Digital Analysis of Emotions in the Grimms’ Fairy Tales

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December 8, 2018

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*Children- and Household Tales* by the Grimm Brothers

**Original**

**Adaptations**
Grimm Fairy Tales

1812 - 1815: Folk Tales

1819: Original

1837 - 1847: Adaptations
  - Content
  - Form

1840 - 1857: Fairy Tales

Removal or softening of the ‘cruel’ scenes

- Simple sentence structure;
- More adjectives, proverbs and direct dialogue;
- Reinforced motives for motion.
Questions

• What is the difference between folk and fairy tales?

• Is the seventh edition (1857) less cruel?
Cruelty = Anger + Contempt + Disgust

(Matsumoto et al., 2012; Tonnaer et al., 2017)
1. **Basic emotion categories:** anger, contempt, disgust, fear, joy, sadness and surprise (Ekman, 1999).

2. **Polarities:**
   - **Positivity** = joy + surprise
   - **Negativity** = anger + contempt + disgust + fear + sadness

3. **Emotionality** = positivity + negativity
Procedure
German *Children- and Household Tales*

Ed. I (1812/15) & Ed. II (1819) 145 texts  

Ed. VII. (1857) 145 texts
1. **Automatic emotion detection**

- **German Emotion Dictionary**, (Klinger et al., 2016):
- Frequencies of occurrence of emotion words according to the Ekman seven fundamental emotions

<table>
<thead>
<tr>
<th>Fairy tales</th>
<th>Anger</th>
<th>Contempt</th>
<th>Disgust</th>
<th>Fear</th>
<th>Joy</th>
<th>Sadness</th>
<th>Surprise</th>
<th>Negativity</th>
<th>Positivity</th>
<th>Emotion Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Singing Bone</td>
<td>7</td>
<td>13</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>2</td>
<td>39</td>
<td>9</td>
<td>48</td>
</tr>
<tr>
<td>Snow White</td>
<td>16</td>
<td>16</td>
<td>1</td>
<td>20</td>
<td>28</td>
<td>32</td>
<td>5</td>
<td>85</td>
<td>33</td>
<td>118</td>
</tr>
<tr>
<td>Rapunzel</td>
<td>5</td>
<td>13</td>
<td>1</td>
<td>9</td>
<td>15</td>
<td>16</td>
<td>0</td>
<td>44</td>
<td>15</td>
<td>59</td>
</tr>
</tbody>
</table>
2. **Normalisation of the frequencies**
   - The length of the text is considered
   - Percentages

3. **Hypotheses Testing**
   - The paired Wilcoxon Signed Rank Test
   - $\alpha = .05$
   - $p \leq .05$
1. **Basic emotion categories**: anger, contempt, disgust, fear, joy, sadness and surprise (Ekman, 1999).

2. **Polarities**:
   - **Positivity** = joy + surprise
   - **Negativity** = anger + contempt + disgust + fear + sadness

3. **Emotionality** = positivity + negativity
Results
Emotion Categories

Relative frequencies

Editions

1/2

7
Emotion Categories

Sadness: $p = .0003$; $r = .2$ (small effect size, 11% difference)
1857: \( p = .005; r = .16 \) (small effect size, 26% of nonoverlap)
Polarities

Negativity: $p = .05; r = .11$ (small effect size, 6% of nonoverlap)
Discussion
Discussion

1. **Presence of the all seven emotions**
   - A basic narrative form
   - Knowledge of the human experience (Jones, 1995:5)

2. **High frequency of joy words**
   - The emotion intensities match the folk and fairy tale’s structure

3. **Sadness**
   - Correlates with the folk and fairy tale’s structure
   - Guidance for readers
   - Incorporate personal and societies views (Jones, 1995:40).

4. **High emotionality in 1857**
   - Narrative and stylistic transformations
   - Children folk tales
Thank You.
Questions?


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