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Smiling to Smiles After Exclusion: Social Rejection Enhances Affiliative Signalling

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How does social exclusion recalibrate social cognition?
Exclusion

Social Monitor

Pickett, Gardner, & Knowles, 2005
Excluded people mimic the behaviours of others more.

Lakin, Chartrand, & Arkin (2008)
Social exclusion enhances the ability to differentiate genuine and posed smiles.

Bernstein et al., 2008
Duchenne Smile

Posed

Genuine
Blocking facial mimicry can inhibit recognition of happy expressions.

Oberman et al., 2007
a model

- exclusion
  - mimicry
    - Lakin et al., (2008)
  - discrimination
    - Bernstein et al., (2008)

smile
a model

exclusion

facial mimicry

Oberman et al., (2007)

smile discrimination
a model

exclusion

facial mimicry

smile discrimination
Figure 3.2 Common facial EMG placements and their corresponding muscles, based on Figure 12.4 in Cacioppo et al. (2007).
Orbicularis Oculi

Zygomaticus Major
1. Exclusion induction

Write about a time you were rejected or excluded.

________________
________________
________________
________________
________________
________________

Write about waking up yesterday morning.

________________
________________
________________
________________
________________
________________

method
1. Exclusion induction

2. viewed 26 smiles  (13 genuine, 13 posed)
1. Exclusion induction

2. Viewed 26 smiles (13 genuine, 13 posed)
1. Exclusion induction

2. viewed 26 smiles (13 genuine, 13 posed)

3. participants judged each smile as genuine or posed
Real or Posed?
Real or Posed?
Results:

- exclusion
- facial mimicry
- smile
- discrimination
Results:

- exclusion
- smile
- discrimination

facial mimicry
Results:

Ability to discriminate genuine smiles

-0.1 0 0.1 0.2 0.3 0.4
Control  Excluded

facial mimicry exclusion smile discrimination
Facial muscle activity

results
Facial muscle activity

results

- fixation ~5000 ms
- neutral 1500 ms
- smile 1000 ms
- neutral 4500 ms

b t0 t1 t2 t3
Results:

Are genuine and posed smiles differently mimicked?
Results:

Are genuine and posed smiles differently mimicked?

Mean EMG activity for all participants in response to genuine and posed smiles. All t1, t2, and t3 data points differ from the respective treatment’s t0 data point at $p < .05$. (a) Pairwise comparisons between treatment conditions revealed Genuine smile evoked greater zygomaticus activity at t3 (*$p < .05$).
Results:

Are genuine and posed smiles differently mimicked?

Mean EMG activity for all participants in response to genuine and posed smiles. All t1, t2, and t3 data points differ from the respective treatment’s t0 data point at $p < .05$. (a) Pairwise comparisons between treatment conditions revealed Genuine smile evoked greater zygomaticus activity at t3 ($*p < .05$). (b) Pairwise comparisons between treatment conditions revealed Genuine smile evoked greater oculi activity at t2 ($†p < .10$) and at t3 ($*p < .05$). Note: Error bars represent ±1 SEM.
Results:

Are genuine and posed smiles differently mimicked?

Seems like it.
Does social exclusion affect facial mimicry?
Results:

facial mimicry

exclusion

smile discrimination
Results:

facial mimicry
exclusion
smile discrimination

(a) Zygomaticus Major

- Control (n=24)
- Excluded (n=24)

Genuine Smiles

EMG activity (magnitude)
Results:

Exclusion

Facial mimicry

Smile discrimination

(a) Zygomaticus Major

<table>
<thead>
<tr>
<th>Condition</th>
<th>Control (n=24)</th>
<th>Excluded (n=24)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genuine Smiles</td>
<td>1.1</td>
<td>1.4</td>
</tr>
<tr>
<td>Posed Smiles</td>
<td>1.0</td>
<td>1.2</td>
</tr>
</tbody>
</table>

EMG activity (magnitude)
Results:

Mean EMG activity by Condition and Smile type (error bars ±1 SEM). (a) Pairwise comparisons revealed that only Excluded participants showed more zygomaticus activity when viewing genuine smiles compared to posed smiles (\( **p = .01 \)). (b) There was no effect of exclusion on orbicularis oculi activity.
Results:

Mean EMG activity by Condition and Smile type (error bars ±1 SEM). (b) There was no effect of exclusion on orbicularis oculi activity.
Does facial mimicry of emotional expression explain the changes in smile discrimination? No.
Social exclusion selectively affects reciprocation of facial gestures.
Social exclusion selectively affects reciprocation of facial gestures.

why?

conclusions
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