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Political inclination and the physical attractiveness stereotype: An experimental enquiry

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Abstract
The Physical Attractiveness Stereotype is a result of the Halo effect, or the tendency to form general impressions of objects, particularly people, based on one or two characteristics, in the case of the Physical Attractiveness Stereotype, the physical appearance of a person. This can be related with an informal observation to both Marxist Holism in the Left and the Rightist tendency to value group membership as opposed to uniqueness. As such, the question of whether there exists a relation between political inclination and the Attractiveness Stereotype is an interesting question. In the current study, we conducted a randomised experiment to investigate if such a relation exists, using a logistic regression model with the group traits as independent variables in addition to a term of interaction. We find that no statistically significant relation exists between political inclination and the Attractiveness Stereotype.

Keywords: political inclination; the attractiveness stereotype; the halo effect; experimental social science

1. Introduction

The categorisation of people and political beliefs and positions is an old pursuit. Ever since the French Revolution, the placing of political views on a uni-dimensional scale, or the 'Left-Right Political Spectrum' has become popular [1]. The Left largely identifies with movements like Communism, Trade Unionism, Anti-Racism etc. while the Right associates itself with Traditionalism, Conservatism, Fascism etc. There exist movements that are difficult to classify, however, such as the Green Movement or Regionalism [2]. Not only in the pursuit of forming groups, there appears to be certain other fundamental differences between the Left and the Right which have interested behavioural researchers for long. A difference in values is the most obvious to point out— while the Right values ego-defensive virtues such as cleanliness and obedience, the Left values open-mindedness and imaginative and intellectual modes of thinking [3]. There are deeper differences however, rooted in psychology itself. When the Myers-Brigs Big Five Tests were conducted on samples of leftists and rightists, it was found that the leftists score significantly higher on openness and agreeableness, while rightists score significantly higher in introversion and conscientiousness [4]. It has also been found by analysing the data of online conversations in social media that the leftists are more likely to favour "uniqueness" more while rightists tend to prefer "group membership" instead, at least when conversing online [5]. There are numerous other psycho-social characteristics that differentiate the left and the right.

One interesting difference permeates both the psychological or behavioural and the philosophical spheres. While psychologically, as already discussed above, the Right values group membership as opposed to the Left valuing uniqueness, a different scenario emerges when studying their respective movements and philosophies. While leftist philosophies like Marxism are claimed to be Holistic, leftist Anarchism is many a times considered Individualistic [6, 7, 8]. On the Right, while Fascism can be considered collectivist due to its strong sense of group belongingness and the belief in the supremacy of the 'State', Libertarianism is highly individualistic in its approach [9, 10]. This is a rather confused state of affairs regarding the viewing of objects in 'whole' or 'in parts'. While we admit that trying to infer psychological phenomena on the basis of broad and vague accounts of philosophy is a very far-fetched exercise, we believe it is necessary to at least note the connection with philosophical Holism and Individualism to at least motivate future research.

This discussion motivates our introduction of the Halo Effect. The Halo Effect is a cognitive bias where hasty generalisations are made on the basis of one or two characteristics only.[11]. In the Attractiveness Stereotype, which is considered a form of the Halo Effect itself, the physical attractiveness of a person is used to gauge the person's overall persona [12]. Thorndike has commented, that he had become convinced that "even a very capable foreman, employer, teacher, or department head is unable to treat an individual as a compound of separate qualities and to assign a magnitude to each of these in independence of the others" [11]. Nisbett and Wilson have also noted this tendency to form general perceptions about people even in the absence of the required information [13].

A large body of literature is already devoted to the investigation of the Halo Effect and the Physical Attractiveness Stereotype in relation to political decision-making. In fact, the work so far is quite impressive. Todorov et. al. (2005) have, for instance, made the interesting finding that how people judge competence based on physical appearance can be used to predict election outcomes [14]. Surawski and Ossof (2006) have investigated empirically, how the perception of a politician changes with different combinations of appearances and voices and have found statistically significant relations [15]. The Halo effect has also been used to explain a greater support for radical right-wing candidates compared to other areas, controlling for several other socioeconomic factors [16]. We also find empirical

studies exploring the relationship between partisanship (belongingness to a particular political party or movement) and the Halo effect in countries like the US, in both the parties' decisions to field candidates and voters' decisions to vote. It has been found, for instance, that in closely fought elections, the physical attractiveness of a candidate plays a significant role in determining the winner. The effect is largest for independent voters, but exists even in partisan voters [17].

Despite the extensive literature on the relation between the Halo Effect and political decision-making, we were not able to find any study that directly studies whether the prevalence of the effect differs or is the same between the Left and the Right. This is precisely the gap in research that the current study seeks to fill. For our purposes, we use a randomised control experiment setting explained below.

2. Methodology

We assess the interaction between the Physical Attractiveness Stereotype and the political inclination of a person using a Randomised Control Experiment framework. We follow a two-step procedure, where in the first step, we gauge the political inclination of respondents using the 12-Item Social and Economic Conservatism Scale (SECS), developed by Everett in 2013 [18]. The SECS uses 12 psychological thermometer scales to gauge the overall conservatism of a person, that is, respondents are presented with 12 terms, such as "abortion", "welfare benefits", "traditional values" etc. and they are asked to rate the "warmth" they feel when reading the terms on a scale from 0 to 10. The use of terms instead of statements helps avoid context-dependencies to an extent. Scores for liberal-supported terms such as "welfare benefits" are replaced with the difference between 10 and the score to attain the final 'adjusted scores. The simple arithmetic mean of the adjusted scores is the overall score, with a higher score indicating a greater affinity for conservatism. In the second stage, we divide the sample into two groups— all respondents with SECS scores higher than the median are assigned to the 'Right-wing' group while the rest are assigned to the 'Left-wing' group.

1. In the right-wing group, randomly half of the people are given the 'looks-only' survey, where they are asked to vote for one of two candidates who are contesting in the election of the chief minister of a hypothetical state. They are provided only with one photograph each of the candidates to make the decision.
2. The other half of the right-wing group is given the 'looks-and-information' survey. In this survey too, the respondents are asked to vote for one of the two candidates who are contesting for the post of the chief minister of a hypothetical state. This form contains exactly the same photographs as the 'looks-only' group. But in addition to the photographs, we also provide a 'box-of-information' about each candidate, providing point-wise, short and clear information about the personal, professional and political achievements of the candidates.
3. The same exercise is repeated with the left-wing group. They too are randomly divided into two groups, one group provided with the 'looks-only' form and the other with the 'looks-and-information' form and asked to vote.

Note, that none of the respondents were aware that other respondents have received different forms. Every respondent was also oblivious regarding the choices of the rest of the respondents. This ensured the absence of the possible effects of communication. The randomisation within the 'left-wing' and the 'right-wing' group also ensures that any within-group differences are non-systematic and thus, controlled for through randomisation.

The sample size of the experiment is 156, with 78 rightists (scoring above the median) and 78 leftists.

The procedure outlined above leads to the formation of four non-overlapping groups, each with their own distinct probabilities of voting for each candidate. Without any loss of generality, let us call one of the candidates "Candidate 1" and define a Bernoulli random variable Y_1 which assumes the value '1' when candidate 1 receives the vote and '0' otherwise. We also define two other Bernoulli random variables, X_1, which takes value '1' if a respondent has received the 'looks-and-information' form and '0' otherwise, and X_2, which assumes the value '1' when the respondent is rightist and '0' otherwise. Then, we have four conditional probabilities as shown in Table 1.

Table 1: Conditional Probabilities

	Looks-only	Looks-and-information
Left-Wing	$P(Y=1\|X_1=0,X_2=0)$	$P(Y=1\|X_1=1,X_2=0)$
Right-Wing	$P(Y=1\|X_1=1,X_2=1)$	$P(Y=1\|X_1=1,X_2=1)$

By formulating in this manner, it becomes clear that we may apply a difference-in-difference technique to gauge the effect of political inclination on how the added information affects the probability to vote for candidate 1. A low change would indicate that the information has not added much, suggesting a stronger presence of the Halo effect. The difference in that change between the leftists and the rightists is the variable of our concern.

Do note, however, that the dependent variable is a dummy variable too, prompting us to use either the binary logistic or the probit model. We shall use the binary logistic model for convenience.

Combining the difference-in-difference and binary logistic approaches, we have our model of the following form—

$$P(Y=1|X_1,X_2) = f(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 X_2)$$

Here, the function f is the logistic function, such that $f(x) = \frac{1}{1+e^{-x}}$. The coefficient β_3 is the coefficient of difference-in-difference, capturing the interaction of X_1 (group- looks only or looks and information) and X_2 (political inclination- left or right).

3. Results and Discussion

Before proceeding to stating and interpreting the results of the binary logistic regression, we first check whether the assumptions of the model hold to a satisfactory degree. The dependent variable, as already discussed, is binary, thus, this requirement is fulfilled. The experimental design described above also makes it clear that the observations are independent, as no repeated sampling or matching was conducted. Regarding the assumption of the lack of

multicollinearity of regressors, the coefficients of correlation of X_1 and X_2, X_1 and X_3 and X_2 and $X_3 = X_1X_2$ are 0.039, 0.657 and 0.555 respectively. Since all the values are less than the threshold value of 0.8, we can safely assume the lack of multicollinearity. Finally, with the unconditional probability of the least frequent outcome being 0.417, the minimum sample size required is 72. This requirement is also fulfilled, as our sample size of 158 exceeds the required minimum.

Thus, we can now proceed to state and interpret the results of the binary logistic regression. We first present the results of the baseline model, where only the constant is used (tables 2 and 3).

Table 2: The predictive accuracy of the baseline model

	Candidate		Percentage Correct
	Predicted		
	0	1	
Observed	91	0	100
	65	0	0
	Overall Accuracy		58.3

Table 3: The summary statistics of the baseline model

Variable	B	Standard Error	Wald Statistic	Degrees of Freedom	Significance	Exp(B)
Constant	-0.336	0.162	4.293	1	0.038	0.714

We see that the baseline model is correctly able to predict 58.3% of the observations. The Wald Statistic is 4.293 with a p-value of 0.038, which is significant at the level of significance of 10%.

We now proceed to the results of the full binary logistic model developed (tables 4 and 5)—

Table 4: The predictive accuracy of the binary logistic model

	Candidate		Percentage Correct
	Predicted		
	0	1	
Observed	91	0	71.4
	65	0	60
	Overall Accuracy		66.7

Table 5: The summary statistics of the binary logistic model

Variable	B	Standard Error	Wald Statistic	Degrees of Freedom	Significance	Exp(B)
Political Inclination (X_1)	-0.624	0.515	1.466	1	0.226	0.536
Group (X_2)	0.987	0.477	4.285	1	0.038	2.638
Interaction (X_1X_2)	0.717	0.694	1.067	1	0.302	2.047
Constant	-0.961	0.162	4.293	1	0.038	0.714

When we use the full binary logistic model the predictive accuracy increases to 66.7%. The values and p-values of the coefficients of the independent variables are of greater concern to us, as they will allow us to see if there is any significant difference between the Left and the Right when it comes to the Halo effect. The coefficients of X_1, X_2 and $X_3 = X_1X_2$ are 0.226, 0.038 and 0.302 respectively. The respective p-values are 0.226, 0.038 and 0.302. We thus find that only the group variable X_2 has a statistically significant non-zero coefficient, with a threshold of 10%.

This result is of considerable interest to us. The result signifies, that despite the numerous differences observed between the political Left and the Right and the significant role of the Halo effect in determining electoral choices and political outcomes, as explored in much depth in the previous literature, the two do not interact with each other, at least in the form the current study investigates. This can mean that the Left and the Right are equally susceptible to Halo effect and one side cannot be termed more "rational" in the economic sense of using all possible information efficiently, than the other.

5. Conclusion

Both political inclination and the Halo effect, particularly the Attractiveness Stereotype play major roles in determining electoral outcomes. The presence of cognitive biases such as the Halo effect, in fact, opens up the question of the rationality of political decision-makers, bringing into doubt even the political-inclination based debates and discussions. Despite the significant roles played by both in the same domain of political decision-making, however, our study makes the interesting finding that the two do not interact with each other statistically significantly at all. This adds to the repository of qualities, biases and effects in politics that affect both the political Left and the Right to almost the same effect.

The current study focuses on the Physical Attractive Stereotype and not the Halo effect in general. Future researchers can investigate if other aspects of the Halo effect interact with political inclination. Similarly, various dimensions of political inclination, such as economic and social dimensions can be separately studied in future research with more resources.

The current study however, can act as a starting point to the study of the interaction between the Halo effect and the Attractiveness stereotype. The finding in this study makes it clear that the various causes or forces of political decision-making may exist in simple relations to each other, without much interaction, hinting at a possible simplistic model of political decision making. This is possible however, perhaps only with sufficient information on most of the determining factors, but the current study definitely does contribute to such a view with this empirical demonstration.

6. References

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