



DISCREPANCY BETWEEN FIRST IMPRESSION AND SOCIAL DESCRIPTION, AND ITS EFFECT ON PEOPLE'S ATTITUDE

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Abstract

Purpose: Both facial appearance and behaviors could respectively contribute to impression formation towards an individual. However, when there is congruence between information decoded from facial appearance and behaviors which may determine impression in different ways, effect of both factors will be altered. This study aimed to investigate the discrepancy between the information carried by the face, i.e. facial trustworthiness and social description, and how these two factors influence individuals' attitude towards a newly-met person, and their judgment with regard to warmth and competence.

Methodology: An experiment was conducted, asking participants to rate their impression in terms of warmth and competence towards an individual whose facial appearance was manipulated either to be trustworthy or untrustworthy, and whose behavior was described in a short vignette.

Main Findings: The results indicated that social description had a significant influence on both warmth and competence impressions. Facial trustworthiness had no effect. It was also discovered that competence was found to be generally judged more positive than warmth, which implied judgment of warmth was made more reservedly.

Implications: The study would serve as an antecedent to further investigation on managing people's impression towards oneself, in which such management aids in developing and maintaining positive personal relationship amongst human beings. The study will demonstrate a new vision to the researchers in cognition and perception on exploring approaches to define the mechanism involved in impression formation or attitude.

Novelty: Researchers trust that currently there is still no related research that would determine the direction and strength of effect from facial trustworthiness and social description.

Keywords: *First impression, Facial Trustworthiness, Stereotype, Attitude, Experimental Psychology*

BACKGROUND, OBJECTIVES AND GOALS

Forming impressions to recognize others is an inevitable process in social communications. Facial appearance ([Anderson and Siegel, 2012](#); [Jack and Schyns, 2015](#); [Sun et al., 2016](#); [Willis and Todorov, 2006](#); [Xu et al., 2018](#)) behaviors and belongings to social groups ([Fiske et al., 2002](#)) Jussim et al., 1995 ([Blais and Forth, 2014](#)) are the attributes we often concern in such process.

Both appearance and labels are proved to be influential in the impression constructing process, which of them has a greater impact is as yet unknown and understudied in the areas of social psychology and social perception research, especially in the case of facial trustworthiness influencing social description and vice versa. We aimed to observe the effect of facial trustworthiness and social description on warmth and competence impression judgments, as well as to check the existence of interaction between the attributes.

METHODOLOGY

Participants

One hundred and seven participants aged above 18 years were recruited from the population of University of Glasgow students and the general population. Participants were recruited via links on social media (Facebook, Twitter etc.) through snowball sampling from the researcher's personal contacts. Participants were randomly allocated to one of the experimental conditions.

Face Stimuli

The face stimuli consisted of two photographs, which were digitally manipulated using Psychomorph (Tiddeman et al., 2001) to convey high or low levels of trustworthiness. The original images were obtained from The Karolinska Directed Emotional Faces (KDEF) database (Lundqvist et al., 1998) and were rated by independent observers on numerous social traits (for details of ratings, please refer to Oosterhof and Todorov (2008)). To create the trustworthy and untrustworthy prototypes, we first delineated the original face stimuli by applying 189 points to mark specific features of each face. Next, we averaged (Rowland and Perrett, 1995) separately the 15 most trustworthy ($M= 0.66, SD= 0.28$) and the 15 most untrustworthy ($M= -0.023, SD= 0.47$) female faces. The stimuli used in the experiment are depicted in Figure 1.

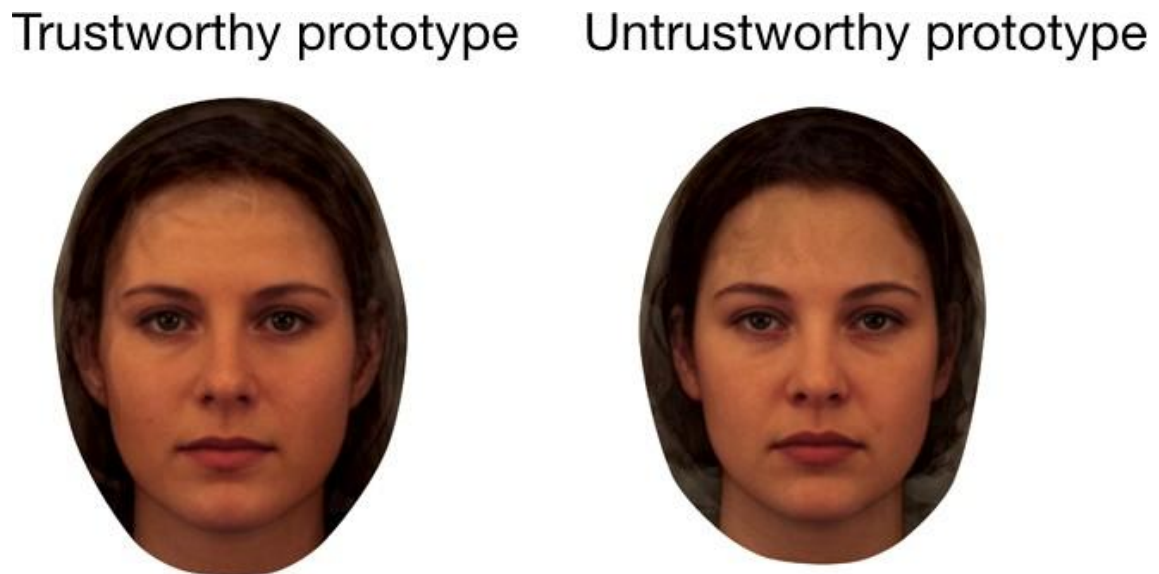


Figure 1: Stimuli used in the experiment

Vignettes

Participants were presented with a vignette depicting an image of a female face (trustworthy or untrustworthy prototype) and short text of social descriptions regarding the individual. The social description provided cues for evaluation of the individual's warmth and competence. Warmth and competence from the model of stereotype developed by Fiske et al. (2002) were chosen to act as measurement of impressions. The vignettes varied in the level of warmth and competence that could be associated with the depicted individual. Positive social description included: "This is Alex. She is always glad to help anyone in need, even strangers. She likes to share her own experiences, but can keep a secret. She also tries hard to solve relationship problems and maintain harmony among her peers. She is always on time to classes and pays attention, and is aiming to pursue a Ph.D. She loves attending seminars and academic talks held at the University". While negative social description included: "This is Alex. She never greets people and can be quite arrogant at parties. She always blames others for poor social relationships or poor academic results. She never shows up for project group meetings or online discussions. She never reads recommended articles and textbooks for lecturers. She goes traveling before the exam period".

DESIGN AND PROCEDURE

The study was conducted in a form on an online survey. The vignettes depicted the face stimuli, centered on page and followed by a social description. In this between-subject design, participants were randomly allocated to one of the four experimental conditions: trustworthy face/positive social description, trustworthy face/negative social description, untrustworthy face/positive social description, and untrustworthy face/negative social description. The conditions were constructed in

such a way that attitude generated under incongruence between facial trustworthiness and character was compared against that of congruent samples (which served as the control conditions) to observe the effect of impression discrepancy. Following presentation of the vignettes, participants were asked to rate the target individual on willingness to befriend (warmth dimension) and expectation of the target individual's examination result (competence dimension) on a 7-point Likert scale.

ANALYSIS

For each participant and each condition, we obtained a rating for the warmth and competence dimension. These ratings for each of the experimental conditions were used in the main analyses. The variance between the ratings in each experimental condition was calculated using two 2x2 between-subject ANOVA, one for the warmth dimension and one for competence dimension. Specifically, a 2 x 2 x 2 within-subject ANOVA was used to check the third hypothesis which suggested that warmth and competence judgments are made in different ways, by investigating interactions across judging dimensions, social description and face trustworthiness level.

RESULTS AND DISCUSSIONS

Descriptive Statistics

Table 1: **Descriptive data grouped by gender**

Gender	n	M	SD	Min	Max	Skew	Kurtosis
Female	68						
Warmth		3.21	2	1	7	0.56	-1.09
Competence		3.88	1.86	1	7	-0.02	-1.17
Male	38						
Warmth		3.89	2.26	1	7	-0.08	-1.69
Competence		4.53	1.83	1	7	-0.49	-0.88
Prefer no to say	1						
Warmth		4					
Competence		5					

Table 1 is showing the distribution of participants' gender, with their ratings towards the stimuli on warmth and competence. In order to check the normality of distribution, the Shapiro-Wilk normality test was applied and we obtained the result of $p= 0.00$. This implies that competence ratings were normally distributed. According to Figure 2 below, warmth ratings distribution is binomial (U-shaped).

Table 2: **Distribution of age of participants**

Age	n	%
18-25	46	43
26-33	19	18
34-41	15	14
42 and above	27	25

Table 2 shows the age distribution of the participants. Most of the participants were young adults (18-25, $n = 46$), however, there was a good spread of participants across ages.

Histograms in Figures 2 and 3 are illustrating the data distribution for warmth and competence judgment.

The expected results for the present study are: firstly, the effect of social description on the participants' judgments would overwhelm that of visual information provided by face trustworthiness and would be positively related to the judgment in competence and warmth. This assumption was made based on the labelling effect (Blais and Forth, 2014), which indicates the biasing effect created due to the diagnostic label dominating participants' attitudes even if there are still other

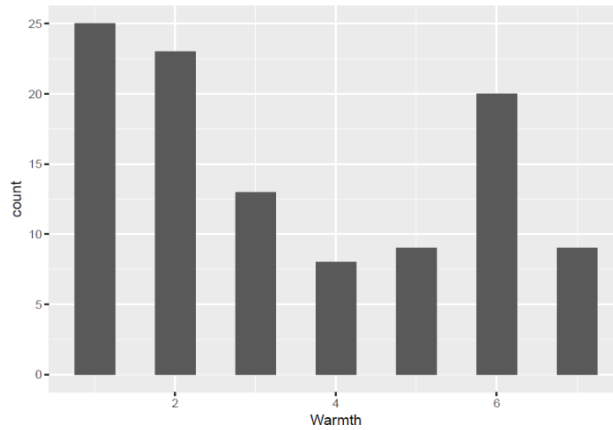


Figure 2: Distribution of ratings on warmth amongst all participants

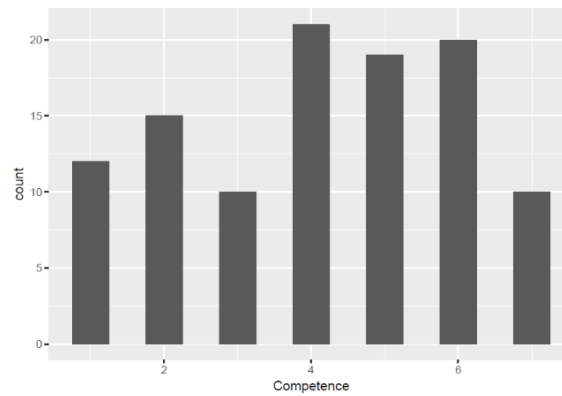


Figure 3: Distribution of ratings on competence amongst all participants

determining attributes provided. Secondly, we predicted that the judgment of warmth would be more rigorously made than the judgment of competence whereby the mean of total warmth ratings across all conditions would be slightly lower than that of competence. As mentioned in the Introduction section, wrongly perceiving an unfamiliar individual can cause undesirable results in terms of relationships. This is particularly applicable to warmth rather than competence because warmth (friendliness) is more relevant in the context of developing long-term interpersonal relationships.

Warmth Dimension Analysis

Table 3: Summary of warmth judgements

Warmth		<i>n</i>	<i>M</i>	<i>SD</i>
Positive social description	Trustworthy face	25	4.6	2.06
	Untrustworthy face	25	5.2	1.61
Negative social description	Trustworthy face	25	2.1	1.53
	Untrustworthy face	32	2.3	1.09

Fifty responses were collected for trustworthy face conditions and 57 were collected for untrustworthy face conditions. The mean score of trustworthy face conditions on warmth was 3.34, whereas the mean of untrustworthy face conditions ratings was 3.56. The mean score of negative and positive social description conditions was 2.19 and 4.91 respectively.

Regarding the interaction between face trustworthiness and social description, we obtained 25 responses for each condition, except for the untrustworthy face-negative social description condition, which reached 32 responses. The responses are

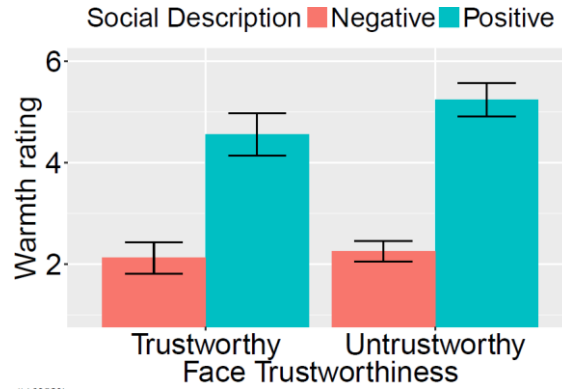


Figure 4: **Bar chart of average rating on warmth in different conditions across face trustworthiness and social description**

summarised in Table 3 and visualised with bar chart in Figure 4.

To test for the difference in warmth ratings across the experimental conditions, we used a 2 x 2 between-subject ANOVA. ANOVA with between-subject factors of face trustworthiness level (trustworthy vs. untrustworthy) and social description (positive vs. negative) was applied to analyse the data. ANOVA revealed that social description had a significant effect on warmth impression, $F(1, 103) = 76.239$, $p = 0.000$, $\eta^2 = 0.425$, indicating that participants judged the portrayed individual as more friendly when presented with a positive social description. There was no significant main effect of face trustworthiness level, $F(1, 103) = 0.503$, $p > 0.05$, $\eta^2 = 0.005$, on the impression of warmth, indicating the fact that manipulation of the face trustworthiness level did not have any effect on the judgement of the portrayed individual. Finally, there was also no significant interaction between face trustworthiness level and social description, $F(1, 103) = 0.770$, $p > 0.05$, $\eta^2 = 0.007$.

COMPETENCE DIMENSION ANALYSIS

Table 4: **Summary of competence judgements**

Competence		<i>n</i>	<i>M</i>	<i>SD</i>
Positive social description	Trustworthy face	25	5.2	1.50
	Untrustworthy face	25	5.3	1.11
Negative social description	Trustworthy face	25	3.0	1.89
	Untrustworthy face	32	3.2	1.45

The mean score of trustworthy face conditions on competence was 4.14, while the mean of untrustworthy face conditions ratings was 4.11. The mean score of negative and positive social description conditions was 3.12 and 5.26 respectively.

For the interaction between face trustworthiness and social description, responses on competence ratings are summarised in Table 4 and visualised in Figure 5.

Similarly, ANOVA was used to analyse the data for competence impression. Again, social description was found to have a significant effect on competence impression, $F(1, 103) = 51.567$, $p = 0.000$, $\eta^2 = 0.334$, implying that the portrayed individual was judged to be more competitive when positive social description was presented. No significant main effect of face trustworthiness level was found, $F(1, 103) = 0.014$, $p > 0.05$, $\eta^2 = 0.000$, on the impression of competence, implying that the manipulation of face trustworthiness on the portrayed individual did not impact on the judgement concerning competence. Besides, there was also no significant interaction between face trustworthiness level and social description, $F(1, 103) = 0.032$, $p > 0.05$, $\eta^2 = 0.000$.

The ANOVA analysis result supported our first hypothesis, which prompted the concept of social description being a stronger factor manipulating impression formation than the face trustworthiness. While faces can certainly help individuals generate a primary impression by predicting them whether or not they belong to a warm and friendly person; hence,

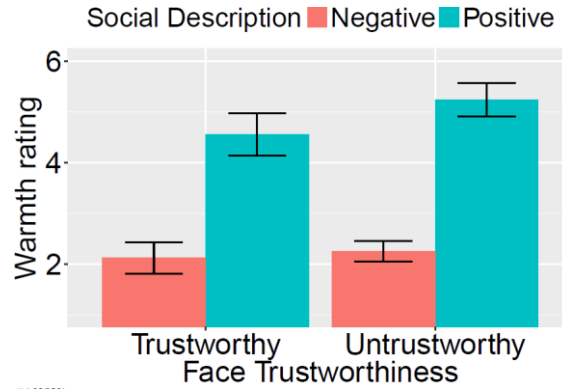


Figure 5: Barchart displaying average rating on competence in different conditions across face trustworthiness and social description

to categorise them as an ingroup or outgroup member, if concrete information, such as how this person usually acts, is introduced, facial impression is completely overridden. The surprisingly high significance of effect of social description has proven the strong influence of labeling effect on judgements. A potential explanation for this phenomenon is that human beings are evidence-seeking. Although impression is formed subjectively and personally, individuals would attempt to achieve objectiveness by taking into accounts others' opinion or observation when they have to make decisions. In order to maximize the accuracy of judgements, rather than relying on abstract facial impression, which is not an evidence-based source, they tend to refer their judgements to the outer sources provided. The Terror Management Theory developed by Greenberg et al. (1997) states that the concept of mortality might urge individuals to reach a consensus in worldviews for the pleasure of being a valuable member in the community. They possess faith in others' (especially the majority's) views rather than their personal view under uncertainty by having a subjective assumption on the social description provided being more objective. Since social description was not stated as an observation on behaviours by the participants, but as the "given statement" directly displayed in the experiment, they were not suspenseful towards the correctness of the information; while the experiment did not tell the degree of trustworthiness of the shown face or how reliable the face was, concrete behaviours described in words implies a superior source to predict personality and dominate the salience of factors impacting impression formation.

COMPARISON ANALYSIS

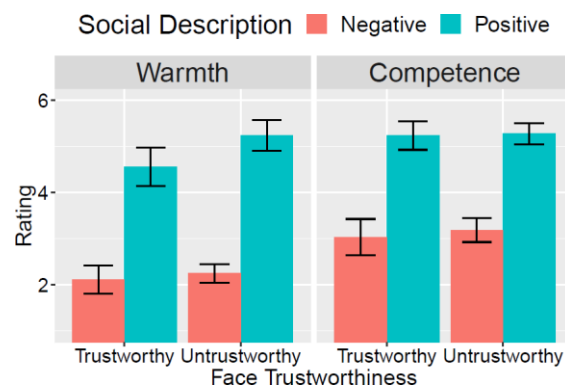


Figure 6: Barchart comparing mean ratings on warmth and competence

To observe the differences in the way that participants make warmth and competence judgements, a 2 x 2 x 2 mixed ANOVA was used for the comparison analysis. ANOVA with within-subject factors of rating dimensions (warmth vs. competence), together with the previous between-subject factors ANOVA were applied to analyse the data. A significant effect of rating dimension was observed, $F(1, 103) = 9.5, p = 0.00, \eta p^2 = 0.044$, indicating that warmth and competence

were judged differently even when the portrayed individual was described congruently in terms of friendliness (warmth) and competence. The difference is displayed in Figure 6 by comparing the means of warmth and competence. Competence seems to be the dimension judged more positively across all conditions, while warmth judgements were more preserved. Face trustworthiness level was not found to have any interactions with either social description, $F(1, 103) = 0.261, p > 0.05, \eta^2 = 0.001$; nor the rating dimensions, $F(1, 103) = 0.352, p > 0.05, \eta^2 = 0.002$. Moreover, there was also no interaction between social description and the rating dimensions, $F(1, 103) = 1.849, p > 0.05, \eta^2 = 0.009$. Finally, there is no interaction of face trustworthiness, social descriptions and the rating dimensions, $F(1, 103) = 0.576, p > 0.05, \eta^2 = 0.003$.

The table below (Table 5) shows the summary of mean scores obtained by face trustworthiness, social description and rating dimensions.

Table 5: Summary of mean ratings

	Conditions	<i>n</i>	<i>M</i>
Face trustworthiness	Trustworthy	50	3.74
	Untrustworthy	57	3.83
Social description	Positive	50	2.66
	Negative	57	5.08
Rating dimension	warmth	107	3.46
	Competence	107	4.12

To confirm the second hypothesis, the result indicates that on average, participants made expectations on the portrayed individual more optimistically when they predicted competence, while they seemed not to trust the individual with regard to how sincere or friendly the individual could be. This is also supported by Figures 3 and 4 and Table 5, which showed the mean scores of warmth and competence. Referring to Table 5, the mean rating of competence was 4.12, while that of warmth was 3.46. There are several interpretations for this result. First, participants might be reserved to rate high on warmth yet not on competence relatively, due to their prudence in judging others' warmth. It is reasonable to imply that when the participants were uncertain about whether they could invest affection in a stranger, meaning they were not willing to "like" this person much before having opportunities to further interact, and their perceived warmth towards this person was lower. However, comparatively, they did not hesitate when rating competence, because only when they falsely believe in an individual for being kind and honest, would they suffer heavy mental losses from the lies; whereas overestimating or underestimating one's capability to compete would not severely harm the relationship (unless the relationship was built for personal interest rather than friendship, such as having a business partner). Another possibility of this result is related to the concept of stereotype and the effectiveness of stereotyping labels. Fiske and Neuberg (1990) suggested that it is the cognitive mechanism underlying labelling effect which matters in the possession of attitude towards the others. Labels are given a set of "definitions" to summarise its expression of idea about what the labelled object looks like. Therefore, individuals' understanding of the definition of the label is important when judging the labelled target. If the description schematised (i.e. the perceived definition of the label) does not include some of the aspects in categorising people, it is unfeasible to measure and observe the effectiveness of labelling effect on those aspects. Consequently, information provided in the experiment about the targeted individual can be irrelevant in judging a person's ability and hence competence may be perceived as relatively positive because of their general respect towards strangers. The possibility that participants did not rate competence fully based on the information provided, as they did on warmth, can be tested with follow-up research. Wilson and MacLean (2011)

CONCLUSION

In this study, some universal rules on how people form an impression of a newly met individual were discovered. When individuals are presented with different sources of information, i.e. faces as well as verbal descriptions of one's behaviours, their judgements in dimensions of warmth and competence are heavily made, based on the description rather than the facial appearance. Social description dominates the judgements with its overwhelming effect against facial trustworthiness, hence the incongruence in terms of warmth and competence between facial trustworthiness and social description does not differentiate its impression outcome from that of individuals with congruent facial appearance and behaviours. However, across all conditions with the target having different levels of facial trustworthiness and described warmth and competence,

individuals generally judge warmth prudently, while being more optimistic in predicting others' capability to compete in society. Using the present study as a basis, more research can be done to investigate the relationship of warmth and competence, and how they influence each other in the mechanism of impression formation. The study gives us insight to understand how human beings process information to form impressions, as well as their subconscious focus on certain types of information among the vast sources to acknowledge about others.

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