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Evidence for the stable use of uptalk in South Ontario English

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Abstract

Uptalk is the semantically bleached use of a rising intonation pattern over a declarative sentence. Uptalk runs counter to the cross-linguistic generalization that rising contours indicate interrogatives, uncertainty (Ohala 1983), or continuation (Ladd 1996). Although uptalk has been discussed extensively in academia and the media (Britain 1992; Cruttenden 1994; Fletcher et al. 2002; Gorman 1993; McLemore 1991; Warren 2005), there has been no precise phonetic examination of this contour in North American English, where it is used extensively. My work investigates rising contours in Southern Ontario English, examining their phonetic nature and semantic interpretation. Some findings of particular interest are a) women uptalk significantly more than men; b) the overall use of rising terminal contours appears stable; and c) men more readily interpret the traditional falling contour as an indicator of certainty and finality and rising contours as indicators of uncertainty and continuation, while women are less inclined to perceive the contours as having their traditional meanings.

To study uptalk, I investigate the general use of rising terminal contours over declarative sentences to determine i) who uses rising terminals; ii) whether the use of rising contours is on the increase; iii) how rising intonation (L*H-H% and H*L-H%), opposed to the standard falling contour (H*L-L%), is interpreted. To examine the use of rising contours, I recorded 12 native speakers of Southern Ontario English drawn from two age groups (19-25 and 45-55) and balanced for gender as they performed a direction task, an activity designed to elicit a high proportion of sentences with continuation or uncertainty readings. DAMSL sentence tagging is used to categorize the semantic nature of each sentence (Allen and Core 1997) and ToBI labeling (Beckman and Ayers 1993) to notate the contours. To examine the interpretation of rising contours, I played tokens from the production study for participants selected from the same age and gender groups as the production study. They were asked to rate speakers' certainty, finality, and confidence for tokens produced with falling contours (H*L-H%) and rising contours (L*H-H% and H*L-H%).

The results of the production study show that women from both age groups use rising terminal contours extensively: younger women use rising contours on 67.3% of sentences and older women 63.2%. Men use rising contours much less (on 30.1% of tokens), but like the women, age does not affect contour use (32.7% for younger men and 27.3% for older men). According to this measure of apparent time, the use of rising terminal contours is not increasing.

The perception study revealed that men interpret intonational contours as having a more traditional function than women do. Men reported that the falling contour conveyed finality and certainty and one of the rising contours, L*H-H%, conveyed continuation. Women did not interpret these contours to have their conventional readings, suggesting that women use these contours to convey other social functions.

In addition to presenting the results of production and perception studies of rising terminal contours, this work addresses the larger question of how intonation can be examined in a variation framework.

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1 Introduction

The use of rising terminal contours over declarative sentences, or *uptalk*, is often assumed to be a new phenomenon limited to young people, almost exclusively to young women (Gorman 1993; Davis 2002, Marsh 2006, Horowitz 2006, Duam 2007). However, my findings indicate that this not the case. The use of rising contours is prevalent in both female and male speech and, remarkably, older speakers use uptalk as much as younger ones. Further, historical evidence belies the claim that uptalk is a recent occurrence.

This research finds that the use of rising contours is prevalent in both female and male speech and, remarkably, that older speakers use uptalk as much as younger ones. It also finds that women, who uptalk more than men, are less likely to ascribe contours with their conventional meanings, such as finality and certainty for falling contours and the opposite for rising ones (Ward and Hirschberg 1985; Beckman and Ayers Elam 1993; Cruttenden 1997; Rogers 2000; Warren 2005). This suggests that contours can indicate more complex information than just discerning declarative statements from questions.

These findings run counter to the standard claim that declaratives are usually pronounced with a falling contour (e.g. Cruttenden 1997; Rogers 2000). Recent research has brought textbook descriptions of intonational contour inventories into question (Grabe and Post 2002; Grabe 2004; Grabe et al. 2005). This research adds support to the view that it is through the examination of real speech data, and not our impressions, that we may gain a better understanding of the variety and applications of intonation.

2 Background

The current discussion of uptalk in North America began with McLemore's (1991) study examining the use of rising contours in a sorority. Her work, an instrumental analysis of systematically gathered natural speech data, focused on the semantics of these contours, finding that they conveyed a range of social functions beyond just uncertainty. Despite the excellent methodology and interesting conclusions of her work, most subsequent writings on this topic have been impressionistic (Eckert and McConnell-Ginet 2003, Pratt-Johnson 2005, Innes 2007) and assume the stereotypic interpretation of rising contours, that is, that they indicate uncertainty (Warren 2005).

Two years after McLemore's study, the term *uptalk* was coined by Gorman (1993), a sociology professor at New York University. His article, in the *New York Times*, bemoans the quality of speech of his young female students. As with the genesis of the term, most of the discussion of uptalk has taken place outside the linguistic literature. As such, the attitude toward uptalk has been highly prescriptive. For example, the *Globe and Mail* describes uptalk as "conversational anthrax" (Davis 2002). This not only reveals the negative opinion of the use of rising intonation, but also reflects the view, held even within the linguistic community, that uptalk is a virulent and growing trend (Pratt-Johnson 2005; Chambers p.c.; Denison p.c.).

2.1 Why Uptalk is Surprising

The standard view of English intonation is that declarative statements are pronounced with falling contours. For example, Rogers (2000:97) asserts that "[i]n the statement, the pitch starts high and falls." His depiction of an intonational contour on a declarative sentence is shown in Figure 1.
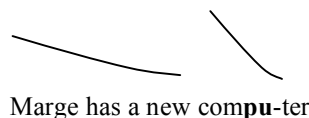
Marge has a new com**pu**-ter

Figure 1: Declarative contour from Rogers (2000:97)

In this example, the most prominent syllable in the phrase, [pju] in *computer*, is pronounced with a high tone, then the pitch falls through the remainder of the phrase. Tone Break Indices (or ToBI; Beckman and Ayers Elam 1993) accords with this description, stating that declaratives are pronounced with L(ow) phrase accents and boundary tones (i.e. L-L%), resulting in a falling contour.

Following the claim that the unmarked pronunciation of statements has a falling contour, the use of rising contours over declaratives should indicate some additional function (Cruttenden 1997). The common assumption is that the use of rising contours over declaratives is simply the reapplication of the question contour onto a statement (Ching 1982; Conn 2005; Warren 2005; Innes 2007). Another hypothesis is that a rising contour over a declarative is the application of list intonation onto an entire statement (Clark and Wilkes-Gibbs 1986). As such, rising contours are customarily assumed to indicate uncertainty (Ward and Hirschberg 1985; Warren 2005) or continuation (Beckman and Ayers Elam 1993). In addition to these functions, several other possible interpretations of rising contours have been proposed, such as indicating deference (Innes 2007), attempting to verify understanding (Guy and Vonwiller 1984; Allen 1984), facilitating conversation (Innes 2007), checking for conversational involvement (Innes 2007), establishing common ground (Guy and Vonwiller 1984), negotiating longer turns (Guy and Vonwiller 1984), introducing new information (Guy and Vonwiller 1984), suggesting that the statement has additional implications (Cruttenden 1997), and indicating a personal lack of confidence (Gorman 1993). These meanings are extremely subtle and empirical confirmation that any of them are the intended interpretation of uptalk is nearly impossible. Indeed, most of the exploration of uptalk's semantics has been impressionistic, without looking at the use of contours in systematically collected natural data (House 2006). This has resulted in broad claims about the meaning of uptalk from linguists and language pundits alike. The use of natural speech data and instrumental measurements are necessary to ground previous speculation and to reveal unanticipated uses of uptalk.

Uptalk has been primarily associated with women's speech both in the media (Davis 2002) and in academic literature (Lakoff 1975; McConnell-Ginet 1983; Britain 1992; Eckert and McConnell-Ginet 2003). A commonly held belief is that women use the reading of uncertainty in rising contours to hedge their statements. An instrumental study of New Zealand English by Britain (1992) supports the impression that women use rising contours more than men but contends that the contour is used as a politeness marker. My research examines whether these claim are indeed true, specifically addressing the following questions: i) is uptalk a new phenomenon? ii) is the use of rising contours a marker of women's speech? iii) is the use of rising contours a marker of youth speech? and finally iv) what does the use of rising contours over declarative sentences indicate?

3 Hypotheses

Following claims from the media, several observations in the literature, and limited findings, I hypothesize that uptalk is on the rise, and that women uptalk more than men. One would suspect that speakers who uptalk frequently associate rising contours with a broad range of semantic function; thus, I hypothesize, that, if indeed women and younger speakers use rising contours more than men and older speakers, the former groups are less likely to associate rising contours with the traditional readings of uncertainty and continuation.

4 Methodology

This section describes the methodology of the production study, which examines the use of rising intonation in Southern Ontario English in section 4.1, and the perception study, which explores its interpretation in section 4.2.

4.1 Production

In the production study, twelve speakers performed a modified map task (Britain 1992; Fletcher et al. 2003). Their utterances were labeled and categorized using ToBI.

4.1.1 Task

Participants performed a modified map task, a combination of the standard map task and a casual interview. In this task, participants were asked for directions to familiar locations (e.g., their work or school, a local mall or landmark) by an interviewer. Participants were also asked for local information such as recommendations for nearby restaurants, theatres, and shops, and for descriptions of the appearance of these buildings. The tasks lasted for seven to fifteen minutes.

4.1.2 Participants

The participants for the production study were twelve first-language English speakers who were native to Southern Ontario. The place of origin was restricted in attempt to eliminate dialectal variation. To examine the claim that the use of rising terminals is more common in the speech of the young, participants were equally drawn from two age groups with the younger group aged 19 to 23 and the older 45 to 52. To test if the use of rising contours is more part of women's speech than men's, the participants were balanced for sex.

4.1.3 Recordings

The production tasks were recorded with a Panasonic RR-US360 digital recorder with an internal microphone, at a 16 bit sampling rate of 16 kHz. The recordings were divided into minute long blocks for analysis.

4.1.4 Analysis

The recordings for each speaker were analyzed starting at the 61st second. The first 50 useable tokens were selected. Each token had to meet the following criteria:

a) **Be a declarative sentence**
   The sentences were tagged for discourse factors using DAMSL (Allen and Core 1997). Each token had to be a declarative sentence that was task-oriented and had no communicative problems, such as if the sentence could not be understood or the speaker was talking to herself.
b) **Include the end of an intonational phrase**
   Because these tokens were elicited over natural speech, not all phrases carried through to completion. Only the contours that continued from the final pitch accent to the end of an intonational phrase were considered. This excluded any contour that ended at the edge of intermediate phrases that was not also the edge of an intonational phrase.
c) **Have an interpretable contour**
   The token had to have a clear intonational contour from the final pitch accent to the phrase end. Tokens were rejected if there was no interpretable contour due to a faint speaking voice or creak.

4.2 Perception

In the perception experiment, portions of the production study recordings were played for six native English speakers from Southern Ontario who did not participate in the production study. After listening to the final portion of each token, the participants were asked to rate the finality, certainty, and confidence of the speakers.

4.2.1 Materials

Final portions of intonational phrases (starting from the final pitch accent to the end of the contour) were selected from the recordings of the production study for use in the perception study. These portions were taken primarily from the interviews of four speakers, each representing one of the speaker groups: younger female, younger male, older female, and older male. This was done to reduce inter-speaker variation so that the listeners could focus on the difference between contour types. None of the young male speakers produced the required range of contours for the perception experiment so recordings from two such speakers were used.

From each speaker group, twelve tokens were selected, four from the standard falling contour, L-L%, four from the traditional uncertainty contour, L*H-H%, and four from the continuation contour, L-H%. Of each four, two were contours with large final pitch excursions, and two had small ones.

4.2.2 Participants

The six participants in the perception experiment were selected from two groups assumed to be on the extremes of this phenomenon: three from the most conservative group, males 50 years or older, and three from the most progressive, females 20 to 25. Similar to the production study, all participants were first language English speakers native to Southern Ontario.

4.2.3 Task

Participants listened to the end of forty-eight contours selected from the production study, as explained in section 4.2.1. An audio file of each contour was presented with its transcription. The text was provided to aid the participants in comprehending the brief audio files which were presented without their surrounding context. Participants listened to the tokens over headphones and were free to replay each token and adjust its playback volume. The tokens were presented in a different, randomly determined order for each participant. After each token was played, participants were asked to answer the following questions: a) *Is the speaker finished talking?* b) *Is the speaker certain of what he or she is saying?* and c) *Is the speaker a confident person?* Participants answered these questions on a five-point scale where one indicated *absolutely not* and five indicated *definitely*. Although the five-point scale is coarsely grained, it provides a clear means of evaluation because only three choices are available; either the participant does not know, has an extreme view, or is somewhere in between (Al-Hindawe 1996). The participants completed this task with a paper survey.

5 Results

This section presents the results of both the production and perception studies. In the production study, women uptalk more than men and contour use does not differ with age. In the perception study, men interpret falling and rising contours more traditionally than women do.

5.1 Production Results

As was hypothesized, women use rising contours more than men do in performing the modified map task, as can be seen in Figure 2 (results are tabulated in Table 1).
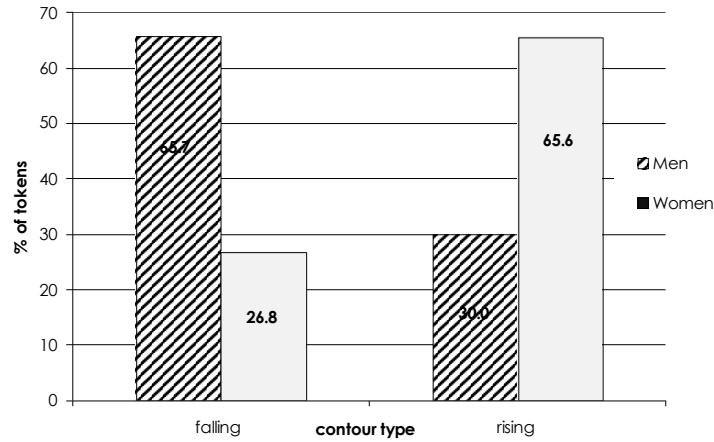
Figure 2: Contour use by sex. Plateau contours are excluded.

Participant	Age	Sex	Tokens per contour type			
			L-L%	L*H-H%	L-H%	H-L%
f1	19	f	11	13	25	1
f2	21	f	15	16	18	1
f3	22	f	15	14	15	6
f4	45	f	11	13	21	5
f5	50	f	15	6	23	6
f6	50	f	26	9	14	1
m1	19	m	32	10	8	0
m2	20	m	35	5	7	3
m3	23	m	29	7	12	2
m4	52	m	40	2	2	6
m5	50	m	28	12	10	0
m6	46	m	33	0	15	2

Table 1: Contour use by participant

Figure 2 shows the average rate of falling and rising contour use, separated by sex. Men most often use falling contours over declaratives, producing them on two thirds of tokens, while women use falling contours on only slightly more than one quarter of tokens. Conversely, women use rising contours for roughly two thirds of the tokens they produce, where as men use them on only 30% of tokens. A full breakdown of contour use by participant is provided in the appendix.

Counter to my hypothesis, uptalk does not appear to be on the rise; younger speakers use rising contours roughly as much as older speakers do, as shown in Figure 3.

Both younger and older men use falling contours over a clear majority of their tokens, at rates of 64% and 67% respectively. There is slightly more variation in their use of rising contours, such that younger men use rising contours on 33% of tokens, while older men only use it on 27%.

As with the men, there also is little difference in contour use with age for women. The majority of women's tokens are produced with rising contours irrespective of age, such that younger women produce 67% of tokens with rising contours and 27% with falling contours. Older women use rising contours for 63% of tokens and falling contours for 26%.
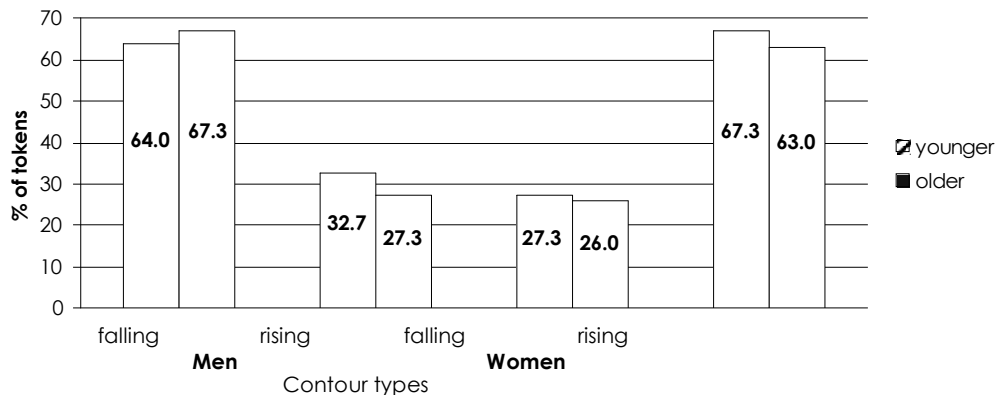
Figure 3: Contour use by age.

5.2 Perception Results

The results of the perception study indicate that men interpret falling contours as conveying certainty and finality more than women do. Men also interpret rising contours as indicators of uncertainty and continuation more than women.

The participants' judgments from the perception study are shown in Figure 4. As seen in the response to *Is the speaker finished talking?* (marked *Finished)*, men interpret the falling contour as conveying finality more than either rising contour does. The rising contour, L*H-H%, in particular indicates continuation. This runs counter to the ToBI system in which the continuation contour is not this but L-H%. Women do not perceive any of the contours as having a greater sense of finality.
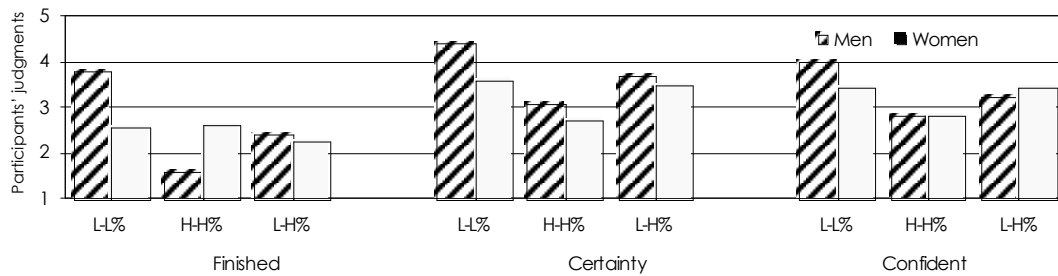

Figure 4: Participant judgments for questions

Men consider the falling contour to also indicate certainty more than either of the rising contours, as shown in their responses to the question *Is the speaker certain of what he or she is saying?* (marked *Certainty*). As with the question of finality, women do not particularly consider any of these contours to be indicators of certainty.

Men interpret the falling contour as conveying more confidence than either rising contour, as shown in the responses to the question *Is the speaker a confident person?* (marked *Confident*). As with the interpretations of finality and certainty, women do not perceive these contours as indicating confidence.

The results of the perception study indicate that the use of the falling contours signals finality, certainty, and confidence to men. Men interpret L*H-H%, the traditional uncertainty contour, as an indicator of continuation. In contrast, women are less likely to rate any of these contours as conveying finality, certainty, or confidence.

6 Discussion

The results in section 5 raise several points for consideration. Primarily, the finding that age does not affect contour use in the production study suggests that the use of uptalk is stable in the speech community. Whether uptalk is indeed a new phenomenon is discussed in Section 6.1. The origins of uptalk are considered in section 6.2. The need for the study of intonation in the framework of variation is outlined in section 6.3.

6.1 Stable Variation

The production study finds age does not affect the use of rising contours, indicating that it is not increasing in the Southern Ontario speech community. This diverges from the popular perception that uptalk is a recent "epidemic" in our language (DiResta 2001). Instead, the use of rising contours appears stable.

    The assertion that uptalk is not on the increase may run counter to recent perceptions; however there is support for this possibility. Little instrumental investigation of uptalk had been performed prior to 1990, but anecdotal evidence suggests that the use of rising contours existed long before. In the 1950s, the use of rising contours over declaratives was a known dialectal marker for the English of the Southern United States (Ching 1982; Beard 2006). It was sufficiently common to be recognized as a popular stereotype; Southern uptalk is illustrated in the following 1980s monologue from New York comedian Robert Klein in which he pretends to have a conversation with a Southerner:

> I have in-laws in Georgia... They talk in questions though.
> > Georgian: Last week I went to see my mother-in-law?
> > Klein: Are you talking to me or are you asking me if you went to see your mother-in-law?
> > Georgian: And then we went to the Braves game?
> > Klein: Well, I don't know, did you go? With your mother-in-law?
> > Georgian: And then we went home and seen Stone Mountain?
> > Klein: No?
> … That's why they lost the Civil War. The troops couldn't understand the commands. You know, they were very equivocal.
> > "Charge?"
> > (American Tongues, 1987)

In fact, the use of rising contours is reported even before there was a Canadian English. As evidence of this, Cruttenden (1994) has unearthed a letter from 1789 in which an English headmaster recognizes the use of uptalk in the speech of a Scottish pupil, stating that "he generally spake the last syllable in a sentence nearly a third above the last but one" (162). This passage demonstrates not only the existence of uptalk, but that the current negative attitude towards it differs little from that of the past. The findings of this study and anecdotal evidence argue against the widely held belief that uptalk is on the increase.

6.2 Origins of the Uptalk Contour

    The most common view of the phonetic origin of uptalk is that it is the application of a rising question contour onto a declarative statement (Ching 1982; Guy and Vonwiller 1984; Warren 2005). Gussenhoven (2006) suggests that rising terminal contours over declaratives could be the result of the truncation of the final portion of an emphatic falling contour. These proposals both assert that a change resulted in uptalk, either in a reapplication or reformation of an existing contour. Yet, there is another possibility; perhaps uptalk has been in the inventory of declarative contours as long as falling contours. The widespread use of uptalk suggests that it may be a stable variable. In the absence of evidence, the null hypothesis is that this contour is not a recent addition to our language. Though language pundits may lament what they claim to be the advent of uptalk, it is possible that the use of rising contours over declaratives was always present in English.

6.3 Is uptalk dialectal?

Uptalk is often viewed as a limited phenomenon specific to particular geographic regions; however, it is local to many of the world's dialects of English, e.g., Scotland (Cruttenden 1994), the Falkland Islands (Warren 2005), Canada (Paddock 1981), the United States (Ching 1982, Pratt-Johnson 2005), Australia (Fletcher et al. 2003), New Zealand (Britain 1992, Warren 2005), Ireland (Grabe et al. 2000, Grabe and Post 2002), and England (Coughlan 2005, Grabe 2004). This gives rise to the question of whether rising contours are used in all dialects of English, but only recognized through systematic studies, which are generally socio-geographic in nature.

6.4 Variation in Intonation

The current study points out the discord between textbook descriptions of intonational contours and results found through studying natural linguistic data. To date, most of the study of contours has been impressionistic and considered only standard dialects, with little account of interspeaker or dialectal variation (Grabe 2004, Grabe et al. 2005). Attempts to assess the pragmatics of rising contours have led to a call for a greater use of natural speech data in the study of intonation (House 2006).

Even recent studies of rising contours have used only an impressionistic analysis of intonation (Pratt-Johnson 2005; Innes 2007). Although pitch is an extremely salient feature, non-instrumental studies can overlook more subtle rises. Instrumental examination of contours guards against such biases caused by subjective judgments. It also provides a more replicable method of analysis, thus facilitating comparison between studies. The few instrumental studies that have been performed paint a much more complex picture of intonation (Grabe and Post 2002, Grabe 2004, Grabe et al. 2005, Fletcher et al. 2002, Warren 2005, Britain 1992, Britain and Warren 2000). The findings of these works demonstrate the need for more instrumental investigation, using systematically collected natural speech data in order to advance the study of intonational variation.

7 Conclusion

This study examines the use and interpretation of uptalk. The findings suggest that the rate of uptalk varies with sex, such that women use uptalk much more than men, but it does not vary with age. These results call into question the standard assumption that declaratives are primarily pronounced with falling contours. The conflict between textbook descriptions of the inventory contours and the results of this and other instrumental studies demonstrate the need for an advancement of the methodology of intonational research.

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