How facial makeup effect on the implicit or explicit relational responses?

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Introduction

This study examines the effect of facial makeup on a person's implicit verbal self and explicit anxiety. We used the Implicit Relational Assessment Program (IRAP) to measure the behavioral index of psychological flexibility and also analyzed two self-report questionnaires (psychological flexibility and state anxiety).

Methods

Participant: A total of 19 undergraduate women (mean age = 21.63, range = 21–23) filled out a survey form regarding their daily facial makeup behaviors and recognition of such behaviors.

Questionnaires: This study used two questionnaires. One is the Acceptance and Action Questionnaire-II Japanese version (AAQ-II; Shima, et al., 2013), a common measure of psychological flexibility. The other is the State and Trait Anxiety Inventory Japanese version (STAI; Toyama et al., 1976), of which 20 A-state items were used.

IRAP. IRAP Japanese version (2012) was installed on a laptop computer. Table 1 shows the setting used in the current experiment. Six positive words pertaining to confidence or self-satisfaction were used as target 1 stimuli while six negative words with the opposite meaning were chosen as target 2 stimuli.

Procedures

Procedure: The participants submitted written consent forms first. Half of them answered the two questionnaires wearing facial makeup and then tried the IRAP. After finishing the latter, they removed their makeup using remover papers during a 10-minute rest period. They then answered the same two questionnaires and the IRAP again. The remaining participants undergo the same process but without any makeup. They put makeup during a rest period and repeat the same process again. Thus, all participants filled out the two questionnaires and IRAP twice.

Data analysis: To examine the effect of facial makeup, one-way ANOVA was performed with the makeup and no-makeup conditions as independent variables. The dependent variables were the scores of the two questionnaires and the DIRAP scores. The response latencies of consistent and inconsistent trials were used as the behavioral index of psychological flexibility. The mean response latency scores were calculated and also used as a dependent variable in the ANOVA.

Table 1 IRAP Setting

| label St.	P's name	Other Name
target St.	positive	negative
	confidence	timid
	superiority	inferiority
	honor	dishonor
	satisfaction	complaint
	fullness	empty
	sufficient	shortage
response key	same	different
median of response latency	2000ms	
correct rate of practive phase	80%	

Results

A significant difference was found between the makeup and no-makeup conditions in the STAI scores ($F_{(1, 18)} = 11.53$, $p < .01$, $\eta^2 = .39$) and in the total DIRAP scores ($F_{(1, 18)} = 4.82$, $p < .04$, $\eta^2 = .21$). Table 3 illustrates the DIRAP scores for each trial type in the two conditions. One-sample t-test was conducted to examine biases from 0. In the makeup condition, the "participant's name–positive word–same" and "other's name–positive word–same" responses were significantly biased. Conversely, the ANOVA revealed significant biases in the "participant's name–positive word–same" response, the "participant's name–negative word–different" response, and total DIRAP scores in the no-makeup condition. No significant correlation was found among the associations between the two questionnaires and IRAP measurements (DIRAP scores and response latencies).

Table 2 Results of ANOVAs

		mean	SD	mean	SD	F	p	η^2
questionnaires	STAI	34.84	8.96	41.11	9.75	11.53	**0.01**	**0.39**
	AAQ—II	23.84	9.08	23.58	8.51	0.19	0.67	0.01
IRAP	P's name/pos	0.52	0.30	0.54	0.46	0.03	0.87	0.00
	P's name/neg	0.02	0.38	0.28	0.43	3.86	0.07	0.18
	Other/pos	-0.26	0.34	-0.10	0.36	2.02	0.17	0.10
	Other/neg	-0.10	0.28	-0.06	0.41	0.17	0.69	0.01
	Total	0.04	0.17	0.17	0.21	4.82	**0.04**	**0.21**
response latency	consistent	1337.02	116.28	1329.13	172.61	0.05	0.82	0.00
	inconsistent	1341.90	138.71	1360.70	157.37	0.30	0.59	0.02

Table 3 DIRAP scores of trial types
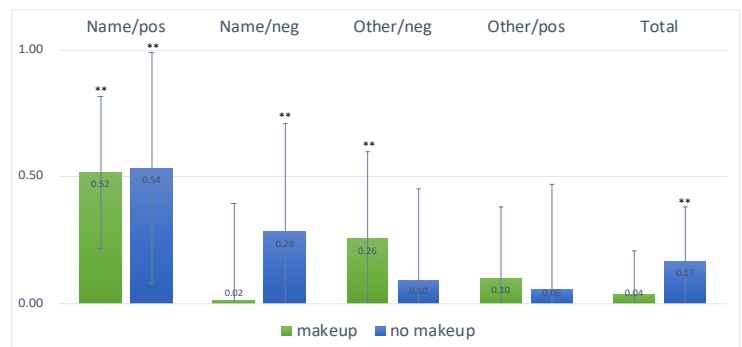
Discussion

To the authors' knowledge, this study was the first to report that facial makeup affects both elaborate and brief relational responses. Facial makeup behaviors affect one's state of anxiety and total DIRAP scores. State of anxiety and total DIRAP scores in the no-makeup condition were higher than those in the makeup condition. Meanwhile, psychological flexibility was not influenced implicitly or explicitly. Considering the difference in trial type between the two conditions, the total DIRAP scores were affected by "participant's name–negative word–different." This means the participants strongly responded "different" to the stimuli that simultaneously presented the "participant's name" and the "negative word." While facial makeup behaviors did not influence psychological flexibility, they affected brief relational responses (e.g., "self-negative").