



# The Effect of Regional Accent on the Perception of Intelligence and Attractiveness

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## Abstract

This study investigated the effect of regional accent on the perception of intelligence and physical attractiveness. Previous research suggests that, in the UK, there is a link between a person's accent and their perceived level of intelligence, with speakers of 'Received Pronunciation' (RP) being considered to be cleverer than those with regional accents. Few studies, however, have considered the relationship between accent and perceived level of attractiveness. In the current study we paired three different UK accents (RP, Yorkshire, Birmingham) and a silent control condition with photographs of four young women and requested participants to provide a score (1-10) for intelligence and attractiveness for each accent. We uncovered evidence that a Yorkshire accent is considered to be more intelligent than RP which, in turn, was considered to be more intelligent than a silent condition. The Birmingham accent was, however, rated for intelligence on a par with the silent condition. In contrast to these findings for intelligence no relationship between attractiveness and accent was uncovered. Results are discussed in terms of a reduction in negativity for some regional accents but not for others, where unfounded, negative stereotypes continue to be persuasive.

**Keywords:** Received Pronunciation; Intelligence; Dialect

## Introduction

The term 'accent' can be defined as the category of pronunciation a speaker expresses during speech; similarly, 'dialect' refers to the phonological and grammatical differences spoken by individuals belonging to a particular region or group [1]. Words spoken with an accent and/or dialect therefore are simply a variation within the same language. Despite this unadorned characterization, accents are often used as a tool to gain insight into the type of person the owner of the accent is, in terms of personality traits and attributes [2,3]. In the UK it is well established that specific examples of regional dialects have developed a stigmatization as inferior and belonging to groups lacking in prestige. Moreover, it has been suggested that cataloguing of this nature is firmly rooted within the class system, with rank,

education and material possessions all immediately implied by the recognition of a particular accent [3-5]. McKenzie and Carrie, when discussing British accents, even suggested that, 'deeply embedded, biases against particular communities of speakers persist' [6].

Despite being spoken only by 3% of the UK population 'Received Pronunciation' (RP, also known as 'Queen's English') is widely considered as accent-less, or 'standard English' Abercrombie (1965) [7] and is recognized as the tongue of those belonging within the upper class, throughout the United Kingdom. The relationship between regional accent and intelligence has previously been investigated by Giles (1973) [8], who noted a clear correlation between the perceived intelligence of an individual and their regional accent, with speakers of high prestige accents such as RP

continually being viewed as more ambitious, determined and intelligent than those with regional accents. In particular the accent belonging to the West Midlands city of Birmingham has frequently been found to carry undesirable character attributes [9,10]. Similarly, the regional accent belonging to Yorkshire has also been investigated and acknowledged to be frequented within the research as an accent considered lower in prestige, due to the regions' historical working-class mining industry. This stereotype goes beyond mere academic intrigue as there is a well-established and wide-ranging influence of a relationship between a speaker's accent on their career progression [6].

The current research focuses on the extent of the existing views of the regional accents of Birmingham, Yorkshire and RP by investigating their effect on perceived intelligence and physical attractiveness, by paring photographs with regional accents and asking participants to rate both levels of attractiveness and intelligence.

## Methods

In the current study four female photographic images were presented to participants each paired with a passage read in one of three accents; Birmingham, Yorkshire, RP and a silent control condition.

Each participant was subjected to four different face and voice pairings (the four photograph levels were counterbalanced thoroughly) whilst the four voice levels were subsequently randomly assigned to each of the counterbalanced face sequences in turn. The counterbalancing of the face independent variable (IV) in addition to the randomly assigned voice IV resulted in twenty-four distinct task variations. The second practice of random assigning was then repeated for each of the twenty-four photograph variations, accumulating in a total of forty-eight separate, unique task variations. The study therefore required forty-eight participants, each of whom completed one of the forty-

eight possible task sequences of four consecutive conditions. Participants were required to rate the four conditions in terms of both intelligence and physical attractiveness; the scoring sheet entailed four sections, each of which contained two rating scales ranging from 'not very attractive/intelligent', 'average attractiveness/intelligence' and 'very attractive/intelligent' (creating a ten-point scale). Any participant who possessed the same accent as one of the three involved within the experiment was eliminated from the study. This is in line with findings by Byrne (1997) [11], that individuals are more likely to perceive those with a similar accent to their own more positively.

## Procedure

Participants were provided with instructions and undertook the experiment using the computer programme which had been set up with the correct condition sequence already loaded (one of forty-eight available). The computer programme allowed for PowerPoint photographs to be delivered at a pace of the participants' choosing. Participants were able to click the mouse to begin a practice session showing a photograph paired with a voice clip (both of which were not used in the actual experimental conditions), along with an on screen rating scale. Following this, they simply clicked the mouse again and were provided with condition one. Once they had recorded both a score for their perceived intelligence and attractiveness for this condition, they were able to click the mouse again for the next condition.

## Results

### Perception of intelligence

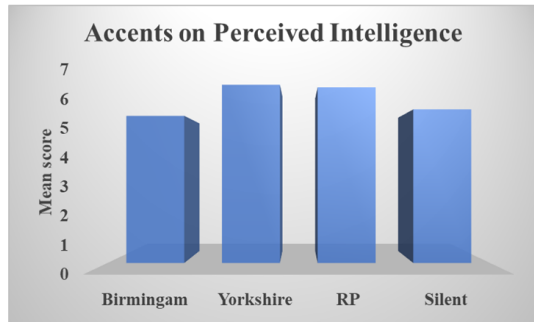
Table 1 shows the means and standard deviations for estimates of intelligence, with each of the four levels of face and voice (including the silent control condition where ratings of intelligence are based on photographs of female faces only).

|                   | Photo 1     | Photo 2     | Photo 3     | Photo 4     | Totals      |
|-------------------|-------------|-------------|-------------|-------------|-------------|
| <b>Birmingham</b> | 5.57 (0.94) | 6.23 (0.93) | 5.46 (1.33) | 5.14 (1.57) | 5.67 (1.22) |
| <b>Yorkshire</b>  | 6.77 (1.01) | 6.38 (0.77) | 6.92 (1.17) | 6.75 (1.75) | 6.87 (1.01) |
| <b>RP</b>         | 6.58 (1.08) | 6.63 (0.92) | 6.78 (0.83) | 6.68 (1.34) | 6.77 (0.93) |
| <b>Silent</b>     | 6.25 (1.04) | 6.25 (1.04) | 5.92 (1.12) | 5.54 (1.13) | 5.92 (1.06) |
| <b>Totals</b>     | 6.29 (0.53) | 6.37 (0.18) | 6.27 (0.70) | 6.03 (0.81) |             |

**Table 1:** Means (and Standard Deviations) of Accents (voices) against Photographs (faces) for Intelligence.

Table 1 shows that with regards to intelligence, the Yorkshire accent is ranked at an average of 6.87 on a ten-point scale; higher than RP (6.77), the silent control (5.92)

and the Birmingham accent (5.67) respectively. In order to examine the effects of accent on perceived intelligence, the four photograph presentations were collapsed (Figure 1).



**Figure 1:** The mean scores for perceived intelligence as a function of accents.

An ANOVA analysis of accents on perceived intelligence scores was highly significant ( $F(2, 39) = 14.556, p < 0.001$ ). Mean comparisons across the four accents showed significant differences between Birmingham and Yorkshire (mean diff = -1.205,  $p < 0.001$ ); Birmingham and RP (mean diff = -1.103,  $p < 0.001$ ); Yorkshire and Silent (mean diff = 0.949,  $p < 0.001$ ); RP and Silent (mean diff = 0.846,  $p < 0.001$ ). A non-significant mean comparison was found between Birmingham and Silent (mean diff = -0.256,  $p > 0.05$ ). This suggests that perceived intelligence for the Birmingham accent was on a par with the

control of being Silent. The Yorkshire accent had the highest perceived intelligence ratings, followed by RP.

| Photograph   | Mean (SD)   |
|--------------|-------------|
| Photograph 1 | 6.23 (1.11) |
| Photograph 2 | 6.38 (0.88) |
| Photograph 3 | 6.41 (1.19) |
| Photograph 4 | 6.21 (1.47) |

**Table 2:** Means and (Standard Deviations) across the four different faces for intelligence ratings.

An ANOVA analysis showed a non-significant difference across the four photographs for accents ( $F(3, 39) = 0.899, p > 0.05$ ). This suggests that perceived intelligence was based on the accents heard regardless of the photograph presented.

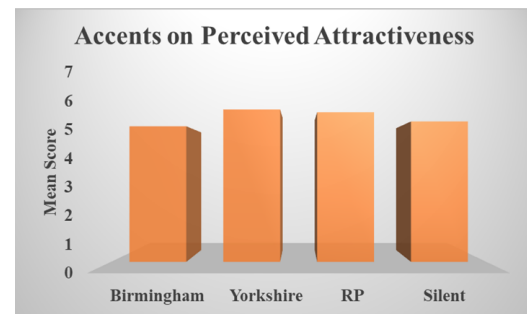
### Perception of Attractiveness

Table 3 shows the means and standard deviations for estimated physical attractiveness, with each of the four levels of face and voice (including the silent control condition where ratings of attractiveness are based on photographs of female faces only).

|                   | Photo 1     | Photo 2     | Photo 3     | Photo 4     | Totals      |
|-------------------|-------------|-------------|-------------|-------------|-------------|
| <b>Birmingham</b> | 5.57 (1.60) | 5.07 (1.14) | 5.50 (1.24) | 5.00 (1.41) | 5.32 (1.34) |
| <b>Yorkshire</b>  | 5.92 (1.50) | 5.29 (1.77) | 6.17 (1.12) | 6.50 (1.41) | 5.98 (1.45) |
| <b>RP</b>         | 5.67 (1.23) | 5.78 (0.67) | 5.89 (1.76) | 5.95 (1.65) | 5.87 (1.36) |
| <b>Silent</b>     | 5.56 (1.51) | 4.45 (1.04) | 5.64 (1.74) | 5.86 (1.51) | 5.51 (1.56) |
| <b>Totals</b>     | 5.68 (0.17) | 5.15 (0.55) | 5.80 (0.29) | 5.83 (0.62) |             |

**Table 3:** Means (and Standard Deviations) of Accents (voices) against Photographs (faces) for attractiveness.

Table 3 shows that similarly, photographs paired with the Yorkshire accent are rated higher in terms of attractiveness (5.98) than when paired with RP (5.87), the silent control (5.51) and the Birmingham accent (5.32) respectively. In order to examine the effects of accent on perceived attractiveness, photographs presented were collapsed (Figure 2).



**Figure 2:** The mean scores for perceived attractiveness as a function of accents.

An ANOVA analysis of accents on perceived attractiveness scores was marginally non-significant ( $F(3, 47) = 3.536, p > 0.05$ ). Mean comparisons across the four accents, however, showed significant differences between Birmingham and Yorkshire (mean diff = -0.660,  $p < 0.05$ ); Birmingham and RP (mean diff = -0.553,  $p < 0.05$ ). This suggests that perceived attractiveness for the Yorkshire accent was highest followed by RP.

| Photograph   | Mean (SD)    |
|--------------|--------------|
| Photograph 1 | 5.74 (1.390) |
| Photograph 2 | 5.17 (1.29)  |
| Photograph 3 | 5.79 (1.46)  |
| Photograph 4 | 5.94 (1.51)  |

**Table 4:** Means and (Standard Deviations) across the four different faces for attractiveness ratings.

An ANOVA analysis showed a significant difference for accents

across the four photographs ( $F(3, 47) = 4.355, p < 0.05$ ). Mean comparisons across the four photographs showed significant differences between faces 1 and 2 (mean diff =  $-0.574, p < 0.05$ ); faces 2 and 3 (mean diff =  $-0.617, p < 0.05$ ) and faces 2 and 4 (mean diff =  $-0.766, p < 0.001$ ). This suggests that perceived physical attractiveness was based on the appearance of all photographs of the faces presented. This might account for the marginal non-significance found in the ANOVA analysis of accents on perceived attractiveness scores. The finding of photograph interference with perceived attractiveness is no surprise given that our judgements of physical attractiveness are based on pictorial representations rather than the voice.

## Discussion

With regards to the effect of the regional accents of Yorkshire and Birmingham, control variable silence and RP on participant's perception of intelligence and attractiveness, the means illustrate general favorability in support of the Yorkshire accent followed sequentially by the RP, silence and finally Birmingham accents. Additionally, the mean scores highlighted similarities between the Yorkshire and RP accent and separately between the control condition of silence and the Birmingham accent; in that the former two accents were consistently rated favorably in comparison to the latter, for both dependent variables of intelligence and attractiveness.

Of the four face conditions, photograph one, three and four yielded results favoring the Yorkshire accent in terms of perceived higher intelligence and attractiveness, however, significance was established with regard to intelligence. Conversely, in opposition to the Yorkshire accent, the Birmingham accent was consistently ranked unfavorably throughout the experiment; receiving the lowest ratings with regards to intelligence in photograph conditions one, three and four. Although photograph two suggested RP was favored this did not reach significance.

In summary the effect of accent on the perception of intelligence was found to be significant, with the Yorkshire accent ranked the most intelligent, followed by RP, silence and Birmingham accent (with these latter two conditions being on a par). In contrast to intelligence, this study found no overall significant effect of accent on the perception of attractiveness.

Why do we see this pattern for intelligence? Trudgill (2001). [12] suggests that shifts in Zeitgeist during the twenty first century may have resulted in the increasing unpopularity of the once prestigious RP accent. The Zeitgeist theory therefore may explain why the previously considered working class accent of Yorkshire was perceived more favorably with regards to intelligence. Employment availability in this county is currently on a par with towns and cities

traditionally considered as the residence of those belonging to the upper classes, and therefore the region may require a high level of education. Additionally, as UK Universities have recently shifted from elite to a mass higher education the level of education attainment an individual possesses can no longer be used as a reference for an accent's prestige.

In addition to changes in levels of education, Fabricius' (2002) [13] found a tendency for the Yorkshire accent to be rated as highly trustworthy, friendly and interesting, in comparison to specifically the RP accent, which was continually rated as dull. These results outline the possibility that regional accents are becoming increasingly associated with positive attributes such as trustworthiness, friendliness and unpretentiousness. Hence, such positive opinions may have contributed to the overall affirmative assessment of the photographs which were paired with the Yorkshire accent.

In contrast to the Yorkshire accent, the Birmingham accent was rated consistently as the lowest in terms of intelligence by participants, (or equal to the control variable of silence). One possible explanation for this result again, lies within the Zeitgeist theory; whilst the opinions of some regional accents may have altered positively over time, the unfavorable reputation of others may not yet have altered. Whilst Fabricius' (2002) [13] research suggested that the Yorkshire accent is considered trustworthy, Dixon, Mahoney and Cocks (2002), in the same year, established that, conversely, the Birmingham accent is associated with untrustworthiness and negativity. This disapproving quality of untrustworthiness for the Birmingham accent was found in relation to guilt attribution; as such, if the Birmingham area is associated with crime and high guilt, participants may have unconsciously correlated the idea of unlawful individuals with low intelligence. This may be the case even though crime rates in Birmingham are reported to be lower than other British cities of similar size [14]. This suggests the view of crime being associated with a Birmingham accent is very much one of unfounded negative stereotyping.

In contrast to intelligence, the concept of physical attractiveness may be more directly related to the specific features in the photographs used in this study [15,16]. Hence, just as it was observed during data collection that participants were frequently basing their intelligence ratings solely on the nature of the sound clip paired with a photograph, it is possible that participants equally founded their attractiveness decisions exclusively on the physical characteristics of each individual young woman. If this is the case, then, in the current study, there would appear to be no relationship between perceived attractiveness and accent.

The implications of accent research concern the ways in which individuals who possess such accents might be treated

within society. Instances of occupational discrimination, for example, have been documented due to regional accents [4,5]. In time perhaps the movement away from accent prejudice illustrated by Trudgill (2001) [12] may result in equality for all regional inhabitants, and the Birmingham accent will catch up with the Yorkshire one. This is important since, contrary to popular belief, there is no clear correlation between an individual's accent and their ability Hayes (2000) [17].

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