

The Influence of Facial Traits with Different Scenarios in Helping Intention

Qingyun Huang
Wenzhou-Kean University, Zhejiang 325060, China.

Abstract: Individuals' helping behaviors have been found in research to be affected by facial traits. The experiment started from the four facial traits, using a one-group post-test design, and examined the intention of seventy students to help with different facial traits under two help scenarios. The results show that facial traits significantly affect the individual's helping intention, and extrovert facial traits show the highest significance. Facial traits interact with the helping situation and affect the individual's will to help. The experiment also implicates that if an individual looks more enthusiastic and outgoing in social life, the chance of getting help is higher. People are more inclined to help others in a no- scenario.

Keywords: Facial Traits; Scenario; Helping Intention; Introvert; Extrovert

Introduction

The face is one direct source for individuals to obtain, classify, and understand personal characteristics. Individuals use facial features to infer the characteristics of others. Facial trustworthiness refers to one judging whether an individual is worthy of credibility based on appearance (Ma et al., 2014). The introversion and extroversion of a face refer to how other people interpret a person's personality from their physical features or emotional characteristics (Pugh, 2000). Some situations and personal characteristics will restrict the individual's helping intention (Ciarrochi et al., 2002). According to the Person-Context Interaction Theory, contextual factors affect the individual's help behavior. For example, compared to seeing a robbery by a gangster and seeing others being stolen on a bus, individuals would have different reactions to help (Shentu, Ma, & Guo, 2018). Studies also have pointed out that a face's credibility affects individual decision-making and pro-social behaviors (Tracy et al., 2020). Individuals with beautiful faces are more likely to attract individuals willing to help (Zhang, Kong, Zhong, & Kou, 2014).

Research has explored the influence of face credibility on the helping behavior's intention. Still, it did not give a clear difference in the setting of the helping scenario. Under different help situations, individuals will have distinct thoughts and cognition even when facing the same face (Calder & Young, 2005). Meanwhile, there is a lack of sufficient exploration of the influence of facial features that can reflect individual personality on helping intention. In this study, help scenarios are divided into financial-related help and ordinary help that college students will encounter in their daily lives. By studying the help intention of individuals in different situations for the same face traits, we also further explore the interaction between scenarios and facial traits on the helping intention. Furthermore, because both good and bad aspects of motivation and results are involved in the helping scenario, the research only focuses on the results of help obtained when the helper's motivation is good. Furthermore, this study also investigates the differences in helping intention between gender.

The hypothesis includes the significant difference in helping intention between the different facial traits and scenarios (Hypothesis1); the helping financial scenario and the daily life helping scenario (Hypothesis2); the extrovert and introvert facial traits (Hypothesis3); the trustworthy and untrustworthy facial traits (Hypothesis4); the gender with trustworthy and untrustworthy facial traits (Hypothesis5); the gender with different scenarios (Hypothesis6).

1. Method

1.1 Participants

The study recruited 70 WKU undergraduate students from freshman to senior. The participants' age ranged from 18-25 including 30 males and 40 females. Table 1 depicted a basic analysis of the demographic profile. The sampling method is convenient sampling, which uses the least money, time, and effort for the researcher (Marshall, 1996). It is also a form of non-probability sampling, easy to access the direct data (Marshall, 1996).

Table 1- Table of age and gender distribution of participants

Dimensions	Groups	Frequency	Percentage
Age	18-25 years old	70	100.00%
Gender	Male	30	42.86%
	Female	40	57.14%

1.2 Materials

1. The face of Untrustworthy comes from a study by Ma Fengling et al. (2014). The study used Facegen Modeller 3.0 software to randomly generate 100 male faces of East Asian ethnicity with neutral emotions and asked 30 college students. The average low-confidence face is 2.70 (SD = 0.27).

2. The face of trustworthy, extrovert, introvert comes from a study (Olivola et al., 2014). The study used a computational model based on the consensus reached by visualizing social attributes in facial expressions to simulate the various types that could be assessed. The significance of facial features is less than 0.001.

3. The Helping Attitudes Scale (HAS) is the instrument used to measure people's attitudes toward helping others and was developed by Nickell in 1998 (Nickell, 1998). It is a Likert- Scale and has 20 items. According to preliminary analysis, the HAS is a reliable and accurate research tool. This study will select two items.

1.3 Procedure

Participants will be randomly selected from WKU college students and will be invited to finish the experimental task in one classroom. Before beginning the experiment, every participant would sign an informed consent form to ensure they were aware of the experiment's focus on facial characteristics. The experiment used a one-group post-test design.

Participants did an online task that included four facial pictures and two main helping scenarios in determining whether to give help according to the given combination case. Participants would report their emotional situation in helping others on a semantic differential scale, and the helping intention would be calculated on Likert scales. The whole experiment process will last 10-15 minutes. No interference with the participants during the experiment, and all instructions for use are written on the task.

Data will be entered into SPSS for analysis and then locked in the device, guaranteeing that only the researcher can access the information. After the experiment is done, the researcher will debrief the information and results.

2. Result

SPSS 26. 0 was used to analyze all the data. There were no outliers or missing data after the preliminary analysis of the data.

A two-way repeated-measures ANOVA was conducted to determine whether there were variations in face traits and different events that affected people's helping intentions.

For the interaction effect with different facial traits and scenarios, the results of the Mauchly sphericity test indicated that there were significant differences in four facial traits and two different scenarios in Table 2 and Figure 1($p=0.109>005$). Simultaneously, according to Table 3, there is a significant relationship between scenarios and helping intention, $F= 14.371$,

p>0.05. The results also revealed a significant difference between facial traits and helping intentions, F=32.066, p>0.05.

Table 2- Mauchly's Test of Sphericity

Within Subjects Effect	Mauchy's W	df	Sig.	Greenhouse-Geisser
Facial*Scenario	.875	5	.109	.922

Figure 2

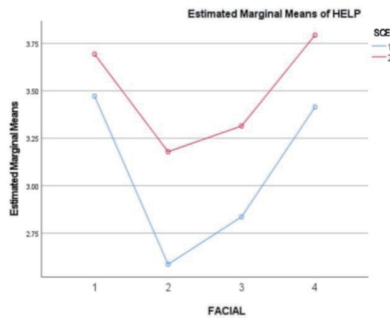


Table 3-A two-way Repeated measures ANOVA for influenced by all facial traits and scenarios

	Type III Sum of Squares	df	Mean square	F	Sig.
Scenario	24.445	1	24.445	14.371	.172
Facial	55.464	3	18.488	32.066	.317
Facial*Scenario	2.605	3	.868	2.980	.041

Main effects of within- subject factors facial traits, and scenarios, along with interactions.

As significant differences emerged within the facial features group and the scenario group, the Least-Significant Difference test was conducted for specific research. The results show that individuals' intention to help in scenario 2 (non-financial scenario) is more significant (p<0.05); the intention to help is more significant for extroverted and trustworthy faces (p<0.05).

Table 4- The Least-Significant Difference test of two scenerios

(I)Scenario	(J) Scenario	Mean Difference (I-J)	Std.Error	Sig.
s1	s2	-.418*	.110	.000
s2	s1	.418*	.110	.000

The independent sample t-test are conducted to study the difference between gender for the trustworthy and the untrustworthy facial trait, and two scenarios. Results revealed no significant difference between the gender for trustworthy and untrustworthy and different scenarios (p>0.05).

Table 5 -The Independent sample t-Test for the introvert, extrovert facial traits and two scenarios

	Gender (Mean)		t	p
	male(n=30)	female(n=40)		
Introvert	3.15	3.09	0.258	0.797
Extrovert	3.82	3.91	-0.479	0.634
Scenario 1	3.17	2.98	0.822	0.414
Scenario 2	3.52	3.73	-1.107	0.272
* p<0.05 ** p<0.01				

3. Discussion

The results accept hypotheses 1, 2, 3, and 4 and reject hypotheses 5 and 6. It reveals that the face traits and economic context affect the individual's helping intention, and there is an interaction between different scenarios and face traits. Especially for faces with untrustworthy facial traits, the intention of individuals to help is significantly lower than that of other facial trait

groups. Surprisingly, those with extroverted faces get the highest score in the comparison of the mean. In other words, the data indicate that individuals are more willing to help when facing people with extroverted faces, which is related to a common phenomenon in life. People who look kind are also more likely to get help. The experiment's different scenarios on helping behaviors verified that people prefer to offer help without financial requirements.

The insignificant influence of gender group may come from the limitations of the sample, or the setting of the scenarios does not give the subjects sufficient discrimination choices. Some studies have pointed out that many confounding variables will constrain the influence of situations on helping intentions (Chen et al., 2019). In daily life, facial traits have a non-negligible impact on individuals. For the individual, reducing the prejudice against faces can help society develop more harmoniously (Olivola et al., 2014).

As a limitation, part of the selected facial feature images for credibility testing comes from foreign countries, and most samples are over 30 or under 18 years old. It is very different from the subjects recruited in this experiment. Then, the scenarios set in the experiment have not undergone pretests to help test the feasibility and effectiveness of the scenarios, which will cause errors in the experiment. The cognitive error will cause the internal validity to decrease. Future research can control errors due to experimental settings by adding an experimental control group. The planned intervention expanded from the influence on the subjects' intention to help to the influence on the subjects' help behavior. And choose faces more suitable for the scene of the issues.

References

- [1] Calder AJ, & Young AW. (2005). Understanding the recognition of facial identity and facial expression. *Nature Reviews Neuroscience*, 6(8), 641–651.
- [2] Chen Y, Dai R, Yao J, & Li Y. (2019). Donate Time or Money? The Determinants of Donation Intention in Online Crowdfunding. *Sustainability*, 11(16), 4269.
- [3] Ciarrochi, J., Deane, F. P., Wilson, C. J., & Rickwood, D. (2002). Adolescents who need help the most are the least likely to seek it: The relationship between low emotional competence and low intention to seek help. *British Journal of Guidance & Counselling*, 30(2), 173–188.
- [4] Ma FL, Tang YL, Zheng TT, & Xu F. (2014). The development of 3-to 5-year-olds' trust judgment based on face. *Psychological Development and Education*, 30(4), 337–344.
- [5] Marshall MN. (1996). Sampling for qualitative research. *Family Practice*, 13: 522-525.
- [6] Nickell G. (1998). The Helping Attitudes Scale. Paper presented at 106th Annual Convention of the American Psychological Association at San Francisco, August 1998.
- [7] Olivola CY, Funk F, & Todorov A. (2014). Social attributions from faces bias human choices. *Trends in Cognitive Sciences*, 18(11), 566–570.
- [8] Shentu T, Ma J, & Guo Y. (2018). Social attachment shapes emergency responses: Evidence from a postfire study. *Social Behavior and Personality: An International Journal*, 46(1), 139–150.
- [9] Tracy RE, Wilson JP, Slepian ML, & Young SG. (2020). Facial trustworthiness predicts ingroup inclusion decisions. *Journal of Experimental Social Psychology*, 91, 104047.
- [10] Zhang Y, Kong F, Zhong Y, & Kou H. (2014). Personality manipulations: Do they modulate facial attractiveness ratings? *Personality and Individual Differences*, 70, 80-84.