Chapter 1

General Introduction

True to our social nature, it would hardly be an exaggeration to state that we humans devote most of our waking hours to verbal interactions. In fact, one need only reflect on the many social interactions that occur each day to realize the extent to which people rely on their voices. Indeed, in some situations the voice is our only medium of communication (e.g., telephone). For example, imagine two people, who met through an internet-dating service, having their first phone conversation or potential employees on phone interviews—what kind of perceptions are elicited by their voices? And, consequently, how might these perceptions influence the dating relationship and whether the interviews are successful? Given this, there is surprisingly little research on how our voice may impact the way we are perceived in these social interactions. Perhaps this is because social psychologists assume that auditory cues are not as salient as visual ones and hence auditory cues provide less information than that provided by visual cues. However, the innumerable tales of the profundity with which people’s lives have been impacted by the way their voice sounds—from schoolteachers to CEOs—suggests that the public does not share this assumption. The research presented in this dissertation was an attempt to make the anecdotal empirical.

It never ceases to amaze me just how much we put faith into first impressions to make sense of world. As you become more familiar with a person, you obviously become privy to more and more information about the person that was not available in the first meeting. Nonetheless, your initial impressions of the person may very well have set the scene for the type of relationship that you forge with the person. For instance, if your first impression leads you believe that the person is slightly dim and lazy but warm and funny then you may act towards the person in such a way as to leave little choice but to elicit behaviors that confirm your beliefs (Dougherty, Turban, Callender, 1994; Skrypneck & Snyder, 1982; for a review
see Jussim & Fleming, 1996). Hence, examining the triggers that lead to these first impressions may provide intriguing insight to the way we construct and interpret our world. To this end, in my dissertation, I focus on the stereotypic inferences made on the basis of meeting a person for the first time. More precisely, I have examined the stereotypic inferences elicited by speakers’ vocal cues.

When you think about vocal cues that have the potential to affect gender-stereotyping, the first thing that you probably think of are the differences between men and women’s voices. Vocal cues certainly vary between gender category but they also vary within a gender category. Specifically, voices within each gender vary in the degree to which they sound masculine/feminine, which we define as “vocal femininity”. The overarching theme of the presented research is the examination of how this vocal femininity affects gender-stereotypic inferences of individuals of the same gender, over and above any stereotyping based on differences between gender category. In the rest of this introduction, I provide an overview of the chapters that follow.

**Overview of the Chapters**

*Chapter 2*

*What The Voice Reveals:*

*Within And Between Category Stereotyping on the Basis of Voice*

There exists a small body of voice research suggesting that people infer many different qualities about speakers on the basis of their voice. For example, the voice provides cues to the speaker’s emotions (Yogo, Ando, Hashi, Tsutsui, & Yamada, 2000), personality traits (Aronovitch, 1976; Scherer, 1979), attractiveness (Berry, 1992; Collins, 2000; Zuckerman & Driver, 1989), maturity (Berry, 1992; Hummert, Mazloff, & Henry, 1999; Linville, 1996; Mulac & Giles, 1996), and likely occupation (Yamada, Hakoda, Yuda, & Kusuhara, 2000). However, surprisingly little research in social psychology has been
conducted in the auditory compared to the visual domain. A further challenge to social
psychology’s bias towards visual cues is offered by the recent surge of interest in the role of
vocal cues in the expression of emotion (for a review see Scherer, Johnstone, Klasmeyer,
2003). Scherer (2003), for instance, asserts that there are many possible variations of vocal
expressions of an emotion (e.g., quiet, brooding anger vs. raging anger) whereas visual
expressions of the same emotion are not as versatile (see also Banse & Scherer, 1996). Thus,
rather than yielding relatively meager information, vocal cues may sometimes be even richer
than visual cues.

In sum, the above evidence clearly indicates that people’s inferences about others are
not confined to visual cues. Concurrently, it also hints at the potentially important role the
voice may play in social interaction but there is currently no systematic research of its role in
such a context. Chapter 2 presents a first step in examining how voice affects one essential
aspect of social interaction—stereotyping. We started by investigating the acoustic
characteristics that give rise to perceptions of vocal femininity and category. Then we
examined how these perceptions of vocal femininity impacts stereotypic inferences over and
above category. Finally, we provide a model of the relation among acoustics, vocal
femininity, and stereotypic inferences.

Chapter 3
A Voice in the Workplace:
How Vocal Cues Impact Judgments Related to Hiring Decisions

In Chapter 3, I present research examining the consequences of vocal stereotyping in
the specific social context of job interviews where these consequences can have far-reaching
implications. Gender discrimination, especially as it applies in the workplace, has been well
documented in the literature (e.g., Davison & Burke, 2000; Deal & Stevenson, 1998; Eagly &
Karau, 2002; Eagly, Makhijani, & Klonsky, 1992; Glick, Zion, & Nelson, 1988; Heilman,
However, less is known about the factors that may trigger discrimination in the first place. Therefore, it is important to conduct systematic investigations of the factors that are present in specific contexts where gender discrimination is likely to occur. Accordingly, in Chapter 3, we focus on a point in the hiring process that appears particularly prone to gender discrimination, namely the interview stage. Focusing on the interview stage also seems important given that recruiters place a great deal of emphasis on interviews since most, if not all, hiring decisions rely upon some form of interview. We were specifically interested in the evaluative processes involved in the interview stage where recruiters are provided with many sources of information about the job applicants. The following quote nicely illustrates the importance of interviews:

“You decide that you want a job. You send in your brilliant (and mostly accurate) résumé, ask for an outrageous salary (with full benefits, perks, and a generous signing bonus), and get a letter one week later saying that you're hired. Congratulations! You are officially living in fantasyland. Today, a résumé only functions as an entrance test to snag an interview. It's during the interview where a company decides if it wants to hire you.”

(http://www.soyouwanna.com/)

The level of anxiety that most job candidates associate with interviews would clearly suggest that they too place considerable emphasis upon interviews. The question then is what kind of information is given in personal interviews that is not available on written résumés and why is such information regarded as so important. One obvious kind of information that is revealed in interviews are physical cues about a person, (e.g., their appearance, tone of voice, manner of dress). As a start to answering this question, we examined how job applicants’ vocal and background information cues, in the form of résumés, affect judgments of applicants in an interview context.

The work presented in Chapter 3 extends our work from Chapter 2 in important ways. Specifically, even though the work in Chapter 2 was the first demonstration of within-gender stereotyping, based on vocal femininity, one could still argue that because perceivers were
only presented with vocal cues, it was only logical that they used these cues in their inferences. Thus, a more compelling case for the role of vocal femininity in stereotyping would be the demonstration of its impact alongside other competing information. Accordingly, the research in Chapter 3 extends our past work on voice by examining whether vocal femininity cues continue to exert an influence on judgments even when other rich competing cues are concurrently available.

Chapter 4

Sneaking in Through the Back Door: How Category-Based Stereotype Suppression Leads to Rebound in Feature-based Effects

The seemingly paradoxical persistence of discrimination in the face of strong societal norms that dictate against category-based discrimination prompted us to investigate the relationship between category- and within-category feature-based stereotyping, which is presented in Chapter 4. Over the past fifty years there has been a dramatic reduction in the overt expression of racist and sexist attitudes and stereotypes in Western societies (Campbell, 1971; Greeley & Sheatsley, 1971; Hyman & Sheatsley, 1956, 1964; Schuman, Steeh, & Bobo, 1985; Taylor, Sheatsley, & Greeley, 1978). Yet, more subtle approaches to the measurement of stereotypes and prejudice, focusing on implicit or automatic evaluations and beliefs that are not under conscious control, suggest that racial and gender biases are still alive and well (Devine, 1989; Fazio, Jackson, Dunton, & Williams, 1995; Wittenbrink, Judd, & Park, 1997). This suggests that strong social norms have developed that encourage many people to curb the open-expression of prejudice and stereotypes based on social categories such as race and gender (Klonis, Plant, & Devine, 2005).

Certainly this effort to suppress the expression of category-based stereotypes and prejudices is not without consequences. According to the social psychological research on suppression, active efforts to suppress a thought actually increase the thought's activation and
the probability that the suppressed thought may leak out in other forms or on other occasions (Wegner & Erber, 1992; Wenzlaff, Wegener, & Klein, 1991). With continued practice and monitoring, of course, it may be the case that overt category-based stereotypes and prejudice never leak out, at least in their original form (cf. Macrae, Bodenhausen, Milne, & Jetten, 1994). Rather, the active suppression of such category-based beliefs may mean that they leak out in more subtle and seemingly harder-to-control forms.

We propose that one of these subtle ways is through within-category feature or cue effects. The hypothesis that motivated the presented work is that efforts to suppress category-based stereotyping are well practiced and therefore unlikely to show rebound effects. However, suppressing category-based stereotyping may lead to rebound in another form, with greater feature-based stereotyping following active attempts to suppress category-based stereotyping. In our view this might be the case because feature-based stereotyping is more subtle and harder to control than category-based stereotyping.

Indirect support for our proposal comes from recent work on racial stereotyping showing that perceivers had little trouble suppressing category-based stereotyping but were unable to suppress stereotypes arising from variations in the degree to which targets, within race, had African American (Afrocentric) features (Blair, Judd, & Fallman, 2004). Specifically, in this research, prior to a judgment task, participants were either instructed to “try avoid using the person’s race as a basis for judgment” (Blair et al., 2004, p. 770; category suppression condition) or instructed to “try to avoid using the person’s Afrocentric features as a basis for judgment” (Blair et al., 2004, p. 770; features suppression condition). In a last condition, participants were given no such instructions (control condition). The judgment task results showed that in the category suppression condition participants were less likely to use targets’ racial category as a basis for their judgments than in the control condition. No such effect was observed in the features suppression condition; participants’
use of within-category features were unaffected by the instruction manipulation. To explain the lack of control over feature-based stereotyping, the authors argued that perceivers are largely unaware of feature-based influences. Furthermore, suppressing these features is complex because feature-based judgments are literally not black or white as are category-based judgments—features are riddled with myriad shades of gray (e.g., think of variations in nose size). This complexity is further heightened by the fact that not one but many different cues (e.g., nose size, kinkiness of hair, fullness of lips) constitute Afrocentric features, hence suppressing feature-based stereotypes would require monitoring the influence of the variation in all these cues. The work in Chapter 4 was the first demonstration of the relationship between category- and feature-based stereotyping that may have important societal implications.

Due to the fact that the empirical chapters are based on articles that have been published or under review, there will be overlaps in the theoretical introductions and discussions.

As time passes and the inevitable happens—the detailed memory of this research totally evaporates—I have a hope and a wish. My hope is that I will have opened the eyes of the reader to the richness of our voice and it’s ability to impact our lives. My wish is that the simple memory of this will never decay. Without further ado, let me lead you through a journey of what the voice reveals.