Analysis of Acceptance of Grammatical Changes in Standard American English Reveals Differences by Age and Education

Sophie Lipson*, Ileana Rios, and Susan Behrens

Student1, Teacher2: Trinity School, New York, NY 10024
Mentor2: Marymount Manhattan College: 221 East 71st Street, NY 10021 and Columbia Summer High School Program, New York, NY 10027
*Corresponding author: sophie.lipson13@trinityschoolnyc.org

Materials and Methods
This study focused on the following seven grammatical features:

1. Singular-Plural Antecedent Agreement
2. First Person Singular Pronoun Cases
3. Adjectives vs. Adverbs
4. Pronoun Cases in a Prepositional Phrase
5. Subject-Verb Agreement
6. Third Person Singular Pronoun Cases
7. Relative Pronouns

A paragraph was written containing seven grammatically correct sentences and seven grammatically incorrect sentences. Each grammatically incorrect sentence had only one of the seven...
mistakes. The grammatically incorrect sentences were dispersed randomly throughout the paragraph.

Paragraph Given To Participants:

Last Saturday I spent time with my friends and we went to the park. After a few hours, we parted because everyone had their own plans for the afternoon. Sally and myself went to the zoo where we saw a seal. The seal swam up to theookeeper looking for food. The seal's babies quickly followed, and the large group swam towards the edge of the tank. Sally was very enthusiastic, but the zookeeper said she spoke too loud. We remained quiet for the remainder of the show. However, between you and I, I really wanted to see the giraffes. Luckily, they were close by and I later fed them. I was surprised that the legs of a giraffe was so tall. Overall, the day ended on a high note and we left feeling good. Sally was happy to have seen the seals, and I the giraffes. Her and I decided we would return soon. I know that people that live in cities don't go to the zoo very often, but it is really worth the trip!

To determine if certain mistakes have infiltrated commonly used language, twenty people were instructed to edit the paragraph. Randomly selected participants were selected from the New York and Boston area.

Instructions were loosely scripted and given to participants verbally by the author and one surrogate. The instructions were to “edit” the passage, with no mention of the purpose. Participants were given as long as they wished, but not spoken to while reviewing. Participants had to review the passage immediately and in the same room as the author or surrogate.

To determine trends, the participants were categorized by the following self-reported background information: 1. Age, 2. Gender, and 3. Education Level (Table 1).

Table 1. Demographic Data of Informants

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategories</th>
<th>Number of Informants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>15-24</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>25-44</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>45-64</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>65+</td>
<td>3</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>11</td>
</tr>
<tr>
<td>Education Level</td>
<td>High School</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>College Degree</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Post-College</td>
<td>4</td>
</tr>
</tbody>
</table>

Results

In analyzing the edited paragraphs, the overall number of mistakes that were missed was counted, and the specific type of mistake that was missed was also marked. This data was then sorted and graphed by grammatical feature, age, and education level.

Some mistakes were missed more frequently than others. As Figure 1 reveals, singular-plural antecedent agreement was missed by 80% of participants, and the replacement of adverbs with adjectives was missed by 60% of participants. On the other hand, subject-verb agreement was only missed by 15% of participants. This suggests that some aspects of English are changing, while others are not. It appears that the usage of the word “their” as a singular gender-neutral pronoun is prevalent among all participants tested. Additionally, participants generally accept adjectives in the place of adverbs, suggesting that adverbs are being used less frequently. However, most participants notice subject-verb disagreement, which may indicate that people still expect verbs to be properly conjugated.

Younger people may be more open to grammatical change. Figure 2 shows that participants aged 15-24 missed 67% of grammatical errors, more than any other age group.

There is a strong trend concerning education level and acceptance of syntactical change. As shown in Figure 3, people with a high-school education missed 64% of mistakes, while those with a college degree missed 32%, and people with a Post-College Professional Degree missed only 14%. Gender did not impact acceptance of grammatical change, as shown in Table 2.

Statistical analysis reveals that the impacts of age and education level are significant at the 0.05 significance level. With a p-value of 0.000125, the difference between average mistakes missed by people ages 15-24 and average mistakes missed by people ages 25 or older is statistically significant. While there is an observable trend that higher education level correlates negatively with missed mistakes, the only statistically significant finding is the difference between a high school education level and a Post-College Professional Degree (p-value = 0.0022).

Table 2. Average Grammatical Mistakes Missed By Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>38</td>
</tr>
<tr>
<td>Female</td>
<td>44</td>
</tr>
</tbody>
</table>

Discussion

Results of this study suggest that there are significant trends regarding the acceptance of structural change in the English language. People ages 15-24 and people with a high school education missed more grammatical mistakes than other groups. There is a clear overlap between the two categories, as the 15-18 year old participants were in high school. Additionally, people over the age of 25 did not miss many mistakes, correlating with a higher incidence of college education. (9 of the 10 participants over the age of 25 had completed college.) This suggests that there is a relationship between the level of education and age concerning grammatical correctness: the higher the education level, the less mistakes missed. Perhaps this is because not only have people with a higher education level learned more grammar in the classroom, but also because they are expected to use correct grammar in higher academic work. There was a minimal difference between men and women, as was expected. This shows that gender does not greatly affect grammatical acceptance.

When the types of grammatical errors missed are examined, it appears that the distinction between adverbs and adjectives is shrinking. Additionally, the use of the word “their” as a singular gender-neutral pronoun has become commonplace. Both of these grammatical changes show a simplification of current syntactical structure, supporting George Kingsley Zipf’s Principle of Least Effort, in which he asserts that humans by nature take the path of least resistance; in this case simplifying grammatical structure.

One limitation of this study is that it was conducted at one point in time, as opposed to repeating it periodically with the
same participants. Without longitudinal data, one cannot know if the younger participants would test differently as they aged and obtained a higher level of education. A second limitation is that human psychology is complex. Confidence, affected by age and education level, can affect performance.

This study warrants further research regarding grammatical change in the English language. A large-scale study in different English-speaking populations would allow for a more thorough assessment of the acceptance of grammatical changes; one could better isolate variables such as age and education level.

References

