**Scratch 4**

**Design**

A 2 (identity; British vs English) x 2 (Itch vs non-itch) between subjects design was used. The independent variables were whether the relationship with the target was ingroup or outgroup and whether they observed the itching stimulus or the neutral stimulus. The dependent variables were the self-reported itchiness and the self-reported number of scratches after observing the stimulus.

**Participants**

This study was conducted using 55 undergraduate students from the University of Sussex. Seventeen partcipants were removed after failing manipulation checks leaving N = 38 (27 Female, 11 Male) aged between 19 and 24. Participants were recruited in person in public spaces around campus such as the library or online via the ‘Psychology Subject Pool’ email or the Facebook page ‘Psychology Study Swaps’. Participants were offered chocolate and two chances to be entered into a £25 prize draw as an incentive to take part. The only requirement that participants had to meet was that they were English or identified as English as this was vital in establishing an ingroup or outgroup identity.

**Materials**

Two stimulus clips were used, one in which the target was scratching and the other in which the target was not scratching. The same target is used for each clip, and at the start of each clip a caption saying ‘James, Glasgow, Scotland’ flashed on the screen to identify the nationality of the target. During the scratching clip, the target scratched a total of 8 times and during the non-scratching clip he simply sat observing a film playing off camera. Neither clips had sound. Both clips last 1.24 minutes and were provided by Fergus Neville, University of St Andrews. The pre and post stimulus questionnaires were composed online using Qualtrics, with the participant’s reaction being filmed using the built in webcam on an Apple Macbook.

**Measures**

**Identification (manipulation):** In the pre-stimulus questionnaire, in all conditions, the item ‘Describe up to three things British/English people do most often’ was used to prime participants to either have a British (ingroup) identity or an English (outgroup) identity.

**Identity strength (moderator)** was measured using Likert scales for items ‘I identity with British/English people’ (adapted from Postmes, Haslam, & Jans, 2013) and ‘Being British/English is an important part of my identity’. (adapted from Doosje, Ellemers, & Spears, 1995). Whether British or English was used in the question depended upon whether the participant was in the ingroup or outgroup condition.

**Self-relevance (mediator):** In the post-stimulus questionnaire, the items ‘The person in the video was relevant to me’ and ‘I share an identity with the person in the video’ were used to measure participant’s level of self-relevance with the target in the video.

**Self-reported itchiness (DV):** Participants ranked their itchiness post-stimulus on a 7 point Likert scale for the item ‘How itchy did you feel when you watched the video?’ (1: Not itchy at all, 7: extremely itchy).

**Self-reported number of scratches (DV):** Further, the item ‘Approximately how many times did you scratch during the video?’ was also used to measure whether the stimulus had induced itching.

**Manipulation check:** At the end of the post-stimulus questionnaire, two manipulation checks were included to check whether participants had understood the experimental manipulation correctly. Participants were asked to choose which national group (English/British/Other) they were being tested as a member of, along with where they thought the person in the video was from (Scotland/Wales/Northern Ireland/England/Somewhere else). For both questions, participants simply selected the box next to their desired answer. (See Appendix)

**Procedure**

Participants were randomly assigned to one of the four conditions using the app ‘Randomiser’ on an iPhone. Each participant completed the study alone in a study room in the University library.. Participants were given an information sheet to read describing the study which included misleading information that the study was about ‘cultural differences in assessing emotional experience and expression’. They were then asked to sign a consent form if they were willing to take part.

Participants were then presented with pre-stimulus questionnaire, at the start of which was a paragraph which differed depending on if the participant was in an ingroup or an outgroup condition. For participants in an ingroup condition it stated that we were comparing British, Australian and American people and for participants in an outgroup condition it stated that we were comparing English, Welsh and Scottish people. Participants then completed the questions measuring identification with either British or English people. The intention of this pre-stimulus questionnaire was to cause participants to see themselves as having either a British identity or an English identity. Thus, the Scottish target in the stimulus video should be seen as an ingroup member to those whose British identity was made salient and an outgroup member to those whose English identity was emphasised.

Upon completing this questionnaire the researcher was notified, who then set up the stimulus video and the internal webcam to begin recording the participant. The participant then watched the stimulus video while their reaction was filmed. Afterwards, the researcher was notified again and the webcam was switched off.

Participants then completed the post-stimulus questionnaire containing the items measuring self-relevance, self-reported itchiness and perceived itchiness of the target along with the emotional contagion scale and manipulation checks at the end. Filler items, asking the participants how interesting/sad/funny/boring they think the target found the film they were watching, were also included in this questionnaire to deter participants from guessing what was truly being measured. (See Appendix)

Participant’s demographics were taken including their age, gender, nationality and course, after which the experiment was over. Participants were then debriefed about the true nature of the experiment and invited to ask any questions they may have about the experiment. Finally, participants were thanked for their time and given a pick of various chocolate bars to thank them for their participation.

Video coding carried out by an RA blind to experimental condition. Second RA checked 10% of these.

**Results**

*Main effects of condition*

* Significant main effect of video on self-reported itchiness (higher for scratching video)
* Significant main effect of video (scratch/neutral) and interaction with identity (IG/OG) on self-reported scratching (Kruskal-Wallis) although in the opposite direction to that predicted. However, pairwise comparisons revealed that the only significant difference was between English scratch/neutral conditions, possibly due to outliers.
* No significant main effects or interaction of identity (IG/OG/undefined) or video (scratch/neutral) for:
  + - Shared identity
    - Self-relevance
    - Number of scratches (non-parametric)
    - Scratch duration (non-parametric)
    - Time to first scratch(non-parametric)

*Shared identity/Self-relevance as predictor of itching/scratching (Scratch video conditions only)*

* Did not significantly predict itchiness, self-reported scratching (although B=.549, p=.07, might have been significant if study was fully powered), observed scratching, time to first scratch or total scratching duration.

*Indirect Effects*

* Strength of identification moderated the relationship between video (scratch/neutral) and self-reported itchiness.
* Moderated mediation from Scratch 3 study was not significant.