Physical Resemblance and Seating Preference: Aggregation by Glasses-Wearing Status

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Introduction

There has been a long history of observational studies of seating preference. Generally speaking, research has found that, in naturalistic situations, groups tend to aggregate in terms of sex and skin color (Campbell Kruskal & Wallace, 1966; Clack, Dixon & Tredoux, 2005; Sriram, 2002). That is, women prefer to sit by women, white people by other white people, etc.

Prior research by Pelham and colleagues (Pelham, Mirenberg & Jones, 2002) discusses implicit egotism, the tendency to prefer people, places, or things that remind one of oneself. The current research postulates that implicit egoism extends to physical appearance more generally. That is, all other things held equal, a person will tend to sit beside a person who looks more similar to them.

Aim

To establish that the aggregation observed in naturalistic seating patterns does not occur only in regards traits with pervasive social stereotypes, (e.g. skin color and sex), but also for physical attributes with less prominent stereotypes. If seating aggregation occurs based on a wide variety of physical traits, this lends credence to the idea of a more basic process whereby people tend to sit beside others who look similar to themselves.

H1: Seating aggregation will occur based on sex and skin colour, replicating previous research.

H2: Seating aggregation will also occur based on glasses-wearing status, hair length and hair colour, extending prior research by examining a wider array of physical attributes.

RQ1: Does seating aggregation tend to occur within friend groups, within strangers, or both?

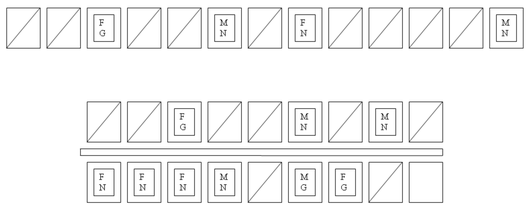
Method

Pilot Study. An on-campus computer lab was observed on 21 different occasions, from February 12, 2008 to April 22, 2008. In total, 361 persons were observed; 23% were wearing glasses (N=83), and 41.8% were male (N=151).

Study 1 Participants. Eighteen classrooms were observed, from September 8th, 2009 to September 26th, 2009. In total, 2591 persons were observed. Of this total sample, 38.7% were men (N = 1002), 18.2% wore glasses (N =467), 68.7% were Caucasian (N = 1776), 37.7% were blonde (N = 927), 27.2% had long hair (N = 700).

Procedure. Using a seating diagram, the researcher indicated whether or not a particular seat was occupied by a person (see figure 1). The pilot study examined only glasses wearing and sex. In study 1, the researcher took a digital photo of all students in the classroom as they are sitting in their seats. Moreover, participants were asked to raise their hands if they knew the name of the person sitting next to them before entering the class that day, as a rough measure acquaintanceship.

Figure 1: Sample Seating Diagram



Seating Arrangement Diagram: Sample Copy with Actual Data

Each Square represents a chair in front of a computer
F = Female; M = Male; G = Glasses; N = No glasses

If no letters are present, the seat is empty

Results

A statistical method invented by Campbell, Kruskall and Wallace (1966) was used to determine the amount of aggregation in seating patterns. Positive numbers indicate less aggregation than randomness (men sit beside women, etc) and negative numbers indicate more aggregation than randomness (men sit beside other men, etc). A value of zero indicates completely random seating.

Variable	Mean Aggregation Index	One Sample t-test (Comparing to zero)	Does Aggregation Occur?
Pilot Study			
Sex	-0.53	$t(20) = -2.44$, $p = .024$	Yes
Glasses	-0.57	$t(20) = -2.88$, $p = .009$	Yes
Study 1: All inclusive			
Sex	-2.60	$t(13) = -10.56$, $p < .0001$	Yes
Skin Colour	-2.01	$t(13) = -5.36$, $p < .001$	Yes
Glasses	-0.68	$t(13) = -2.29$, $p = .039$	Yes
Hair Colour	-0.45	$t(13) = -1.71$, $p = .111$	No
Hair Length#	-0.94	$t(13) = -2.86$, $p = .013$	Yes
Sex/Skin Combined	-2.31	$t(13) = -10.94$, $p < .0001$	Yes
Glasses/Hair Combined	-0.69	$t(13) = -3.89$, $p = .002$	Yes
Study 1: Friends			
Sex/Skin Combined	-2.25	$t(13) = -7.39$, $p < .001$	Yes
Glasses/Hair Combined	-0.65	$t(13) = -3.63$, $p = .003$	Yes
Study 1: No Friends			
Sex/Skin Combined	-0.89	$t(13) = -4.64$, $p < .001$	Yes
Glasses/Hair Combined	-0.06	$t(13) = -0.35$, $p = .734$	No

Campbell et al.'s (1966) formula is as follows:

$$I = (A - EA) / \sigma A$$

I = Index of Adjacency
A = # of observed glasses / no-glasses adjacencies
EA = expected number of glasses / no-glasses adjacencies under randomness
σA = Standard deviation of the expected number of glasses / no-glasses adjacencies under randomness

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A control analysis was conducted to ensure that this finding was not a statistical artefact carrying over from the strong seating aggregation by sex. In this analysis, all males were excluded. The results remained statistically significant, $t(13) = -3.50$, $p = .004$, suggesting that significant aggregation occurs based on hair length even when controlling for sex.

Segregation occurs more strongly among contiguous friend groups, than within groups of strangers, $t(13) = -4.33$, $p = .001$.

Conclusions

Seating segregation occurred based on sex and skin color, supporting our first hypothesis. That is, men sit by other men, white people by other white people, and so on.

Seating segregation also occurred based on glasses wearing and hair length, partially supporting our second hypothesis. That is, glasses-wearers sit by other glasses-wearer, long-haired individuals by other people with long hair, and so on.

Broadly speaking, segregation occurred more strongly within groups of friends, compared to groups of strangers. This might suggest that groups of friends tend to modify their physical appearance to match each other (convergence in physical appearance, see Zajonc, 1987).

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