason other than grammaticality. One possibility is that the young children judged sentences unacceptable if they perceived them to be an inappropriate response to the contextualizing utterance; however, because there was no identifiable pattern across participants in which sentences without *like* were judged to be unacceptable, it is difficult to provide an firm explanation.

The older children judged stimuli with observed uses of *like* to be acceptable less frequently than did the younger children. The nine- and ten-year-olds judged sentences with *like* acceptable significantly less frequently than both the five- and six-year-olds, $\chi^2(1) = 9.68$, $p = .002$, and the seven- and eight-year-olds, $\chi^2(1) = 4.93$, $p = .026$. Though seven- and eight-year-olds distinguished between sentences with and without *like* when making acceptability judgments, and the five- and six-year-olds did not, the frequencies with which the two younger age groups judged the stimuli with *like* acceptable did not differ significantly.

This pattern of older children finding *like* less acceptable than the younger children is evident primarily in the girls' responses. The proportion of stimuli with *like* that girls judged to be acceptable did decrease significantly with age. The nine- and ten-year-olds judged the sentences with *like* to be acceptable significantly less frequently than both the five- and six-year-olds, $\chi^2(1) = 11.87$, $p < .001$, and the 7- and 8-year-olds, $\chi^2(1) = 6.95$, $p = .008$, though the younger groups did not differ significantly from each other.

As can be seen in Table III-1, the proportion of stimuli containing *like* that boys judged to be acceptable also decreased with age. However, the difference in the frequency with which the sentences with *like* were judged acceptable did not differ significantly even between the youngest and oldest age groups, $\chi^2(1) = 0.71$, $p = .399$. Thus, the boys' judgments did not change as much with age as the girls' did.

One consequence of these different patterns of change with age for boys and girls is that the nine- and ten-year-old boys and girls differed in the frequency with which they judged the stimuli with *like* acceptable. In the two younger age groups, girls judged stimuli with attested *like* to be acceptable slightly more often than boys did, though these differences were not significant. However, nine- and ten-year-old girls judged stimuli with *like* to be acceptable less often than boys did, and this difference approached significance, $\chi^2(1) = 3.24$, $p = .072$.

In summary, with age, children found sentences with *like* less acceptable as they get older. Children age seven and older differentiated between sentences with and without *like*, judging the sentences with *like* less acceptable, which suggests that they have acquired a prescriptive stance toward the use of *like*. With age, both boys and girls judged stimuli with *like* to be acceptable less often, but this decrease was significant only for girls, indicating that girls, in particular, become less accepting of *like* as they get older, up to age ten.

Judgments of Unobserved Uses of like

The previous analyses examined children's judgments regarding uses of innovative *like* that are regularly observed in adults' speech to assess the degree to which

they attended to the presence of *like* when evaluating the stimuli. That comparison was between two types of sentences that are regularly produced by mature speakers of English. The following analyses compare children's judgments of the acceptability of stimuli containing uses of innovative *like* that are observed in adults' speech to responses to the stimuli that included uses of *like* that are systematically absent from adults' speech, to examine whether children attend not only to the presence or absence of *like*, but also to the structures in which *like* appears. This comparison can indicate whether participants have acquired knowledge of the distributional constraints on *like* and are applying that knowledge to their judgments: If participants recognize unobserved uses of *like* as prohibited by the grammar, they would be expected to be judged unacceptable more often than observed uses.

Table III-2 compares the proportions of stimuli with observed and unobserved uses of *like* that were judged acceptable. The children preferred uses of *like* with which they are likely to be familiar: Sentences with observed uses of *like* were judged acceptable significantly more frequently than sentences with unobserved *like* by children in all three age groups. This pattern also held for boys and girls within each age group.

As was the case with the observed uses of *like* analyzed above, the proportion of sentences with unobserved *like* that were judged to be acceptable decreased with age. The nine- and ten-year-olds judged only one in four of the stimuli with unobserved *like* to be acceptable, significantly fewer than both the five- and six-year-olds did, $\chi^2(1) = 17.71$, $p < .001$, and the seven- and eight-year-olds, $\chi^2(1) = 7.79$, $p = .005$.

Table III-2: Acceptability judgments of sentences with observed uses of *like* and unobserved uses of *like*, by participant age group and gender (Task 1)

Participant Age / Gender		Proportion Judged Acceptable		χ^2 (df = 1)
		Observed like	*Unobserved* like	
5-6 years	*Overall*[a]	.77	.53	15.10***
	Girls[b]	.80	.65	3.39^{+}
	Boys[c]	.74	.39	13.60***
7-8 years	*Overall*[a]	.72	.43	19.54***
	Girls[c]	.74	.31	19.65***
	Boys[b]	.70	.53	3.53^{+}
9-10 years	*Overall*[a]	.58	.25	24.70***
	Girls[b]	.50	.17	15.00***
	Boys[c]	.67	.35	10.71**

Note: Each participant evaluated six stimuli of each type.

[a] $n = 19$ participants

[b] $n = 10$ participants

[c] $n = 9$ participants

*** $p < .001$. ** $p < .01$. $^{+}$ $p < .1$.

Again, this pattern of change with age was evident only in the girls. The five- and six-year-old girls judged significantly more of the stimuli with unobserved *like* to be acceptable than both the seven- and eight-year-old girls, $\chi^2(1)$ 12.78, $p < .001$, and the nine- and ten-year-old girls, $\chi^2(1) = 29.01$, $p < .001$. However, although the proportion

of these stimuli that boys judged acceptable decreased slightly between the youngest and oldest age groups, this difference was not significant, $\chi^2(1) = 0.16$, $p = .689$.

As a consequence of the different patterns of change with age, in each of the three age groups, boys and girls differed in their judgments of the stimuli containing unobserved uses of *like*. Among the five- and six-year-olds, girls judged stimuli with unattested *like* to be acceptable significantly more frequently than boys did, $\chi^2(1) = 7.77$, $p = .005$, while the seven- and eight-year-old girls judged sentences with unobserved *like* acceptable significantly less frequently than the boys, $\chi^2(1) = 5.54$, $p = .019$, as did the nine- and ten-year-old girls, $\chi^2(1) = 5.14$, $p = .023$.

In summary, all age groups exhibited similar patterns of responses to sentences containing attested and unattested uses of innovative *like*, judging uses of *like* that have not been observed in adults' speech to be acceptable significantly less frequently than uses of *like* that are regularly observed in adults' speech. This suggests that children as young as five attend to the structural placement of *like* and differentiate between uses of *like* that are observed in adults' speech and with which they are, presumably, familiar, and instances of *like* in structural positions where it does not appear in adults' speech and with which they are not familiar. However, when girls' and boys' responses were considered separately, their patterns of responses differed from each other somewhat. Girls found *like*—both observed and unobserved uses—less acceptable with age but consistently differentiated between the two, so that, at all ages, unobserved uses of *like* are less likely to be judged acceptable. Boys' judgments of *like* did not change significantly with age, but boys in all age groups differentiated between the two types of

like in the stimuli, judging unobserved uses of *like* acceptable less frequently. As a result, the older girls were less accepting of unobserved uses of *like* than boys.

Acceptability Judgments of Different Functions of like

The preceding analyses have compared participants' responses to sentences that differed either in the presence or absence of *like*, or that differed in whether or not the way in which *like* was used has been observed in adults' speech. Those analyses did not take into account the different functions of *like* in the stimuli. As described above, the test stimuli contain sentences in which *like* appears clause-initially as a discourse marker (e.g., 75), sentences in which it appears clause-internally as a discourse particle (e.g., 76), and sentences in which *like* is used in combination with *to be*, as a quotative marker (e.g., 77).

75. Like I was about to get a goal but this other kid got the ball before I did
76. We could like pretend that they're a family or something
77. That was funny because I came home and I was like "your hair is so sticky"

Although the preceding analyses have considered all three functions of *like* together, there is reason to expect that all three types of *like* may not be evaluated the same way. Quotative *like* (i.e., the *like* that appears in the *BE+like* quotative marker in 77) has a different history than discourse marker/particle *like*—it has been suggested that both developed independently from the use of *like* as a conjunction (Romaine & Lange, 1991)—and the two are thus often considered to be separate, homophonous lexical items.

Also, the clause-initial discourse marker organizes information in discourse at the level of the proposition, while the clause-internal discourse particle organizes or pragmatically marks information inside propositions.

A separate group of analyses was conducted to assess whether acceptability judgments varied for different functions of *like*. Two comparisons were made: (1) responses to stimuli with discourse (marker or particle) *like* are compared to responses to stimuli with quotative *like* (e.g., 75 and 76 vs. 77), and (2) responses to stimuli containing clause-initial discourse marker *like* are compared to responses containing clause-internal discourse particle *like* (e.g., 75 vs. 76). Acceptability judgments did not differ significantly by the function of *like* for any age group, nor for girls or boys within any age group, for either the observed or unobserved uses of *like*.

Characteristics of Subjects and Stimuli That Predict Acceptability Judgments

The preceding analyses showed that acceptability judgments were affected by characteristics of the stimuli: Judgments differed depending on the presence or absence of *like*, and whether *like*, if present, was used in a way that has been observed in adults' speech, though judgments were not affected by *like*'s function (discourse marker, discourse particle, or quotative). Separately, the analyses showed that characteristics of the participants—age and gender—affected the likelihood that a stimulus was judged acceptable.

The above analyses considered each of these variables separately. For example, one analysis compared five- and six-year-old girls' and boys' responses to stimuli that contained observed uses of *like*, while a separate analysis compared the responses of

nine- and ten-year-old girls and boys to the same stimuli, and two more analyses the responses of girls in the two age groups and boys in the two age groups. However, none of the analyses described above could test, for example, a hypothesis that responses differed for girls and boys independent of their ages; that is, to examine the effect of participants' gender on their acceptability judgments while controlling for the effect of the participants' age. In order to simultaneously model the effects of multiple variables on the likelihood that a sentence would be judged acceptable, additional statistical analysis was required.

Because the experiment included both subject-level and item-level variables, and because the dependent variable in this experiment was a categorical response—acceptable or unacceptable—a mixed-effects logistic regression was selected. The model was fit using the 'logit.mixed' procedure (Bailey & Alimadhi, 2007) included in the Zelig library (Imai, King, & Lau, 2008, 2009) for the statistical package R (R Development Core Team, 2009). The model accounted for the repeated-measures experiment design, controlling for the fact that each participant evaluated multiple stimuli, and included sentence content as a random factor to control for the fact that the same sentences were evaluated by multiple participants.

Table III-3: Summary of mixed-effects logistic regression analysis for variables predicting acceptability judgments (Task 1)

Variable	Estimate	*SE*	*z*
Subject-level:			
Gender (female)	-0.28	0.31	-0.90
Age (in months)	0.08	0.02	4.67***
Item-level:			
Like is Present	-1.64	0.27	-6.10***
Like is Unattested	-1.54	0.18	-8.37***
Interactions:			
Gender × Age	-0.03	0.02	-2.00*
Age × *like* Present	-0.09	0.01	-7.24***

Note: $N = 57$ participants × 18 items = 1026 total observations

* $p < .05$. *** $p < .001$.

There were two subject-level fixed effects—participant age and gender—and two item-level fixed effects—a variable that coded whether or not *like* was present in the stimulus (*like* Present) and a variable that coded whether or not an unattested use of *like* was present in the stimulus (*like* Unattested). The model also included two interactions. The patterns of change with age differed for boys and girls, so a Gender × Age interaction was included to test if this difference was significant. Also, in order to differentiate patterns of responses to stimuli with and without *like*, an Age × *like* Present interaction was included. The results are summarized in Table III-3.

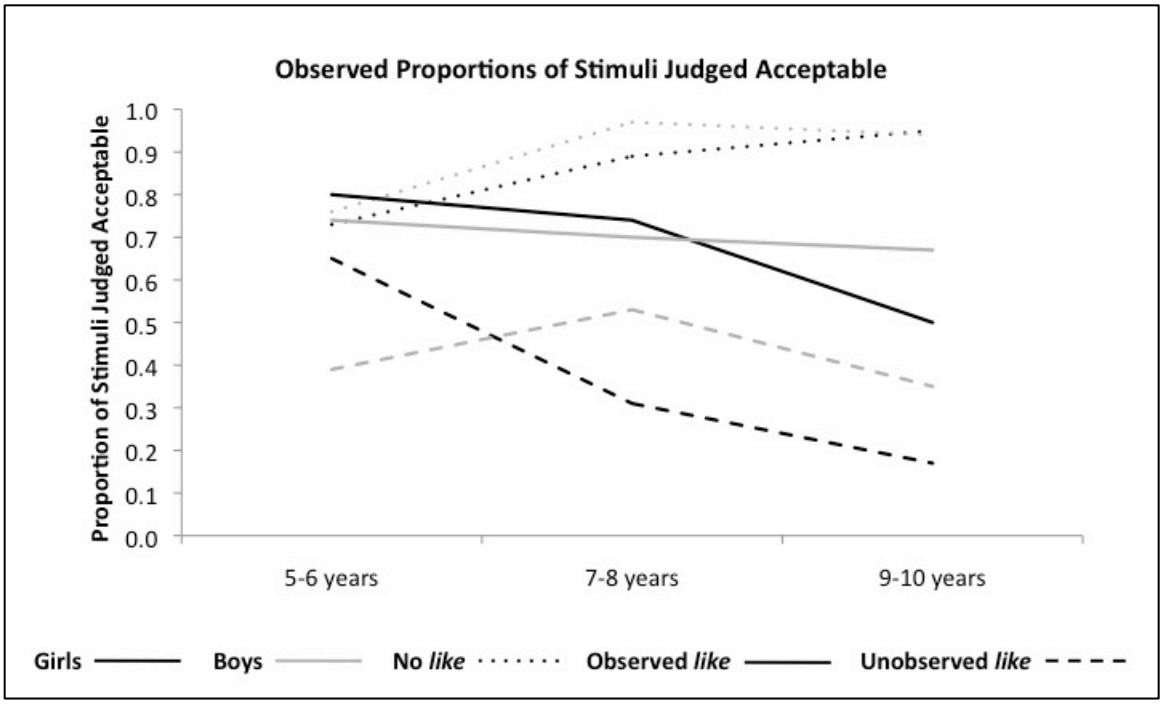

Figure III-3: Observed proportion of stimuli judged acceptable, by age, gender, and the status of *like* in the stimulus (Task2)

The observed results of the experiment are shown in Figure III-3. Participants' age was a significant predictor of acceptability judgments in interaction with participants' gender and the presence of *like* in the stimulus. The likelihood that a sentence would be judged acceptable increased with age if *like* was not present in the stimulus, but decreased with age if *like* was present in the stimulus; the likelihood that girls judged stimuli acceptable decreased more with age than did boys. The presence of *like* significantly decreased the likelihood that a sentence would be judged acceptable, with an additional significant decrease if *like* was used in a way that is not observed in adults' speech.

Task 2: Speaker Identification

In the speaker identification task, participants were asked to listen to sentences and decide if the sentence was more likely to have been produced by a male or female speaker. A common ideology about *like* is that it is used more often by female speakers than by males. In order to assess whether children have acquired this belief about the association of *like* with female speakers, the following analyses compare children's responses to stimuli with and without *like*, to assess whether the stimuli containing *like* were more likely to be attributed to a female speaker. This pattern would be an indication that children are aware of the perceived relationship between *like* and speaker gender and make decisions based in part on that belief.

The stimuli in this task included sentences with uses of *like* that have been observed in adults' speech and sentences with unobserved uses of *like*. Participants are likely to be familiar with the observed used of *like* and may actually have experience hearing them produced by female speakers, but they are highly unlikely to be familiar with the unobserved uses and thus no experience hearing them produced by female or male speakers. This difference in familiarity with the two types of sentences did not have an effect on children's judgments. The frequency with which stimuli with observed and unobserved uses of *like* were attributed to a female speaker did not differ significantly for any of the age groups or for girls or boys within any age group ($\chi^2(1) \leq 0.68$, $p \geq .410$ for all groups). Because the two types of *like* were judged similarly, the data displayed in Table III-4 combines the responses to stimuli with observed and unobserved *like* and compares the proportion of stimuli with and without *like* that were attributed to a female

speaker and the proportion of stimuli containing *like* that were attributed to a female speaker.

The frequency with which the two types of stimuli were attributed to the female speaker differed significantly only for the oldest children, who attributed stimuli with *like* to the female more frequently than stimuli that did not contain *like*. However, this difference was significant only for the boys, and no significant difference was observed in the nine- and ten-year-old girls.

The proportion of sentences containing *like* that were attributed to a female speaker increased with the age of the participants. The nine- and ten-year-olds attributed stimuli with *like* to the female speaker significantly more frequently than the five- and six-year-olds, $\chi^2(1)$ 8.51, $p = .004$. The seven- and eight-year-olds also attributed sentences with *like* to a female speaker more frequently than 5- and 6-year-olds did, and this difference approached significance, $\chi^2(1)$ 3.49, $p = .062$.

Table III-4: Proportion of stimuli attributed to a female speaker (Task 2)

Participant Age		*Like* Absent	*Like* Present	χ^2 (df = 1)
5-6 years	*Overall*[a]	.44	.38	0.89
	Girls[b]	.48	.37	1.67
	Boys[c]	.39	.39	0.00
7-8 years	*Overall*[a]	.48	.50	0.07
	Girls[c]	.48	.50	0.04
	Boys[b]	.48	.50	0.03
9-10 years	*Overall*[a]	.44	.57	3.95*
	Girls[b]	.52	.57	0.30
	Boys[c]	.35	.57	5.36*

Note: Each participant evaluated six stimuli of each type.

[a] $n = 19$ participants

[b] $n = 10$ participants

[c] $n = 9$ participants

* $p < .05$.

Girls and boys in all three age groups were equally likely to attribute stimuli with *like* to a female speaker. However, among the 9- and 10-year-olds, boys attributed the stimuli that did not contain *like* to the female speaker less often than the girls did, a trend that approached significance, $\chi^2(1) = 3.14$, $p = .076$. It is this difference that results in the finding that only boys attributed stimuli to a female speaker significantly more frequently

when *like* was present than when *like* was absent, even though nine- and ten-year-old girls and boys were equally likely to attribute sentences with *like* to a female speaker.

Gender Attributions of Different Functions of like

The preceding analyses compared participants' responses to sentences that differed in the presence or absence of *like*, but did not take into account the different functions of *like* in the stimuli. The different functions of *like* have been found to differ in their distribution by speaker gender. Quotative *like* (i.e., the *like* that appears in the *BE+like* quotative marker) is used more often by female speakers than by males (Barbieri, 2007; Tagliamonte & D'Arcy, 2007). Women also lead in the use of *like* as a clause-initial discourse marker, while men lead in the use of *like* as a clause-internal discourse particle (D'Arcy, 2005). If children's responses to the stimuli are based on their systematic observation of the use of *like* by male and female speakers, then there is reason to expect that different functions of *like* might be attributed to female speakers with different frequencies.

The following analyses assess whether acceptability judgments differed for different functions of *like*. As with the acceptability judgments, two comparisons are made: (1) responses to stimuli with discourse (marker or particle) *like* are compared to responses to stimuli with quotative *like*, and (2) responses to stimuli containing clause-initial discourse marker *like* are compared to responses containing clause-internal discourse particle *like*.

There was no difference in the frequency with which the two types of discourse *like* (marker and particle) were attributed to female speakers for any of the age groups or

for boys or girls within any age group. However, the analyses do show that the increase with age in the proportion of stimuli containing *like* that were attributed to a female speaker is due in part to the fact that nine- and ten-year-olds were particularly likely to attribute quotative *like* to female speakers.

Each participant evaluated four stimuli containing discourse *like*—two with clause-initial discourse marker *like* and two with clause-internal discourse particle *like*—and two stimuli with quotative *like*, half of which contained uses of *like* that have been observed in adults' speech and half with uses of *like* that are absent from adults' speech (as indicated above, this distinction did not affect attributions). The proportion of stimuli containing discourse *like* that were attributed to a female speaker did not differ significantly from the proportion of stimuli containing quotative *like* that were attributed to a female speaker for five- and six-year-olds, nor for the seven- and eight-year-olds. However, nine- and ten-year-olds attributed a significantly greater proportion of stimuli containing quotative *like* to a female speaker than stimuli containing discourse *like*, $\chi^2(1) = 4.58$, $p = .032$ (see Figure III-4).

The proportions of stimuli with discourse and quotative *like* that were attributed to a female speaker were compared for boys and girls within each age group using Fisher's exact probability test. Neither boys nor girls in the two younger age groups differed significantly. Both boys (discourse: .53, quotative: .67) and girls (discourse: .48, quotative: .75) in the oldest age group attributed quotative *like* to a female speaker more frequently than discourse *like*, with only the girls approaching significance ($p = .056$).

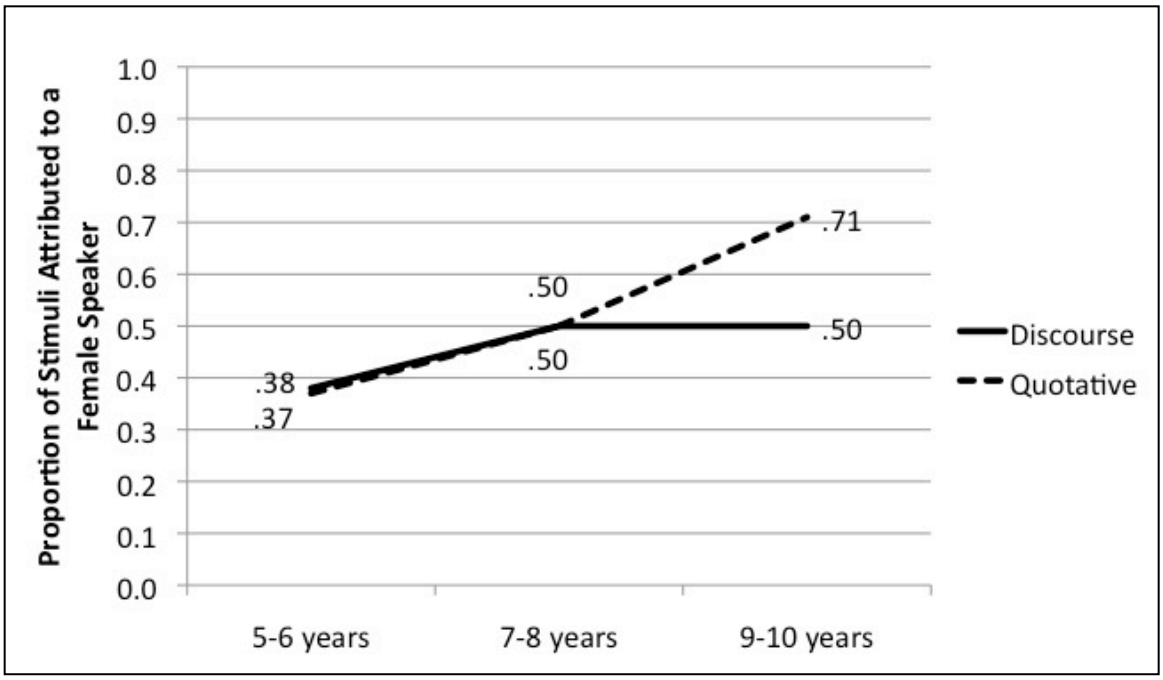

Figure III-4: Proportion of stimuli containing *like* that were attributed to a female speaker, by participant age group and function of *like* (Task2)

Each participant evaluated two stimuli containing clause-initial discourse marker *like* and two containing clause-internal discourse particle *like*, half of which contained uses of *like* that have been attested in adults' speech and half with unattested uses. When the proportion of stimuli containing the discourse marker versus the particle use of *like* were compared, none of the age groups attributed them to females more often, $\chi^2(1) \leq 0.84$, $p \geq .359$. The proportions of attested uses of discourse marker and discourse particle *like* that were attributed to a female speaker were compared for boys and girls within each age group using Fisher's exact probability test; neither boys nor girls in any of the age groups differed significantly ($p \geq .333$) in the frequency with which they attributed stimuli with discourse marker and discourse particle *like* to a female speaker.

Characteristics of Subjects and Stimuli That Predict Speaker Identification

The preceding analyses showed that acceptability judgments were affected by characteristics of the stimuli: Judgments differed depending on the presence or absence of *like*, and whether *like*, if it was present, was used in a way that has been observed in adults' speech, though judgments were not affected by *like*'s function (discourse marker, discourse particle, or quotative). Again, the analyses above considered each of these variables separately, making simple comparisons without controlling for the effect of any other variable. An additional statistical analysis was required to simultaneously model the effects of these multiple variables on the attribution of stimuli to male or female speakers.

Again, because the experiment included both subject-level and item-level variables, and because the dependent variable in this experiment was a categorical response—female or male—a mixed-effects logistic regression was fit using the logit.mixed procedure (Bailey & Alimadhi, 2007). The model accounted for the repeated-measures experiment design, controlling for the fact that each participant evaluated multiple stimuli, and included sentence content as a random factor to control for the fact that the same sentences were evaluated by multiple participants.

There were two subject-level fixed effects—participant age and gender—and two item-level fixed effects—a variable that coded whether or not *like* was present in the stimulus (*like* Present) and a variable that coded whether or not *like* was present in the stimulus as a discourse marker or discourse particle (Discourse *like* Present); the latter variable distinguishes between stimuli with quotative and discourse *like*. The model also included two interactions—Gender × *like* Present and Age × *like* Present—to test for the

possibility that the effects of gender or age might be observable only in responses to stimuli in which *like* was present. The results are summarized in Table III-5.

Table III-5: Summary of mixed-effects logistic regression analysis for variables predicting speaker identification (Task 2)

Variable	Estimate	*SE*	*z*
Subject-level			
Gender (female)	-0.36	0.22	1.61
Age (in months)	-0.005	0.006	-0.85
Item-level			
Like is present	0.53	0.28	1.93^{+}
Discourse *like* present	-0.28	0.24	-1.16
Interactions			
Gender × *like* Present	-0.44	0.31	-1.41
Age × *like* Present	0.02	0.01	2.67**

Note: $N = 57$ participants × 12 items = 684 total observations

$^{+}$ $p < .1$. ** $p < .01$.

The presence of *like* approached significance as a main effect and, in interaction with the age of the participant, significantly predicted the attribution of stimuli to a female speaker. This significant interaction reflects the fact that, as the age of the children increased, only the stimuli that contained *like* were more likely to be attributed to the female speaker; that is, older children were not more likely to attribute stimuli without *like* to a female. Neither the gender of the participant, alone or in interaction

with participants' age, nor the presence of discourse *like* significantly predicted children's attributions of the stimuli to male or female speakers. However, including these factors in the model, and thus controlling for their effects even though they were not significant, made it possible to observe the significant interaction of the presence of *like* and the age of the participant; this effect was obscured when the other factors were not included in the model.

Summary

Children in all age groups were found to attend to *like*'s structural position in the sentence, differentiating between those uses of *like* that have been observed in adults' speech and *like* used in a way that is absent from adults' speech. When considered as a group, children found *like* less acceptable with age, with older children less likely than younger children to judge sentences acceptable if they contained *like*. Girls exhibited greater change with age than boys did; nine- and ten-year-old girls, in particular, exhibited a sharp decrease in the acceptability of *like*. Nine- and ten-year-olds also attributed sentences to a female speaker more frequently when they contained *like*, particularly if *like* was used as a quotative marker.

Discussion

The experiments described in this chapter assess children's knowledge about the grammatical distribution of *like*, their judgments of whether innovative functions of *like* are acceptable, and their beliefs about whether male or female speakers are more likely to use innovative functions of *like*. The analysis also considered potential differences

between boys and girls and changes with age, making it possible to compare the ages at which these different types of knowledge are evident.

Prior research examining the use of discourse *like* and its grammaticalization has attended to the syntactic positions in which it occurs (G. Andersen, 2001; D'Arcy, 2005; Levey, 2006). Similarly, research examining the grammaticalization of quotative *like* and its incorporation into the English quotative system (Blyth et al., 1990; Romaine & Lange, 1991; Tagliamonte & D'Arcy, 2007) has attended to the types of grammatical constructions in which quotative *like* appears. To my knowledge, the present study is the first that has attempted to assess grammatical knowledge about *like* independently of its use; i.e., by means other than observing patterns of use.

Knowledge of constraints on the grammatical distribution of *like* was evident in all age groups in the present study, indicating that children as young as age five have a system for representing the fact that *like* occurs in some structural positions and not in others. Crucially, this included both the five- and six-year-old girls and boys. This is an important finding because the analysis of children's spontaneous speech in the preceding chapter indicated that boys age six and younger were unlikely to use *like* and, if they did, used it infrequently relative to girls of the same age. The results from the present study are evidence that non-use of *like* is not necessarily indicative of a lack of knowledge about its use and point again to the importance of explanations other than differences in underlying knowledge for the observed differences in boys' and girls' patterns of use of *like*. There is as yet no explanation, however, of why *like* should be constrained in this way, i.e., why it should be absent from some contexts and not from others. To better understand exactly what knowledge constrains mature speakers' use of *like* to the

positions in which it has been observed, and how children's knowledge compares to adults', it will be important to explore an explanatory account of the rules governing *like*'s distribution.

Although grammatical knowledge was evident in the five- and six-year-olds, social beliefs about *like*—prescriptive intolerance of *like* and an association of *like* with female speakers—appear to develop later in childhood. Taken together, these findings suggest that, rather than being acquired as a variable with social meaning, *like* is first acquired as part of children's knowledge of syntax and of discourse structure, and social meanings are attached later on.

Those uses of *like* that have been observed in adults' speech were judged to be less acceptable as the age of the children increased, with children age seven and older clearly distinguishing between stimuli with and without *like* by rating those sentences with like as less acceptable. Thus, older children displayed more adult-like norms about the appropriateness of other speakers' use of *like*. Five- and six-year-olds did not distinguish between sentences with and without *like* in their acceptability judgments. However, the frequency with which they judged stimuli containing observed *like* to be acceptable did not differ from the seven- and eight-year-olds. So, their failure to distinguish between the sentences with and without *like* was not the result of their accepting the sentences with *like* more frequently than older children; instead, it was because they were more likely to say that the sentences without *like* were unacceptable.

The finding that older children's evaluations of speech are consistent with adult-like standard language norms contributes to a small body of prior research examining the development of children's understanding of linguistic norms. One study that has

examined children's normative judgments found that children as young as age six do make normative evaluations of language, e.g., judging dialectal variants as prescriptively correct or incorrect (Millar, 2003). However, rather than reflecting standard language norms, as adults' evaluations generally do, the norms that younger children apply may differ from adults'; for example, Millar found that children sometimes 'corrected' a standard form with one from their own regional dialect. The finding from the present study is further evidence that younger children's normative judgments may differ from older children's and adults'; the five- and six-year-olds operated with a different understanding of what constitutes a mistake than the older children (and the researcher) did.

A clear association of *like* with female speakers was evident only in the oldest age group. The likelihood of a sentence containing *like* being attributed to a female speaker increased with the age of the participant but only the nine- and ten-year-olds attributed sentences with *like* to a female speaker significantly more frequently than the sentences without *like*.

In prior research children as young as age three have exhibited gender differences in preferences for vernacular and standard linguistic forms that are the same as gender differences observed in adults in the same community (Ladegaard & Bleses, 2003). Children also differ along gender lines in their use of pragmatic features, such as assertiveness (Cook et al., 1985) and status- or attention-seeking behaviors (Berghout Austin et al., 1987), although the same patterns have not been observed across cultures (Ladegaard, 2004). However, little is known about what types of linguistic variation children might attribute to gender differences or when they begin to do so. In a study of

children's inferences about the relationships between social group membership and language use, Hirschfeld and Gelman (1997) found that preschool children believe that linguistic differences might be related to social differences between speakers, and Heyman and Legare (2004) found that early elementary school children attribute stereotypical academic talents to girls and boys—boys are seen to be good at math and girls good at spelling. The finding from the present study shows that children also use stereotypes to attribute different patterns of language use to male and female speakers, but in the case of *like*, this occurs later in childhood.

Boys and girls generally exhibited similar patterns of responses in the two experimental tasks. The one way in which they differed was in their judgments of the acceptability of sentences containing *like*; specifically, how those responses changed with age. As was reflected in the significant Gender × Age interaction in the multivariate analysis, patterns of change with age differed for boys and girls. Neither the proportion of the sentences containing observed uses of *like* that boys judged acceptable, nor the proportion containing unobserved uses, changed significantly with age, though the proportions judged acceptable did decrease slightly between the five- and six-year-old and the nine- and ten-year-old boys. The nine- and ten-year-old girls, on the other hand, judged significantly fewer of the sentences with both types of *like* acceptable than the younger girls did.

There are several potential explanations for the finding that the nine- and ten-year-old girls were less accepting of *like* than boys of the same age. Because it is commonly believed that *like* is superfluous and its use best avoided (Fox Tree, 2007), parents may attempt to discourage or 'correct' children's use of *like*—several parents

with whom I spoke during the course of this research indicated that they do this. If this is the case, nine- and ten-year-old girls will likely have had more opportunities to be corrected than boys—the examination of children's spontaneous speech in the preceding chapter indicated that younger girls use *like* more frequently than boys—and to have internalized the belief that *like* is incorrect. Additionally, the perception of sociolinguistic variables has been found to be affected by listener's knowledge of social information about the speaker (Niedzielski, 1999). Perceptions of male and female speech have often been found to skew toward expectations based on various stereotypes about gendered speech (Aries, 1998), so that female speakers may be falsely perceived as producing more qualifiers or tag questions (Newcombe & Arnkoff, 1979) or as talking more (Cutler & Scott, 1990) than male speakers. If this is the case with perceptions of *like* use, girls' use of *like* might also have received more attention, and thus more negative attention, than boys. This possibility could be explored further in future research that more closely examines perceptions of female and male speakers' use of *like*. Finally, by age nine or ten, the results of the present study suggest that girls are increasingly aware of the fact that *like* is associated with female speakers. As this stereotype is has more significance for them than for the boys and, as suggested above, others may be more likely to attend to girls' use of *like*, girls may simply be more attuned to the use of *like* and more likely to notice it.

Comparing participants' responses to stimuli with different functions of *like* can give some indication whether children perceive different uses of *like* as the same lexical item or as different ones. If judgments of quotative and discourse uses of *like* differed, that would be evidence that children might understand them to be different lexical items.

The difference, or lack thereof, between *like* used as a quotative marker and *like* used as a discourse marker or discourse particle is something that some researchers have disagreed about, with some suggesting that they can be considered the same lexical item (e.g., G. Andersen, 1998) and others that they are different lexical items (e.g., D'Arcy, 2005). The participants did not distinguish between different functions of *like* in their acceptability judgments. Thus, they judge quotative and discourse uses of *like* as equally correct or incorrect. This result indicates little about children's understanding of different uses of *like*, as this result could be due either to their perceiving them as the same lexical item or to a similar ideological stance toward two different lexical items.

Although the participants did not distinguish between the discourse marker/particle and quotative functions of *like* in their acceptability judgments, the nine- and ten-year-olds attributed the quotative uses of *like* to a female speaker more frequently than the discourse uses. Although the function for which *like* was used was not a significant predictor of gender attribution when other variables were controlled for in the regression analysis, this does suggest that the older children's association of *like* with female speakers may be based in part on empirical observation. Female speakers are generally more likely to use *BE+like* to introduce quotes than male speakers (Barbieri, 2007; Tagliamonte & D'Arcy, 2007), so it is very possible that children will have heard it used more frequently by female speakers.

Attributions of stimuli containing discourse *like* did not pattern in a way that reflects gender differences that have been observed in adults' use of *like*. D'Arcy (2005) found that women lead in the use of *like* as a clause-initial discourse marker and that men lead in using *like* as a discourse particle, but children did not distinguish between clause-

initial and clause-internal *like* when attributing sentences to speakers with different genders. The multivariate analysis also indicated that, with age, the presence of *like*, in any of the uses considered in the present study, increased the likelihood that participants would attribute the sentence to a female speaker. So, the gender attributions observed in the present study are not based entirely on actual differences in female and male speech styles.

Children are similar to adults in not strongly distinguishing between different functions of *like* in their gender attributions. It is known that adult English speakers associate the use of both discourse and quotative uses of *like* more strongly with female speakers than with male speakers (Dailey-O'Cain, 2000). Examination of ideologies about *like* also suggests that people do not generally distinguish between the different innovative functions of *like* in their beliefs about its use (D'Arcy, 2007).

The acceptability judgment task employed in the present study was found to be an effective method of eliciting children's knowledge of constraints on variation. It will be important to continue to test its effectiveness in further research as it could prove very useful as a complement to natural speech data, particularly for examining syntactic variables, which, because they are often used rarely can be difficult to analyze using only spontaneous speech data (Cheshire, 1998). It will also be important to explore the effectiveness of tasks similar to the speaker identification task employed here as a method for understanding the social meanings that children attach to linguistic variation.

CHAPTER IV:

Concluding Remarks

The preceding chapters have described separately the results of two studies examining the development of children's knowledge of the innovative functions of *like* as a discourse marker/particle and as a quotative marker. In these concluding remarks I return to the research questions posed in the introduction to briefly discuss the answers, and remaining questions, suggested by the combined results of the two studies. Following this, I briefly discuss the effectiveness of the combination of methods utilized in the two studies, and conclude by discussing what I view to be the major contributions of the research presented in this dissertation and considering potential directions for future research suggested by these results.

Returning to the Research Questions

In Chapter I, I laid out four research questions (repeated below in Q1-Q4) guiding the studies described in this dissertation. Although the general goal of these studies is to better understand the process by which children acquire *like*, as was described in the first chapter, identifying the endpoint of the acquisition process is complicated in several ways when the object of interest is a linguistic form that is both variable and optional in adults' speech, as *like* is. Thus, rather than attempting to determine when *like* is acquired, i.e., when the process of acquiring *like* has been completed, these questions identify different

types of knowledge that speakers have about innovative *like* (how to use it in discourse, grammatical constraints, social ideologies and beliefs) and focus on discovering when it is possible to observe evidence of this knowledge in children's speech or in their responses to stimuli in the experiments.

Q1. When does *like* appear in children's speech?

Q2. When do children develop knowledge of the constraints on the grammatical distribution of *like*?

Q3. Are children aware of ideologies about the use of *like* and beliefs about its sociolinguistic distribution?

Q4. When does this social knowledge develop relative to grammatical knowledge or the ability to use *like* in discourse?

The first three questions are addressed fairly straightforwardly in one or both of the studies described in the preceding chapters. The results reported in Chapter II indicate that children begin to use *like* as a discourse marker/particle and quotative marker with some regularity around age four, and may appear occasionally in three-year-olds' speech. Although younger children sometimes used *like* in quotative constructions in a way that adults were not observed to use it, none of the children used *like* in ways that violated any of the constraints on the structural placement of *like* that have been observed in adults' speech. Additionally, children in all of the age groups included in the experiments reported in Chapter III differentiated between stimuli that contained uses of *like* that are observed in adults' speech and stimuli in which *like* appeared in a structural

configuration that is absent from adults' speech, indicating a receptive awareness of constraints on *like*. Younger children did not exhibit awareness of a belief that *like* is unacceptable or that it is a characteristic of a feminine speech style. Children ages seven and older found sentences with *like* less acceptable than those without *like*, and nine- and ten-year-old children attributed sentences to a female speaker more frequently if they contained *like* than if they did not.

The fourth question concerns the relative order in which three types of competence—the ability to use *like* productively in discourse, grammatical knowledge, and social knowledge—develop. Perhaps because, as a discourse marker, *like* is often considered primarily a pragmatic, rather than grammatical, phenomenon, and thus outside of the domain of syntactic knowledge (Hansen, 1998), research on *like* has generally focused on the (pragmatic) use of *like*. This dissertation follows prior research that has identified the importance of attending to the syntactic environments in which *like* is used (G. Andersen, 2001; D'Arcy, 2005; Levey, 2006), and is particularly indebted to D'Arcy's (2005) thorough description of the variable syntactic context for discourse *like*. However, to my knowledge, the experimental study described in Chapter III is the first study to examine speakers' knowledge about the grammatical structures in which *like* does and does not occur independently of those speakers' actual use of *like*.

Focusing separately on children's use of *like* and the grammatical knowledge underlying that use was important in understanding gender differences in young children's use of *like* (see below for further discussion). The results of the experiment showed that five- and six-year-old boys have knowledge of grammatical constraints on *like*, even though they may not use it in interaction. This also suggests that some

knowledge may be acquired prior to the ability, or propensity, to use *like* in discourse, and that innovative functions of *like* may be represented as part of children's grammars prior to the age at which they begin actually to produce *like*.

One of the most widespread and salient ideologies about *like* is that it is used primarily by female speakers, particularly teenage girls (Blyth et al., 1990; D'Arcy, 2007; Dailey-O'Cain, 2000). However, only nine- and ten-year-olds were found to attribute the use of *like* to female speakers, suggesting that this type of social knowledge is acquired much later than knowledge of grammatical constraints and the ability to use *like*.

Younger children did not associate *like* with female speakers, suggesting that the use and non-use of *like*—by girls and boys, respectively—age six and younger was not a performance of feminine or masculine gender identity. However, this should not be taken as a suggestion that the younger children who participated in this study did not use language at all to mark gender identities, only that *like* does not appear to have served this function. Many of the boys, for example, used *dude*, a marker of masculine identity (Kiesling, 2004), very frequently and it is very possible that they are aware that is a characteristic of masculine speech style.

It is unclear whether the later development of beliefs about gender is particular to *like*—perhaps because gender differences in patterns of *like* use are not necessarily easily observable in adults' speech without careful analysis (see D'Arcy, 2005, 2007)—or if children come to associate linguistic forms with gendered speech style at an older age more generally. Performing experiments similar to the speaker identification task used in the present study that test children's gender associations with variables that more clearly differentiate men's and women's speech, such as *dude* (Kiesling, 2004), or with

phonological or morphological variables that are used differently by boys and girls (e.g., Ladegaard & Bleses, 2003), could help to clarify the meaning of this finding.

Reflection on Methodologies

The combination of methodologies in this study made it possible to create a more complete picture of the development of children's knowledge about *like* than would have been possible with only the spontaneous speech data or only the data from the experiments. In fact, the data collected with either of these methods, if considered on its own, could have led to conclusions that are apparently contradicted by the other data, so the combination of methods enabled more accurate interpretations of both sets of results.

There was a clear difference between boys' and girls' use of *like* in spontaneous speech; boys age six and younger were less likely than girls of the same age to use *like* and, if they did produce *like*, they used it less frequently than girls and in a more restricted set of structural positions. This finding initially led me to hypothesize two potential explanations. The first hypothesis was that girls' knowledge about how to use *like* was greater than that of boys. The second hypothesis was that girls and boys had similar knowledge about how *like* is used, but children had also acquired some knowledge about the fact that *like* is perceived to be associated with female speakers and that this sociolinguistic knowledge was guiding their behavior; so that boys were avoiding using *like* to conform to perceived differences between male and female speakers. Two results of the experiments—five- and six-year boys and girls both exhibited knowledge of where *like* does and does not appear in speech and did not associate the use of *like* with female speakers—ruled out both of these hypotheses. This

led to the alternative explanation suggested in Chapter II, that girls' more frequent use of *like* was a manifestation of a more general gender difference in the use of discourse markers (Escalera, 2009; Kyratzis & Ervin-Tripp, 1999), and not about *like*, *per se*.

Although boy and girl participants in the spontaneous speech study differed somewhat in their engagement in pretend play during the recording sessions, this difference did not account for the difference in their use of *like*. Rather, following Kyratzis and Ervin-Tripp's (1999) suggestion that girls' greater experience with types of play conducive to discourse marker use leads to their becoming more sophisticated users of discourse markers at an earlier age than boys, I suggested that girls' more frequent use of discourse markers during the study reflected this facility with discourse or pragmatic markers. This would be consistent with the finding that 10-year-old girls and boys used *like* more similarly, as 10-year-old boys would have had time to gain the experience necessary to be equally sophisticated users of discourse markers.

Conversely, the results of the experiments, taken on their own, would have led to the prediction that five- and six-year-old boys and girls would use *like* similarly. In the acceptability judgment task, both five- and six-year-old boys and girls distinguished between uses of *like* that have been observed in adults' speech and uses that are categorically absent from adults' speech, exhibiting knowledge of grammatical constraints on the use of *like*. Five- and six-year-olds also did not judge sentences with and without *like* differently, exhibiting no evidence that they perceive *like* to be prescriptively incorrect. In the speaker identification task, neither the five- and six-year-old boys nor the girls were more likely to attribute sentences to a female speaker if they contained *like*, exhibiting no evidence that they associate *like* with female speakers. The

combination of similar grammatical knowledge, no gender associations that might lead boys to avoid using *like*, or girls to use it more often, and no prescriptive beliefs that might lead to speakers avoiding using *like*, provides no reason to expect, based on the experiments, that boys and girls age six and under would differ in their use of *like*. However, despite the fact no differences were observed between five- and six-year-old boys' and girls' judgments of utterances containing *like*, there were clear differences between boys and girls in the younger children's use of *like* in spontaneous speech.

Due to the relatively small sample size at each age, as was discussed in Chapter II, it was not clear whether the observed differences between boys and girls is best explained by gender at this point, rather than to some accident of the makeup of the sample. The suggestion of a gender difference is more compelling if the younger children are considered as a single group, rather than dividing them by age. Although the study included only two boys and two girls (one pair of each) in each age group, this results in a sample of six boys and six girls from four to six years old age range—the range in which differences were observed between girls' and boys' use of *like*. Among these children, only three of the six boys used innovative *like*, producing a total of 17 tokens, while all six girls used innovative *like*, producing 126 total tokens (Table II-2). This is more strongly suggestive of a systematic difference between boys and girls at this age range. The fact that there are both actual gender differences in adults' use of *like* and cultural ideologies about gender differences led me to explore a potential explanation for the apparent gender differences among the four- to six-year-old children.

On the whole, the methods used in both studies were successful at eliciting data that could be analyzed to address the questions that motivated this research. However,

each study would have benefited from the ability to observe more children and over a greater age range.

The development of linguistic competence within individuals is ideally studied longitudinally. One motivation for recording each pair of speakers multiple times was to add a longitudinal dimension to the study, in the hope that it might be possible to observe development in individuals' use of *like*. Some aspects of linguistic development can be observed over a period of months; for example, Brown (1973, p. 256, fig. 12) observed the use of obligatory grammatical morphemes to increase from near zero to near 100% within periods of six or seven months. However, the time period over which it was feasible to collect data in the present study turned out to be insufficient to observe developmental changes in individual speakers' use of *like*.

With the time frame available to complete the study, the ages of the three- to six-year-old children spanned most of the range between ages three and seven (see Figure II-1). Had the children been more similar to each other and more consistent across recordings in their use of *like*, it would have been possible to observe a more continuous trajectory of development.

Although the time frame for the spontaneous speech study was insufficient to observe individual development, the use of multiple recording sessions did make it possible to observe intra-speaker variation across the multiple recordings. This made it possible to identify periods of time—comprising activities involving description of unfamiliar objects and of hypothetical or unfamiliar actions—when *like* appeared with particularly high frequency in the speech of those children who were, overall, frequent *like* users. These types of discourse activities also prompted the use of *like* by other

children who were not frequent *like* users. Thus, collecting multiple recordings helped to clarify the role of *like* in the children's speech by identifying the discourse functions for which it was used.

Given the goals of the experimental study, the length of available real-time was not a concern. However, the range of ages in the cross-section was not as great as the plan for the study originally called for. As originally planned, the experimental study was to include three- and four-year-old children, in order to parallel the ages of the speakers in the spontaneous speech study. In early piloting, three- and four-year-old children were found to understand the acceptability judgment task, correctly distinguishing between grammatical and ungrammatical sentences without *like* (the types of sentences used in the practice stimuli for the acceptability judgment task). However, in further pilot tests, when ungrammatical sentences were inserted in the middle of a block of the test stimuli used in the experiment, three- and four-year-old pilot subjects failed to identify them as ungrammatical, so that it was not possible to tell how reliable their responses to the test stimuli were.

The youngest age group that did participate in the experiments—five- and six-year-olds—were more likely to judge sentences acceptable if they contained uses of *like* that are observed in adults' speech than if they contained uses that are not observed in adults. This result indicates that they have knowledge about constraints on where in a sentence *like* can appear. Because the examination of the spontaneous speech data suggests that children begin to use *like* as a discourse marker/particle and quotative between the ages of three and four, it would be very interesting to know whether three- and four-year-olds also have acquired this knowledge about the grammatical distribution

of *like*. The results of the two studies described in this dissertation suggest that five- and six-year-old boys have grammatical knowledge about *like* even though they may use it very rarely, if at all. If it were possible in future research to develop a method that more reliably elicits three- and four-year-olds' judgments of the grammaticality of sentences containing *like*, that would help to discover whether children begin to develop a system for representing the constraints on the structural positions in which *like* does and does not appear prior to the age at which they might begin to use *like* in discourse.

Major Contributions and Directions for Further Research

Examining the use of *like* in discourse, grammatical knowledge, and social knowledge separately, and the methodologies employed in this dissertation to do so, yields two innovative contributions to the body of research concerned with understanding the nature of socially meaningful linguistic variation. The first is that it is productive to examine underlying knowledge of constraints on variation independently of speakers' use of the variable forms. The second is that it is both informative and, perhaps, necessary to evaluate speakers' understanding of the social import of variation independently of socially stratified patterns of variation in spontaneous speech.

Many researchers have argued that language variation and sociolinguistic knowledge are inherent aspects of speakers' linguistic knowledge and that observed variation, thus, is not simply an indication of variability in linguistic performance (see Chomsky, 1965), but is in fact on aspect of underlying linguistic competence (e.g., Cedergren & Sankoff, 1974; Hymes, 1972; Labov, 1966). If we take seriously the claim that sociolinguistic variation is an aspect of linguistic competence, then it follows that it

should be possible to assess aspects of that underlying competence independently of language use, in the same way that researchers investigate children's knowledge of (non-variable) grammatical phenomena that rarely or never appear in their natural speech, but about which they may have acquired some knowledge that they do not yet put to use (McDaniel & Cairns, 1996; Stromswold, 1996). However, as mentioned above, the experiment reported in Chapter III is, to my knowledge, the first time that this—assessing underlying knowledge of variable rules independently of observed speech—has been attempted, with children or adults.

The results of the experiment appear to confirm that it is possible to examine knowledge of constraints on variation independently of the use of a variable in spontaneous speech. Comparing children's observed use of *like* in spontaneous speech to the grammatical knowledge exhibited in responses to the stimuli in the experiment also suggests that knowledge of the rules governing variation and the use of the variable may be disjoint, at least to some extent: Five- and six-year-old boys, who were observed to use *like* infrequently, if at all, exhibited knowledge of the constraints on *like*. It was suggested at the end of Chapter III that the experimental methodology employed in the present study could be used to assess knowledge of constraints on variable forms that may be difficult to study in spontaneous speech, due to their rarity or to some other factor. Further analysis of the specific nature of the competence underlying variation may also make it possible to more explicitly clarify which, if any, aspects of linguistic variation are attributable to variation in performance rather than in underlying knowledge. It will also make it possible to engage with, and test, proposals made by researchers who have explored how phonological (e.g., Anttila, 2002) and syntactic (e.g.,

Adger & Smith, 2005; Henry, 1995) theories can account for the variation that arises in natural language.

Although the examination of the spontaneous speech of four- to six-year-old children revealed clear differences between girls' and boys' use of *like*, only nine- and ten-year-olds exhibited evidence that they associate *like* with female speakers, at which age any differences between boys' and girls' use of *like* in spontaneous speech were much less clear-cut than among the younger children, to the extent that they existed at all. The combination of these findings suggests that child speakers may not be aware of the correlation between linguistic patterns and social categories in the speech of their peers, and that knowledge of the constraints on the distribution of *like* and the ability to use *like* in discourse are disjoint from knowledge of the social meaning attached to the use of this particular form for at least some period of time.

Research examining variation in preadolescent children's speech has suggested that patterns of language use that differ along social group boundaries are indicative of emerging, socially-meaningful linguistic styles (e.g., Eckert, 1996). As the results of the present studies suggest, at least in this specific case, patterns in the use of *like* that differed between members of social categories—genders—might not actually be associated with gender categories in the speakers' minds. This points to the importance of specifically examining what speakers know and believe about linguistic variation in order to assess the degree to which observable patterns are actually meaningful to speakers. The methods employed in the present study appear to have been effective in eliciting judgments of the association between speaker gender and the use of *like* and suggest one way in which this type of inquiry could be accomplished in future research.

This research focused on children's speech and children's performance in the experiments. However, the development of children's linguistic knowledge is dependent in many ways on the input that they receive, which was not examined in either of the studies described here. Further examination of the use of *like* in child-directed speech and of the experience that leads children to conclude that *like* is unacceptable and is a characteristic of a feminine speech style will make it possible to more fully explain the results of the present research. In the spontaneous speech study, children appeared to begin using *like* in different syntactic positions in approximately the order of the frequency with which *like* appears in those positions in adults' speech. I hypothesized that children received more evidence to support the use of *like* in more frequent syntactic positions at an earlier age in the linguistic input that they receive. The accuracy of this hypothesis depends on the assumption that patterns in the input that children receive are the same as the patterns of *like* use that have been observed in research on adults' speech. Foulkes et al. (2005) found that patterns of phonological variation in child-directed speech differed from the patterns that adults exhibited when speaking to each other, and that children reproduced the patterns of variation in child-directed speech. To support the hypothesis that the order in which children begin to use *like* in different positions in the sentence is related to their frequency in the input, it will be necessary to examine the use of *like* in child-directed speech.

The results of the experiments described in Chapter III showed that, as children age, they are more likely to attribute utterances containing *like* to a female speaker and are less likely to find utterances with *like* acceptable. Neither of these was true of the five- and six- year-olds, so some aspect of children's experience leads to their developing

these beliefs as they get older. For example, it is possible that additional years of formal education, and the corresponding exposure to prescriptive language norms, contribute to the developing belief that *like* is incorrect. The association of *like* with female speakers is less likely to have been explicitly taught, though it could easily be learned from media representations of gender-stereotypical speech styles. It is also possible that parents might respond differently to girls' and boys' use of *like*, so research that examines parent-child interaction could be instructive. Alternatively, it could also be based on empirical observation: Although adult women don't necessarily use innovative forms of *like* more frequently than adult men, the results of the spontaneous speech study in Chapter II indicate that, among younger children, it is very likely that girls use *like* more frequently than boys. Even though this difference probably does not, at least not originally, reflect that *like* is understood to be a feature of a feminine speech style, the frequency with which *like* is used is one feature that distinguishes the speech in peer interactions of girls and boys ages six and younger. Thus, older children's association of *like* with female speakers could have developed from their experience observing their peers' language use. Future research could examine these possibilities.

The results of the acceptability judgment experiment showed that children find even the descriptively grammatical uses of *like* that are regularly observed in adults' speech less acceptable as they get older. This increasingly negative stance toward *like* corresponds with more frequent use of *like*—the frequency of use of *like* was also found to increase with age. The same combination of negative attitudes toward, and persistent use of, *like* is observed in adults as well.

Brinton (1996) suggested that using *like*, and other pragmatic markers, might make a speaker sound more friendly. This was supported by Dailey-O'Cain's (2000) finding that, although the use of *like* caused a speaker to be perceived to be of lower status, e.g., less educated, it also caused speakers to be judged more positively on solidarity-related traits, such as friendliness and cheerfulness. Children have been found to exhibit similarly nuanced attitudes toward familiar nonstandard language varieties, judging speakers of nonstandard varieties to be of lower status, but also judging them more positively on solidarity-related traits (Day, 1980; Giles, Harrison, Creber, Smith, & Freeman, 1983; Rosenthal, 1977).

The present study only tested for evidence of negative attitudes toward speech that contains *like* and did not examine attitudes toward the speakers producing the utterances. It will be interesting, in future research, to replicate Dailey-O'Cain's (2000) matched guise study with children, to examine the effect of a speaker's use of *like* on both positive and negative attitudes toward speakers who use *like*. This would make it possible to determine if positive attitudes are manifest earlier than negative ones.

Finally, as was discussed in the previous section, the time available to complete this research was insufficient to observe changes with age in any individual speaker's use of *like*. The results of the spontaneous speech study suggest that it may be possible to observe significant changes in children's patterns of *like* use over a period of approximately two years. For instance, one of the four-year-old girls used discourse *like* in only two syntactic positions, while one of the six-year-old girls was observed to use *like* in nearly all of the syntactic positions that were in the repertoires of ten-year-old children. Future research in which individual children are observed over a time frame of

several years will be necessary to validate the conclusions made in Chapter II based on the apparent developmental patterns inferred from the cross-sectional sample of speakers in the present study.

APPENDIX

Controlled Improvisation Experiment

Participants in the experimental study also completed a third task that was designed to test for evidence of *like* being used productively to distinguish the styles of speakers of different ages or genders. This was a production task utilizing the "controlled improvisation" technique developed by Anderson (1990) to assess children's sociolinguistic knowledge. Designed to allow creativity while yielding data that is comparable across participants, children are asked to provide the voices for puppets with pre-defined characters and contexts. Using this technique, children as young as age four have been shown to use discourse markers to mark different registers and to index different statuses of participants in an interaction (E. S. Andersen, 1990; E. S. Andersen et al., 1999).

Because *like* is associated with the speech styles of young women, it was hypothesized that the controlled improvisation technique could elicit evidence of that knowledge. If children have knowledge of, or beliefs about, the distribution of *like* across speakers of different genders or ages, they might use *like* to differentiate the speech styles of puppets representing characters of different genders.

Materials

Participants were asked to improvise a puppet show with the experimenter. The child provided the voices for two different puppets at a time, while the experimenter voiced a third puppet. Asking participants to voice two puppets at the same time allows them the opportunity to differentiate the speech styles of two characters (E. S. Andersen, 1990, p. 77).

A set of four puppets was used for this task. They are similar in appearance, with the same color skin, hair, and clothes. The set included two puppets representing adults, one man and one woman, and two representing children, one boy and one girl. The woman had longer hair and was wearing a dress, while the man had shorter hair and was wearing a tie; the girl also had longer hair and was wearing a jumper, while the boy had shorter hair and wore overalls. Three puppets were used during the task—the two adults and one child. The gender of the child puppet was counter-balanced across participants so that half of the participants used the girl puppet and half used the boy. The scenario for the puppet show is one that Anderson (1990, pp. 77-78) used successfully: It is the child's bedtime, the parents put the child to bed and tell her or him a story and then talk about their plans for the following day.

Procedure

Participants were first introduced to the puppets and the experimenter asked them to help perform a puppet show, explaining that the puppet show would be recorded:

> Now for this game I'd like you to work with me to make a puppet show. I am going to make a video of the puppet show so that I can watch it again later. We

> have these three puppets; let's pretend that they are a family and that this family has a mom, a dad, and a child. Why don't we pretend that it's the child's bedtime and the parents can tuck her/him in and they can tell her/him a story and maybe they can talk about what they're going to do tomorrow? Maybe tomorrow is the weekend and they can do something special all together. To start, why don't you take these two puppets and you can play the parents; you'll make that puppet talk like a mom and that puppet talk like a dad, and I'll start with this puppet and play the child, okay? Then after we talk for a few minutes we can switch puppets.

The child began voicing the two adult characters with the experimenter voicing the child puppet. After describing the scenario, the experimenter, in the character of the child puppet, asked a question to begin the interaction. After this point, the participant was primarily responsible for the course of the interaction, with the experimenter responding appropriately to the participant and asking questions to keep the interaction going when the child was unable to decide what to say. The experimenter avoided using *like* during the interaction.

After several minutes, the experimenter exchanged the child puppet for the adult puppet of the opposite gender, so that the child now had two puppets representing characters of different ages, but the same gender, and the interaction continued. In this way, the analysis could focus on differences in participants' use of *like* in voicing male and female puppets during the first half of the interaction and differences in their use of *like* in voicing puppets of different ages during the second part of the interaction.

Results

Although participants varied in their engagement with this task, all participants completed the task between the two other experimental tasks. There were subjective differences in the speech styles that some participants used for the different puppets;

however, the task was not successful in eliciting the use of *like*. Of the 57 participants, only two were observed to use *like* during the puppet show and each produced it only once. Because of this, the data from the controlled improvisation task were not analyzed further.

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