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Birds of a Feather Sit Together: Physical Similarity Predicts Seating Choice

Sean P. Mackinnon[1], Christian H. Jordan[1], and Anne E. Wilson[1]

Abstract

Across four studies, people sat (or reported they would sit) closer to physically similar others. Study 1 revealed significant aggregation in seating patterns on two easily observed characteristics: glasses wearing and sex. Study 2 replicated this finding with a wider variety of physical traits: race, sex, glasses wearing, hair length, and hair color. The overall tendency for people to sit beside physically similar others remained significant when controlling for sex and race, suggesting people aggregate on physical dimensions other than broad social categories. Study 3 conceptually replicated these results in a laboratory setting. The more physically similar participants were to a confederate, the closer they sat before an anticipated interaction when controlling for sex, race, and attractiveness similarity. In Study 4, overall physical similarity and glasses wearing similarity predicted self-reported seating distance. These effects were mediated by perceived attitudinal similarity. Liking and inferred acceptance also received support as mediators for glasses wearing similarity.

Keywords

interpersonal processes, nonverbal behavior/communication, attitudes, group processes, person perception

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The fact that similarity breeds interpersonal attraction is one of the most robust findings in social science. People are more likely to be in relationships with others who are similar to themselves in terms of attitudes, values, social group memberships, and physical appearance than with dissimilar others (Byrne, 1971; McPherson, Smith-Lovin, & Cook, 2001). Though it is well documented that people are more likely to be in relationships with similar others, scant research has examined how this general tendency plays out in day-to-day social situations. It is possible the mere perception of physical similarity influences relatively minor behaviors that ultimately have wide-ranging implications. For instance, people might choose to sit beside physically similar others more frequently than expected by chance. By consistently choosing to sit beside physically similar others, people decrease their physical proximity to dissimilar others. In doing so, the chances of interacting with similar others increases and the chances of interacting with dissimilar others decreases because of simple proximity. Interaction produced by sheer proximity can increase the chance of relationship formation (Festinger, Schachter, & Back, 1950), so a preference to sit beside physically similar others may increase the odds of forming relationships with similar others. In the current research, we examine seating choice as a function of physical similarity in both naturalistic and laboratory environments.

Demographic research reveals a tendency for social networks (i.e., friends, coworkers, romantic partners, etc.) to be more similar on a variety of sociodemographic variables than would be expected by chance, a tendency referred to as *homophily*. For example, most members of a social network tend to be similar in race, ethnicity, age, religion, education, occupation, and sex (McPherson et al., 2001). People also tend to enter romantic relationships with others similar in physical attractiveness to themselves (Berscheid, Dion, Walster, & Walster, 1971; Little, Burt, & Perrett, 2006; Murstein, 1972). In fact, romantic couples are more similar than chance on a wide variety of peripheral physical features (Alvarez, 2004; Pearson & Lee, 1903; Rushton, Russell, & Wells, 1985; Thiessen, Young, & Delgado, 1997; Voracek, Dressler, & Manning, 2007). Strikingly, people even report more positive attitudes toward children with whom they share facial similarity (Debruine, 2004a). Evolutionary explanations suggest people are hardwired to have slightly more positive regard for people that look similar to themselves, regardless of sex,

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as part of an evolutionarily based kin recognition system (Debruine, 2004b, 2005). Favoring kin may be evolutionarily beneficial to the organism because it could increase the odds of passing one's genetic traits to the next generation (Alverez, 2004).

Research on seating preference has primarily examined sorting based on sex and race. Campbell, Kruskal, and Wallace (1966) developed the *index of adjacency*, a statistical procedure that can be used to determine if the number of White–Black (or male–female) pairings within a group of seats (such as a classroom) are significantly different than would be expected by random assortment. They found significant aggregation by sex and race within university classrooms. That is, women tended to sit by women, White people by other White people, and so on (see also Koen & Durrheim, 2010). Clack, Dixon, and Tredoux (2005) found similar patterns of ethnic segregation in a multiethnic university cafeteria. Significant aggregation based on sex and ethnicity was also observed for commuters on buses (Sriram, 2002). Thus, multiple studies have found a tendency for people to sit nearer to others who are similar in terms of sex and race. However, seating choices have not been examined for physical similarity more generally. Might these aggregation tendencies even occur for physical traits that are not closely tied to prominent social group memberships? If so, this bias in seating choice might partially explain why social networks are more homogenous in physical appearance than expected by chance.

The Current Research

The current research examines how seating preferences are affected by physical similarity. We propose that people will sit closer to physically similar others. The simple process of choosing to sit near people who are similar to us can have powerful implications at a macro level. By consistently choosing to sit closer to physically similar others, people put physical space between themselves and dissimilar others. As a result of simple proximity, people may then have greater opportunities to form relationships with physically similar others, while decreasing their opportunity to form relationships with dissimilar others. We argue that the tendency to regulate physical proximity based on physical similarity to others is a basic psychological process that contributes to the homogeneity observed in personal relationships. Importantly, we propose that this relationship will not only occur for broad social categories but will emerge even when examining peripheral physical traits (e.g., glasses wearing) unrelated to attractiveness, sex, or race.

Seating aggregation based on sex and race has been well established in prior work (Campbell et al., 1966; Clack et al., 2005; Koen & Durrheim, 2010; Sriram, 2002). There are considerable social inequities based on both race and gender, including biased employment and education opportunities, and decreased earning potential (Altonji & Blank, 1999). In particular, seating aggregation based on race is thought to represent a form of "informal segregation" that persists because of a long history of social status inequities and prejudices (Koen & Durrheim, 2010). However, we propose that people will sit beside physically similar others even when those physical similarities are unrelated to important markers of social status, such as sex and race. If physical similarity predicts seating distance even when controlling sex and race, social status inequities alone would seem insufficient to explain this phenomenon.

We further propose the tendency to sit closer to physically similar others is not exclusively a function of physical attractiveness. People rate physically attractive persons as more intelligent, well adjusted, and socially competent (Eagly, Ashmore, Makhijani, & Longo, 1991). Thus, the design of Study 3 and Study 4 controls for target attractiveness. Research further suggests a role for attractiveness similarity. Both romantic couples (Takeuchi, 2006) and friends (Cash & Derlega, 1978) are more similar in physical attractiveness than expected by chance. Though people often prefer highly attractive others, in realistic social situations, people tend to pursue relationships with people similar in attractiveness to themselves (Takeuchi, 2006). For instance, attractiveness similarity has been shown to predict greater relationship investment behaviors (van Straaten, Engels, Fikenauer, & Holland, 2009) and increased perceived likelihood of dating (Montoya, 2008). This suggests that other social behaviors, such as seating choice, might be influenced by attractiveness similarity. Thus, we statistically control for attractiveness similarity to the target in Studies 3 and 4. This analysis demonstrates the unique contribution of physical similarity on seating choice over and above attractiveness similarity.

To our knowledge, no research examines potential mediators of the relationship between overall physical similarity and seating distance. We relied on theorizing in the attitudinal similarity literature when selecting three potential mediators. There is a strong link between perceived attitudinal similarity and interpersonal attraction (Byrne, 1971; Montoya, Horton, & Kirchner, 2008; cf. Rosenbaum, 1986). It is thus possible that perceived *attitudinal similarity* mediates the link between physical similarity and seating distance. Byrne and Clore (1970) suggest that attitudinal similarity validates a person's worldview and thus elicits positive affect. This positive affect becomes attributed to the similar other and can emerge in the form of liking. Thus, *liking* is another potential mediator. Condon and Crano (1988) suggest that attitudinal similarity elicits inferred acceptance. That is, participants infer that attitudinally similar others will be attracted to them because of a shared belief structure. *Inferred acceptance* is our third mediator. In sum, three mediators are tested in Study 4: (a) perceived attitude similarity, (b) liking, and (c) inferred acceptance. Examining these mediators helps contextualize our findings on physical similarity and seating choice within the larger literature on similarity and interpersonal attraction.

Study 1

Overall, the current research proposes that people will sit closer to physically similar others. One challenge with this hypothesis is that physical similarity is a nebulous variable, composed of many individual physical traits. To study physical similarity in a naturalistic environment, we decided to break it down into manageable facets. Study 1 represents an attempt at capturing an aspect of physical similarity that could be coded in a field study. One physical trait was chosen based on the following criteria: (a) the trait should not be confounded with sex or race, (b) the trait should elicit no strong negative social stereotype or prejudice, and (c) the trait should be a dichotomous variable for reliable coding so that Campbell et al.'s (1966) seating aggregation formula can be used. In the current research, we chose to study seating aggregation by glasses-wearing status.

Glasses wearing is unlikely to be conflated with sex; 2002 census research in the United States found no sex differences in prevalence rates for visual impairment (Vitale, Cotch, & Sperduto, 2006). Second, the stereotype of glasses wearers is largely positive (Borkenau, 1991; Harris, 1991; Harris, Harris, & Bochner, 1982), is not strongly endorsed, and varies depending on the person being observed (e.g., some people appear more intelligent when wearing glasses whereas others do not; see Harris, 1991). Thus, if affiliation occurs between non-glasses wearers, prejudice is unlikely to be the driving mechanism. Finally, presence or absence of glasses is a dichotomous variable that can be unambiguously coded by independent raters, which is an important criterion for our statistical analysis.

Finally, sex will be measured as a variable of secondary interest. Seating aggregation by sex has been consistently found in all the available studies on naturalistic seating arrangements (e.g., Campbell et al., 1966; Clack et al., 2005; Sriram, 2002). Sex is included as a replication of previous findings to establish the validity of our method. The male-to-female ratio of glasses wearers will also be compared to ensure that any findings for glasses-wearing status are independent of sex.

The hypotheses for Study 1 are as follows:

H1: When observing naturalistic seating arrangements there will be significant aggregation in terms of glasses wearing. That is, glasses wearers will tend to sit beside other glasses wearers (and non-glasses wearers by other non-glasses wearers) more frequently than expected by chance.

H2: When observing naturalistic seating arrangements, there will be significant aggregation in terms of sex. That is, women will tend to sit beside other women (and men by men) more frequently than expected by chance.

Method

Participants. An on-campus computer lab was observed on 21 (nonoverlapping) occasions over 3 months. In total, 356 persons were observed; 23% were wearing glasses (N = 82) and 57.6% were women (N = 205). Glasses-wearing status did not differ by sex.

Procedure. Seating arrangement was observed at a computer lab with 31 seats in the library at a Canadian university. Using a seating diagram, the researcher recorded whether each seat was occupied by a person. For each occupied seat, the researcher recorded (a) the sex of the person sitting and (b) whether the person was wearing glasses.[1] If unable to determine a participant's sex or glasses-wearing status, the researcher recorded that person as "unknown." For the purpose of analysis, unknowns (N = 2) were treated as an empty seat. Observations were recorded 1-3 times daily on weekdays, most frequently during the midday, which was when the library computer lab was most populated. On days when the lab was visited more than once, there was always a minimum of 4½ hr between recordings. If the lab had fewer than 9 people, or if nobody in the room was wearing glasses, data were not recorded.

Analysis strategy. A statistical method known as the *index of adjacency* was devised by Campbell et al. (1966) to determine the level of aggregation in seating patterns within naturalistic settings. The index of adjacency is negative when more aggregation is occurring than under randomness (e.g., men sit beside men, and women beside women, more often than expected by chance), positive when less aggregation is occurring than under randomness (e.g., men sit beside women more frequently than chance, and vice versa), and exactly zero when persons are randomly distributed throughout the seats. If our hypotheses are supported, the index of adjacency scores will be significantly less than zero for both sex and glasses wearing. A full description of the formulas used for calculating the index of adjacency can be found in the appendix. Given that people tend to avoid sitting beside strangers if there is any other option, and it is generally considered common courtesy in North America to leave one seat between oneself and another person when possible, an "adjacency" is defined both as a person sitting directly beside another person and as two people with only one empty seat between them (following Koen & Durrheim, 2010). This modification reduces the number of people sitting alone (known as *isolates*) and increases the power of Campbell et al.'s index of adjacency.

Results and Discussion

When examining the indexes of adjacency for glasses, 17 observations had a negative index of adjacency and 4 observations had a positive index. The mean index of adjacency averaged across all 21 observations (M = –0.57, SD = 0.90) was significantly lower than zero, $t(20) = 2.88$, $p = .009$, Cohen's $d = 0.63$. This shows that, as predicted, glasses wearers sat by other glasses wearers (and non-glasses wearers by other non-glasses wearers) more frequently than expected by chance alone.

Significant aggregation based on sex also occurred. When examining the indexes of adjacency for sex, 14 observations had a negative index of adjacency and 7 observations had a positive index. The mean index of adjacency averaged across all 21 measurements ($M = -0.53$, $SD = 0.99$) was significantly lower than zero, $t(20) = 2.44$, $p = .024$, Cohen's $d = 0.54$ This shows that men sat by men (and women by women) more frequently than expected by chance alone.

Finally, 26.5% of men wore glasses compared to 20.5% of women. Using a simple test of proportions, it was found that this is a nonsignificant difference, $z = 1.20$, $p = .34$. Thus, it is unlikely the effects observed for glasses wearing are due to aggregation by sex. Without a larger sample size within each observation, controlling for sex in Study 1 by testing for aggregation by glasses wearing broken down by sex would result in too much data loss (i.e., almost 40% of our observations have samples too small to include in a female-only analysis). However, an analysis controlling for sex is included in Study 2.

The two hypotheses of this study were supported. Significant aggregation occurred based on sex, which replicates previous work and supports the validity of our methodology. Significant aggregation also occurred based on glasses-wearing status, which extends prior work by looking at a previously unexamined physical trait that is not strongly related to any prominent social group membership or stereotype.

Clearly, other physical traits need to be examined to more adequately test our hypotheses because glasses wearing similarity represents only a small component of overall physical similarity. In addition, visual impairments (and thus glasses wearing) may be more frequent among non-Caucasians in some populations (Vitale et al., 2006), so aggregation by glasses wearing might simply reflect aggregation based on race. Thus, subsequent studies should include race as a control variable, though a larger sample size within each observation is required if control analyses are to be conducted for either sex or race. Although aggregation by race is an interesting phenomenon in its own right, it may be driven by prejudiced attitudes rather than physical similarity (e.g., Pettigrew, 1998). Study 2 attempts to address these limitations using a similar methodology.

Study 2

Study 2 expands on the naturalistic observation approach used in Study 1 by using a broader set of physical characteristics to better approximate overall physical similarity. After all, it could be something about glasses wearing specifically, rather than physical similarity more broadly, that led to seating aggregation in Study 1. Study 2 examines glasses wearing, hair color, and hair length, as well as sex and race. Given the strong levels of aggregation observed based on sex and race in previous research (Campbell et al., 1966; Koen & Durrheim, 2010), we controlled for these variables when testing the effects of physical similarity to ensure that any such effects are not due simply to the influence of sex or race.

Study 2 has three primary hypotheses:

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

H2: Seating aggregation will also occur based on physical similarities such as glasses-wearing status, hair length, and hair color, extending Study 1 by examining a wider array of physical attributes.

H3: Seating aggregation observed based on glasses wearing, hair length, and hair color will remain statistically significant, even when controlling for sex and race.

Method

Participants. Eighteen university classes (freshman and sophomore level) were observed. Three large classrooms at a Canadian university were chosen, and professors who taught courses in those classrooms were e-mailed for permission to use their classes in data collection. No particular academic discipline was overrepresented. Classes that were less than 40% of full capacity ($N = 4$) were omitted from the sample, leaving the total sample size at 14 classrooms, or 2,228 total people.[2] Of this sample, 36.7% were men, 18.1% wore glasses, 68.8% were White, 36.9% were blonde, and 28.3% had long hair (these variables correspond with the categories used to examine seating aggregation, described below). Also, 1.5% were Black, 8.5% were Asian, and 21.2% were of other or mixed ethnicities. Unknowns (participants who were unable to be coded due to picture quality) encompassed less than 2% of the sample.

Physical traits coded. A total of five physical traits were coded in seating diagrams, in a similar manner to Study 1. To compute an index of adjacency, each physical trait must be coded as a dichotomous variable. Sex was coded as male or female. Race was coded as Caucasian or not Caucasian. This dichotomous categorization was chosen for convenience because 71% of our sample was Caucasian, not because of any true dichotomy in the population. Ethnicity and race are not always apparent upon observing photos of individuals, so this variable could also be thought of as "skin color," dichotomized into "light" or "dark." Glasses status was coded as either the presence or absence of glasses, coding persons with sunglasses ($N = 72$) as non-glasses wearers.[3] Hair length was coded as long or short hair (with long hair defined as shoulder length or longer), and anyone with headwear that obscured their actual hair length was excluded from the

Table 1. Interrater Reliability for Physical Traits Coded in Study 2

Variable	% agreement	Kappa	95% CI Kappa lower	95% CI Kappa upper
Sex	99.4	.99	.97	1.00
Glasses	97.3	.91	.85	.97
Race	86.0	.66	.57	.75
Hair color	85.8	.70	.62	.79
Hair length	88.7	.67	.57	.77

Note. Reliabilities are based on a subsample of two classes ($N = 312$ participants).

analysis (N = 22). Hair color was coded as blonde or not blonde hair (*blonde* was operationalized as pure blonde hair, dirty blonde hair, blonde highlights, and strawberry blonde hair). Anyone who had a buzz cut or headwear that obscured hair color was excluded from the analysis (N = 130). An independent research assistant coded a subsample of two classrooms (N = 312). Interrater reliabilities were moderate to high for all variables (see Table 1). Unknowns and excluded participants were treated as empty seats within each analysis.

Procedure. The researcher took digital photos of all students in classrooms as they were sitting in their seats. The pictures were examined to create seating diagrams in a similar fashion to Study 1, except with more variables being recorded. As in Study 1, Campbell et al.'s (1966) index of adjacency was employed to determine the amount of aggregation in seating patterns.

Results

Multivariate one-sample tests (Hotelling's Trace) comparing the mean indexes of adjacency to zero were used to test the four hypotheses of this research. Given that we theorize physical similarity, broadly defined, is the driving mechanism behind seating aggregation, multivariate analyses are useful to determine an overall effect from all the physical traits combined. Means and univariate results appear in Table 2.

Aggregation based on sex and race. A multivariate test showed the mean indexes of adjacency for sex and race were significantly less than zero overall, Hotelling's Trace = 12.1, $F(2, 12) = 72.6$, $p < .001$. This shows that people who are physically similar in sex and race tend to sit beside each other more frequently than expected by chance alone, replicating prior research.

Aggregation by glasses wearing, hair length, and hair color. A multivariate test also showed the mean indexes of adjacency for glasses wearing, hair length, and hair color were significantly less than zero overall, Hotelling's Trace = 1.25, $F(3, 11) = 4.57$, $p = .026$. This shows that people who are physically similar in glasses wearing, hair length, and hair color tend to sit beside each other more frequently than expected by chance alone. However, it is worth noting that hair color does not reach statistical significance by itself in the univariate analyses (see Table 2), though it is in the expected direction.

Table 2. Univariate Results Comparing Indexes of Adjacency to Zero

Variable	Aggregation index M	Aggregation index SD	Effect size (d)	Univariate F test (comparing to zero)
All inclusive				
Sex	−2.60	(0.92)	−2.82	$F(1, 13) = 111.7, p < .001$
Race	−2.01	(1.40)	−1.44	$F(1, 13) = 28.7, p < .001$
Glasses	−0.68	(1.11)	−0.61	$F(1, 13) = 5.26, p = .039$
Hair color	−0.45	(0.98)	−0.46	$F(1, 13) = 2.92, p = .111$
Hair length	−0.94	(1.23)	−0.76	$F(1, 13) = 8.21, p = .013$
Females only				
Glasses	−0.56	(1.07)	−0.52	$F(1, 13) = 3.79, p = .074$
Hair color	−0.35	(1.30)	−0.27	$F(1, 13) = 1.00, p = .336$
Hair length	−0.90	(0.94)	−0.96	$F(1, 13) = 12.8, p = .003$
Caucasians only				
Glasses	−0.51	(0.88)	−0.58	$F(1, 13) = 4.68, p = .050$
Hair color	−0.11	(0.90)	−0.12	$F(1, 13) = 0.22, p = .646$
Hair length	−0.78	(1.07)	−0.73	$F(1, 13) = 7.36, p = .018$

Analyses controlling for sex and race. When calculating an index of adjacency, control analyses can only be conducted by omitting participants and treating the omitted participants as empty seats. Because of this, each control analysis reduces the sample size substantially. For this reason, we ran control analyses for sex and race separately rather than controlling both at the same time (otherwise over 60% of the sample would be omitted).

To control for any effects due to sex, the first analysis excluded males to examine whether seating aggregation occurred for physical similarity among only females. Because of the smaller proportion of male participants, analyses on men alone would lack sufficient power. A multivariate test showed the mean indexes of adjacency for glasses wearing, hair length, and hair color were significantly less than zero overall, even when considering only female participants, Hotelling's Trace = 1.87, $F(3, 11) = 6.85$, $p = .007$. This shows that the tendency for people sit beside physically similar others more frequently than expected by chance alone is not the result of confounding between our chosen variables and sex. Hair color does not reach statistical significance by itself in the univariate analyses (see Table 2), and glasses wearing is only marginally significant ($p = .074$), though both are still in the expected direction.

To control for effects due to race, the second control analysis excluded non-Caucasian participants from the sample. An analysis examining the much smaller sample of non-Caucasian participants would have low statistical power. A multivariate test showed the mean indexes of adjacency for glasses wearing, hair length, and hair color were significantly less than zero overall, even when considering only Caucasian participants, Hotelling's Trace = 0.95, $F(3, 11) = 4.57$, $p = .05$. Thus, the aggregation for glasses wearing, hair color, and hair length cannot be explained by a confounding of these variables with race. Again, hair color does not reach statistical significance by itself in the univariate analyses, though it is in the expected direction.

Discussion

The three hypotheses of the current study received support. There was significant seating aggregation based on sex and race, replicating past findings (Campbell et al., 1966; Koen & Durrheim, 2010). In addition, a multivariate test revealed that people were more likely to sit beside others similar in glasses-wearing status, hair length and hair color than would be expected by chance alone. This finding remained significant even when controlling for sex and race, so the tendency to sit beside physically similar others occurs over and above similarity on these broad social categories. Although glasses wearing and hair length were stronger predictors of seating choice than hair color, it is striking that these three peripheral aspects of physical appearance demonstrated such consistent patterns. Overall, the results support the notion that people choose to sit closer to physically similar others in naturalistic environments.

The idea that overall physical similarity is associated with seating distance is the impetus behind using multivariate analyses. No single physical trait is the sole target of our research. Rather, the physical traits chosen for analysis thus far are merely conveniently measurable facets of overall physical similarity. The first two studies of this research have shown that people tend to sit beside others who match them on a variety of easily observed, objective physical traits within naturalistic environments. Nevertheless, it may be desirable to examine a more comprehensive index of physical similarity that is less dependent on specific physical attributes. Such an index may also allow sex and race to be statistically controlled more directly in analyses.

Furthermore, we contend that the effect of physical similarity on seating preference will occur even among strangers and that this regulation of social distance may play a role in patterns of relationship formation. That is, people will prefer to sit beside a physically similar stranger than a dissimilar stranger, and this bias contributes to seating aggregation in naturalistic settings. In Studies 1 and 2, it is not clear at what point in the acquaintanceship process this aggregation effect occurs. Study 3 was designed to address these limitations by examining seating distance from a confederate whom participants had not previously met, and a coding scheme that treats overall physical similarity to that confederate as a continuous variable. This approach conceptually replicates Studies 1 and 2 using a different measure of physical similarity, and it helps rule out the possibility that matching occurs only between people who are already acquainted.

Study 3

Study 3 attempts to replicate the findings of Studies 1 and 2 in a more controlled laboratory setting. In addition to allowing greater control, Study 3 addresses several limitations of the previous studies. First, both physical similarity and seating distance are measured more comprehensively as continuous variables. Second, by asking participants to choose where to sit in relation to an unknown confederate, we test the notion that people sit closer to physically similar strangers. Finally, other measures of interest such as attractiveness similarity are more easily measured within a laboratory setting.

We propose that the relation between physical similarity and seating preference cannot be accounted for solely by sex, race, or attractiveness similarity. As in Study 2, we control sex and race similarity to ensure that our effects are not simply a matter of social inequities on these variables. We also statistically control for physical attractiveness similarity. By entering both overall physical similarity and physical attractiveness similarity in the same regression equation, we can demonstrate that our measure of physical similarity is not limited to attributes that contribute to physical attractiveness. We predict physical similarity will have unique predictive power when predicting seating distance over and above any findings for attractiveness similarity.

The two specific hypotheses of this research are as follows:

H1: Physical similarity to the confederate will be negatively related to seating distance. The more physically similar participants are to a confederate, the closer they will choose to sit to that confederate.

H2: This relation will remain significant, even when controlling for similarity in attractiveness, sex, and race.

Method

Participants. Our confederate was a 20-year-old Caucasian female, with short, light brown hair, hazel eyes, and an average body mass index (BMI). She was wearing glasses for half of the participants. She was rated as being of average attractiveness by three independent raters ($M = 3.00$ on a 5-point scale). She wore the same clothing (jeans and a brown sweater with no logo) for all participants. Seventy-two undergraduate psychology students participated in this study. Approximately 15.7% of participants had light brown hair, 76.1% were Caucasian, 18.4% had hazel eyes, 25.4% wore glasses, 69% were female, 71.4% had an average BMI, and 29.2% had short hair. Of the non-Caucasians, 10 were Asian and 7 were of other racial groups. Virtually all participants (98.6%) were between the ages of 17 and 20.

Procedure. Before participants arrived, they knew only that the study was ostensibly examining nonverbal behaviors and that they would have to participate in a 3-min interview. As each participant arrived, our female confederate was already sitting down in the room, posing as another participant. After completing a short filler task, participants were informed that the next portion of the experiment would be a "short video-taped interview" where they would interact with the confederate. Participants were asked to pull up a chair to face the confederate (the confederate always finished the filler task first and placed her chair in a designated spot).

The researcher flipped a coin, ostensibly to decide who was in each "condition." The coin flip was rigged, and the confederate was always the "interviewer" and the participant the "interviewee." In this short interaction, the confederate asked the participant some simple icebreaker questions, which were given to her on a piece of paper by the researcher. A sample question would be "What are some of your hobbies and/or interests?" The interview continued until all nine questions on the list were asked and answered. Interviews had a mean length of 2 min 37 s. The confederate was coached to act in a similar way toward all participants. Following this interview, participants reported demographic information. While participants completed these questions, the researcher measured the distance between the participant's chair and the confederate's chair. Physical similarity and attractiveness were coded from the photos at a later date.

Materials

Overall physical similarity. Three independent coders (one male, two female) rated each participant's photo for overall physical similarity to the confederate. This measure represents an overall, gestalt assessment of physical similarity with a particular emphasis on the head and face. Photos of the confederate and the participant were examined side by side, and coders were asked to rate "How physically similar are these people to each other?" on a scale ranging from 1 (*extremely dissimilar*) to 5 (*extremely similar*). The ratings from all three coders were summed and used as an overall measure of similarity. Interrater reliability was acceptable ($\alpha = .76$). Raters did not seem to be overly affected by any single physical attribute when rating physical similarity to the confederate. Zero-order correlations between this overall physical similarity measure with glasses wearing, sex, hair color, hair length, and BMI similarity ranged from .04 to .31.

Attractiveness similarity. The three independent coders also rated each participant's photo for overall physical attractiveness. Photos of the participants were examined individually before rating overall physical similarity to the confederate. The confederate's level of attractiveness was also rated by the coders before coders knew which picture was the confederate (the confederate's photo was randomly added to the photo set). Coders were asked to rate "How physically attractive is this person?" on a scale ranging from 1 (*extremely unattractive*) to 5 (*extremely attractive*). The ratings from all three coders were summed and used as an overall measure of physical attractiveness. Interrater reliability was acceptable ($\alpha = .76$). To measure similarity in attractiveness ratings to the confederate, we used an absolute difference method, where we computed attractiveness similarity by subtracting the summed rating of attractiveness for our confederate as rated by our coders from the summed ratings of attractiveness given to the participant by each coder, then taking the absolute value of that number. Values derived with this method ranged from 0 (*highly similar*) to 4 (*highly dissimilar*).

Table 3. Zero-Order Correlations for All Variables in Study 3

	1	2	3	4	5	*M*	*SD*
1. Physical similarity	1					6.75	2.52
2. Attractiveness similarity	–.13	1				1.73	1.28
3. Seating distance	–.39**	.28*	1			132.20	23.21
4. Sex similarity to confederate[a]	.18	.03	–.12	1			
5. Race similarity to confederate	.56**	–.09	–.18	.05	1		

[a]Sex similarity to confederate (0 = *male*, 1 = *female*).
[b]Race similarity to confederate (0 = *non-Caucasian*, 1 = *Caucasian*).
*$p < .05$. **$p < .01$.

Seating distance. Next, participants were informed: "The next part of the experiment is a short, video-taped interview. Please pull up a chair, facing her while I set up the video camera." Seating distance was measured surreptitiously after the interview while the participant was in a different room. Seating distance was assessed by measuring the distance from the front right leg of the participant's chair to the front right leg of the confederate's chair, then the distance between the front left leg of the participant's chair to the front left leg of the confederate's chair. A mean distance (in centimeters) was computed by averaging those measurements.

Results

Table 3 presents means, standard deviations and a correlation matrix of the primary variables.

A simple linear regression revealed that, as predicted, physical similarity was negatively related to seating distance, B = –3.88, $\beta = -0.39$, $p = .001$: The more physically similar the participant was to the confederate, the closer the participant sat to that confederate.

This relation remained statistically significant even when controlling for similarity in attractiveness, sex, and race, supporting our second hypothesis. To test this, a multiple regression was conducted using seating distance as the dependent variable. The model included overall physical similarity, attractiveness similarity, sex, and race (see Table 4). The results of this analysis revealed that the relation between actual physical similarity to a confederate and seating

Table 4. Physical Similarity, Attractiveness Similarity, Sex, and Race Predicting Seating Distance

Variable	B	*SE* B	β	Partial correlation
Physical similarity	−3.74	1.40	−.38*	−0.32*
Attractiveness similarity	4.04	2.10	.22†	0.22†
Sex	−3.24	5.60	−.07	−0.07
Race	3.19	7.51	.06	0.05
R^2			.21**	

†$p < .06$. *$p < .05$. **$p = .01$.

distance remained significant even when controlling for sex, race, and attractiveness similarity. Finally, it is worth noting that attractiveness similarity was a marginally significant predictor of seating distance even when controlling for all other variables in the model; participants who were more similar in attractiveness to the confederate sat closer to the confederate than did those with more discrepant levels of attractiveness.[4]

Discussion

Both hypotheses were supported. Participants sat closer to a confederate as physical similarity increased, and this tendency was not simply a function of similarity in sex, race, or attractiveness. Moreover, participants and the confederate were unacquainted at the beginning of the study, suggesting that the tendency to sit closer to physically similar others is not merely a function of prior acquaintanceship.

The main effects of sex and race were nonsignificant in this study, which is inconsistent with naturalistic studies of seating preference (Studies 1 and 2; Campbell et al., 1966; Koen & Durrheim, 2010). This may suggest that aggregation based on sex and race is more strongly influenced by broader social structures at a macro level (e.g., social status inequities, gender segregation in student housing, etc.) rather than any sort of intuitive feeling upon first meeting people (McPherson et al., 2001). Attractiveness similarity also marginally predicted seating distance. Using the absolute difference between ratings of participant and confederate attractiveness to represent attractiveness similarity suffers from some limitations in interpretation. Strictly speaking, because the confederate was of average attractiveness, our analysis showed that participants of average attractiveness sit closest to the confederate, whereas very attractive and unattractive participants sit furthest away. It is possible that people of average attractiveness are friendlier and sit closer to the confederate as a result, but in light of previous work in this area (Takeuchi, 2006), we tend to interpret this finding as an effect of attractiveness similarity. That is, people will sit closer to others whom they match on physical attractiveness. Nevertheless, it would be worth replicating these findings with different confederates to improve generalizability.

Study 4

Studies 1-3 demonstrate that people sit closer to physically similar others; however, we still know little about *why* people gravitate toward physically similar others. We have derived three potential mediators of this relationship from the prior literature. First, participants may judge physically similar others as also being similar in attitudes, values, and beliefs (*perceived attitudinal similarity*; e.g., Montoya et al., 2008). People may sit closer to attitudinally similar others because perceived attitudinal similarity leads to interpersonal attraction (e.g., Byrne, 1971). Second, physically similar others may elicit positive affect, which could lead to greater liking (*liking*; e.g., Byrne & Clore, 1970). Thus, people may base their seat choice on how likable the other person appears. Third, participants may believe that physically similar others will like and accept *them* more readily (*inferred acceptance*; e.g., Condon & Crano, 1988; Singh, Yeo, Lin, & Tan, 2007). People may thus sit beside physically similar others to minimize potential rejection. Study 4 tests each of these mediators in turn using multilevel mediation.

Study 4 asks participants to rate photographs of eight individuals who vary in sex and glasses-wearing status, and to indicate where they would sit hypothetically relative to these target individuals (Høgh-Olesen, 2008). Study 4 will conceptually replicate the findings in Studies 2 and 3 by controlling for attractiveness similarity, sex similarity, and race similarity. Physical similarity will be measured both in an overall, gestalt way as in Study 3 and using a single specific trait (i.e., glasses-wearing similarity) as in Studies 1 and 2. Specifically, we test three hypotheses:

H1: Physical similarity will have an indirect effect on seating distance through perceived attitudinal similarity, even when controlling for attractiveness similarity, race similarity, and sex similarity.

H2: Physical similarity will have an indirect effect on seating distance through ratings of liking, even when controlling for attractiveness similarity, race similarity, and sex similarity.

H3: Physical similarity will have an indirect effect on seating distance through ratings of inferred acceptance, even when controlling for attractiveness similarity, race similarity, and sex similarity.

Method

Participants. A sample of undergraduate psychology students ($N = 174$) participated in this study. Participants were 65.5% female, 85.6% Caucasian, and 13.8% glasses wearers, and they had a mean age of 18.65 ($SD = 1.70$). Of the non-Caucasians, 20 were Asian and 5 were members of other racial groups.

Procedure. All questionnaires and stimuli for this study were administered via computer in private cubicles using MediaLab software (Epirisoft Corporation, www.empirisoft.com). Participants were shown a series of eight photographs of Caucasian university students. These photos were selected from a bank of photos collected in prior studies for this purpose. Photos were selected to vary on sex and glasses-wearing status (i.e., 2 males wearing glasses, 2 males without glasses, 2 females wearing glasses, and 2 females without glasses). Other physical traits were allowed to vary freely across photos. Each of the eight photos was of a different person, and the presentation order was counterbalanced across participants. Each photo depicted one individual's front profile from the shoulders up. Participants were asked to rate each photo on a series of Likert scales, including measures of perceived attitudinal similarity, liking, inferred acceptance, and seating distance. After rating each of the eight photos, participants filled out a short demographics questionnaire. Finally, a digital photo of the participant was taken. The photo was later coded for physical attractiveness and physical similarity to the stimulus photos.

Materials

Actual physical similarity. Six independent coders (two male, four female) rated each participant's photo for overall physical similarity to each of the individuals in the eight stimulus photos on a 1-5 scale as in Study 3. Ratings from all six coders were summed as an overall measure of physical similarity. The average interrater reliability score across photos was acceptable ($\alpha = .67$).

Attractiveness similarity. Three of the independent coders (two male, one female) also rated each of the eight stimulus photos and each participant photo for overall physical attractiveness on a 1-5 scale as in Study 3. Ratings from the three coders were summed as an overall measure of physical attractiveness. Interrater reliability was acceptable ($\alpha = .74$). Attractiveness similarity to each of the eight stimulus photos was computed using an absolute difference method, as in Study 3.

Sex similarity. We coded whether each participant was the same or a different sex than the person depicted in each stimulus photo (1 = *match*, 0 = *mismatch*).

Race similarity. We coded whether each participant was the same or different race than the person depicted in each stimulus photo (1 = *match*, 0 = *mismatch*). Race similarity was determined using self-reported ethnic background.

Glasses similarity. We coded whether each participant was the same or different in glasses-wearing status than the person depicted in each stimulus photo (1 = *match*, 0 = *mismatch*). Participants were defined as glasses wearers if they were wearing glasses in the photo taken by the research assistant.

Perceived attitude similarity. Participants rated how similar they were in attitudes to each stimulus individual by responding to the item: "How similar in attitudes, beliefs and values do you think the person in this photo would be to you if you met this person in real life?" Responses were made on a scale from 1 (*very dissimilar*) to 6 (*very similar*).

Liking. A four-item scale was created to measure liking of the persons depicted in the photos. The items were as follows: (a) "How friendly do you think the person in this photo would be if you met this person in real life?" (b) "How much do you think you would like this person if you met this person in real life?" (c) "How much do you think you would enjoy working with this person in an experiment?" (d) "How attractive is the person in this photo?" Each item was measured using a 6-point scale, and the average reliability was high ($\alpha = .82$).

Inferred acceptance. A two-item scale was adapted from Condon and Crano's (1988) inferred evaluation measure. The items were (a) "How much do you think this person would like you?" and (b) "How much do you think this person would enjoy working with you in an experiment?" Each item was measured using a 6-point scale, and the average correlation between the two items was high ($r = .72$).

Seating distance. Høgh-Olesen's (2008) iconic proximity measure was used as a measure of seating distance. In this task, participants are shown a diagram of two adjacent benches with a person sitting at the far left end of the leftmost bench. There are 13 clearly demarked seating choices on these benches numbered 1-13 with a stimulus photo presented above this diagram. Participants were given the following instructions: "Here are two benches in a city. The person in this photo is already sitting there when you arrive. Please indicate where you would sit." Thus, our seating distance measure ranges from 1 (*close*) to 13 (*far*). Participants completed this measure for each of the eight stimulus photos.

Results

Missing data. Data missing because of item nonresponse (< 1%) was imputed using the expectation maximization algorithm in PASW 17.0 (SPSS, www.spss.com).

Analytic strategy. This study used a repeated measures design with eight trials (i.e., eight stimulus photos). This design created a multilevel, or nested, data structure. Specifically, repeated measures on stimulus photos (Level 1) were nested within participants (Level 2). All variables in the current study were measured at Level 1; that is, each variable was measured eight times, once per stimulus photo.[5] Thus, a multilevel modeling approach was used to maximize power (i.e., by increasing the degrees of freedom) while controlling for the nested nature of the data (i.e., repeated measures nested within participants). Sex similarity, attractiveness similarity, and race similarity were entered as covariates in the meditational models.

Zero order correlations. When presenting zero-order correlations, we use a within-subjects approach suggested by Bland and Altman (1995). This approach is equivalent to

Table 5. Zero-Order Correlations for Study 4

	1	2	3	4	5	6	7	8
1. Perceived attitude similarity	1							
2. Seating distance	−.46***	1						
3. Attractiveness similarity	.13***	−.15***	1					
4. Sex similarity	.21***	−.18***	.08**	1				
5. Glasses similarity	.16***	−.09***	.17***	—	1			
6. Overall physical similarity	.10***	−.06*	.13***	.26***	.35***	1		
7. Inferred acceptance	.30***	−.44***	.05	.05	.14***	.02	1	
8. Liking	.59***	−.61***	.13***	.19***	.13***	.04	.69***	1

Note. Because the data are repeated measures nested within individuals, the approach suggested by Bland and Altman (1995) was used to calculate the above matrix. The correlation coefficient between sex similarity and glasses similarity cannot be calculated in this context because both are dichotomous, categorical variables.
*$p < .05$. **$p < .01$. ***$p < .001$.

fitting parallel lines through each participant's data and is conceptually equivalent to an average within-subject correlation. Because our data analysis takes place at Level 1 (within subjects), these correlations are more informative than correlations calculated by aggregating across all eight trials (e.g., Level 2, individual-level correlations). Correlation coefficients cannot be calculated for race similarity using the above method because it does not vary within participants.

The zero-order correlations are presented in Table 5. Attractiveness similarity and sex similarity were positively correlated with all other variables in our model, suggesting they may indeed influence seating preferences and supporting their utility as covariates in our models. Liking, inferred acceptance, perceived attitudinal similarity, and seating distance were all positively correlated with large effect sizes. Overall physical similarity was positively correlated with perceived attitudinal similarity and seating distance with small effect sizes. Glasses similarity was also modestly, but significantly, correlated with perceived attitudinal similarity, seating distance, and liking.

Multilevel mediation. Because all relevant variables were measured at Level 1 (within subjects), multilevel mediation models were calculated using the approach outlined by Bauer, Preacher, and Gil (2006). This approach includes all variables and covariates in a single model. Indirect effects are calculated by multiplying the path from the predictor to the mediator (a path) and from the mediator to the outcome (b path). Statistical significance of the indirect and total effects was calculated using a Monte Carlo method (a form of parametric bootstrapping) with 20,000 resamples. A 95% confidence interval is produced using this approach; if the confidence interval does not include zero, statistical significance at $p < .05$ can be inferred. Bauer et al. found this approach was superior to confidence intervals calculated based on a normal sampling distribution. All analyses were conducted using PASW 17.0, with the assistance of syntax uploaded at www.quantpsy.org.

Table 6. Multilevel Mediation Analyses for Overall Physical Similarity in Study 4

Path	B	SE	t	95% CI
Overall physical similarity → Perceived attitude similarity → Seating distance				
a	0.02	0.01	2.04*	
b	−0.91	0.07	−13.84***	
c′	−0.01	0.01	−0.70	
Indirect effect	−0.03	0.03		−0.05, −0.01
Total effect	−0.04	0.03		−0.10, −0.08
Overall physical similarity → Liking → Seating distance				
a	−0.13	0.08	−1.67	
b	−0.38	0.05	−12.94***	
c′	−0.05	0.04	−1.19	
Indirect effect				[−0.001, 0.12]
Total effect				[−0.09, 0.11]
Overall physical similarity → Inferred acceptance→ Seating distance				
a	−0.02	0.04	−0.47	
b	−0.61	0.05	−12.33***	
c′	0.02	0.05	0.39	
Indirect effect				[−0.04, 0.06]
Total effect				[−0.08, 0.14]

Note. a = path from the predictor to the mediator; b = path from the mediator to the outcome; c′ = path from the predictor to the outcome after controlling for the mediator and covariates (direct effect); indirect effect = the product of the a path multiplied by the b path; total effect = the combined overall effect of the predictor on the outcome through both direct and indirect effects. Confidence intervals were calculated using a Monte Carlo approach with 20,000 resamples. Sex similarity, attractiveness similarity, and race similarity were entered in as covariates in the above models.
*$p < .05$. ***$p < .001$.

Six mediation models were specified, with each model containing a single mediator. The analyses for overall physical similarity are summarized in Table 6. The analyses for glasses

Table 7. Multilevel Mediation Analyses for Glasses Similarity in Study 4

Path	B	SE	t	95% CI
Glasses similarity → Perceived attitude similarity → Seating distance				
a	0.33	0.07	4.62***	
b	−0.90	0.07	−12.66***	
c′	−0.02	0.09	−0.23	
Indirect effect				[−0.49, −0.22]*
Total effect				[−0.59, −0.15]*
Glasses similarity → Liking → Seating distance				
a	0.75	0.16	4.71***	
b	−0.38	0.05	−8.37***	
c′	−0.06	0.09	−0.64	
Indirect effect				[−0.43, −0.16]*
Total effect				[−0.57, −0.12]*
Glasses similarity → Inferred acceptance → Seating distance				
a	0.44	0.92	4.77***	
b	0.63	0.06	−10.70***	
c′	0.07	0.10	−0.75	
Indirect effect				[−0.41, −0.16]*
Total effect				[−0.58, −0.12]*

Note. a = path from the predictor to the mediator; b = path from the mediator to the outcome; c′ = path from the predictor to the outcome after controlling for the mediator and covariates (direct effect); indirect effect = the product of the a path multiplied by the b path; total effect = the combined overall effect of the predictor on the outcome through both direct and indirect effects. Confidence intervals were calculated using a Monte Carlo approach with 20,000 resamples. Sex similarity, attractiveness similarity, and race similarity were entered in as covariates in the above models.
*$p < .05$. ***$p < .001$.

similarity are summarized in Table 7. Overall, significant indirect effects were found in four of six cases. For overall physical similarity, only the indirect effect for attitudinal similarity emerged as significant. For glasses similarity, all three mediators emerged as significant in separate analyses.

Discussion

Overall physical similarity predicted seating distance, replicating results from Studies 2 and 3. Glasses-wearing similarity also emerged as a significant predictor of seating distance, replicating Studies 1 and 2. Though the effect size of the relation between physical similarity and seating distance was small in Study 4, this relation has been conceptually replicated across four studies. It is also fascinating that glasses-wearing similarity predicted seating distance in the three studies it was assessed. It appears that even seemingly innocuous physical similarities can influence seating choices.

Generally speaking, perceived attitudinal similarity received the clearest support as a mediator, though there was also support for liking and inferred acceptance as mediators of the physical similarity–seating distance relationship. Glasses-wearing similarity was related to seating distance indirectly through perceived attitudinal similarity, perceived liking, and inferred acceptance. Overall physical similarity was indirectly related to seating distance through perceived attitudinal similarity. Results may suggest a tendency in the person-perception process for people to overgeneralize how similar others are across unrelated domains (i.e., "That person looks like me, so they are probably similar to me in other ways"). Results might also suggest that glasses wearing is a particularly salient aspect of physical appearance that is linked closely to social identification. Social identification includes increased positive affect (*liking*), perceptions of similarity (*perceived attitudinal similarity*), and feelings of belongingness (*inferred acceptance*) when interacting with ingroup members (Cameron, 2004). Alternatively, low interrater reliability scores on our measure of overall physical similarity ($\alpha = .67$) may have introduced error into our measurement, reducing the power of the analysis. Future research could examine how physical similarity leads to perceived attitudinal similarity, and the causal pathways by which this affects seating proximity (see Singh et al., 2007).

Study 4 has important limitations. Our measure of seating distance in Study 4 was self-reported and hypothetical, and though conceptually related to the types of seating distance measured in Studies 1-3, it may not capture exactly the same underlying construct. However, it is noteworthy that a pattern similar to Studies 1-3 was found with this measure. Although our mediation analyses are consistent with the idea of attitudinal similarity as a mediator of the physical similarity–seating distance relationship, causation cannot be inferred with a cross-sectional approach without experimental manipulation. Nevertheless, these results provide promising preliminary support for potential mediators of the physical similarity–seating distance relationship.

General Discussion

Across four studies, it was found that people tend to sit closer to physically similar others than physically dissimilar others. This effect was observed in two naturalistic settings (a computer lab and university classrooms), a laboratory setting, and when using a self-report photo-rating paradigm. The relationship remained significant even when controlling for sex, race, and attractiveness similarity. Aggregation based on sex and race may have different underlying causes (e.g., social status inequities; McPherson et al., 2001; Pettigrew, 1998) when compared to more peripheral traits such as glasses wearing or hair length, so these variables were important to control for. The effect also remained significant when controlling for attractiveness similarity. Both overall physical similarity and specific physical traits (such as glasses wearing) were significant predictors of seating distance. This phenomenon may serve a gating function in the formation of new relationships. The tendency to sit nearer to similar others limits opportunities to form relationships with dissimilar others. It is well documented that people tend to have more similar others in their social networks. This tendency may reflect, in part, the "downstream" effects of seating choices, and physical proximity regulation more generally. Quite simply, without the opportunity to interact facilitated by physical proximity, a relationship is less likely to form.

Study 4 suggests physical similarity leads to perceptions of attitudinal similarity, which in turn leads to closer seating distance. Perceived attitudinal similarity has been shown to predict positive nonverbal behaviors, so our findings are consistent with a long history of research in this area (e.g., Byrne & Griffitt, 1973). Interestingly, research on "thin slices" shows that people perform better than chance at predicting the attitudes of others after watching short video clips (Ambady, Bernieri, & Richeson, 2000; Borkenau, Mauer, Riemann, Spinath, & Angleitner, 2004). These interesting findings suggest that perceptions of attitudinal similarity may actually contain a kernel of truth; perhaps physical appearance really is predictive of attitudes. Study 4 suggests that glasses-wearing similarity also predicts liking and inferred acceptance, which in turn predicts seating distance. Glasses wearing may be linked to a subtle form of social identification (see Cameron, 2004), which may increase both the likability of physically similar others and a sense of ingroup acceptance. Our findings can also be interpreted in light of evolutionary theory. Debruine's (2004b, 2004a, 2005) research suggests that it is evolutionarily adaptive to prefer physically similar individuals because physically similar others are likely to share similar genetics (Alvarez, 2004). It is not unrealistic to imagine a similar evolutionary tendency to remain close in physical proximity to those perceived to be kin. Such a strategy could be considered evolutionarily adaptive to the extent that staying close together provides better protection for the family unit against predators. The effects observed for overall physical similarity and seating distance may be a byproduct of this evolutionary mechanism. However, these ideas remain speculative pending future research.

In conclusion, the current research showed that persons tend to sit closer to physically similar others, and it demonstrated that this effect was not fully accounted for by sex, race, or attractiveness similarity. People sat closer to physically similar strangers, even based on seemingly trivial physical dimensions that were relatively unrelated to broad, stereotyped social categories. Perceived attitudinal similarity received the clearest support as a mediator of this relationship, though liking and inferred acceptance also emerged as significant mediators when focusing on glasses-wearing similarity specifically. Though perhaps appearing innocuous on the surface, the simple process of choosing to sit beside people who are similar to us can have broad implications at a macro level. If a person avoids sitting with others based on the color of their skin, the length of their hair, or whether or not they wear glasses, they miss out on the opportunity to develop relationships with these individuals. As a result, segregation may occur, which can result in a myriad of prejudices and misunderstandings. Of course, this tendency is merely one portion of the overall processes that contribute to segregation and homophily more generally, but given the implications for racial and ethnic segregation, it is certainly a phenomenon with profound implications worthy of further pursuit.

Appendix

Details on the Index of Adjacency Formula

Campbell, Kruskal, and Wallace's (1966) index of adjacency is as follows:

$$I = \frac{(A - EA)}{\sigma_A}$$

where

A = observed number of adjacencies,

EA = expected number of adjacencies under randomness, and

σ_A = standard deviation of number of adjacencies under randomness.

$$EA = 2\frac{M(N-M)}{N(N-1)}(N-K)$$

$$\sigma_A{}^2 = 2\frac{M(N-M)}{N(N-1)}(2N-3K+K_1) + 4\frac{M(M-1)(N-M)(N-M-1)}{N(N-1)(N-2)(N-3)}$$

$$[(N-K)(N-K-1)-2(N-2K+K_1)] - 4\frac{M^2(N-M)^2}{N^2(N-1)^2}(N-K)^2$$

EA and σ_A are calculated using the following formulas:

Legend (using glasses wearing as an example):

N = Total number of students in the room

M = Number of students with glasses

N – M = Number of students without glasses

K = Number of groups of row-wise contiguous students

K_1 = The number of students with no one next to them (isolates)

In this article, persons with only one empty seat in between still count as adjacent.

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Notes

1. We could not partial out contact lens wearers or persons who refuse to wear their prescription glasses; thus, our coding of glasses wearing is a more chosen or alterable aspect of physical appearance.
2. As in Study 1, low-density classes were removed because virtually everyone sits alone, which reduces the power and accuracy of the index of adjacency.
3. There were too few sunglasses wearers to be analyzed separately. Moreover, sunglasses wearing differs considerably from glasses wearing. Wearing sunglasses is more situation dependent, akin to wearing a jacket, and indeed most people with sunglasses were storing them on the top of their head or on a neck cord because the photo was taken indoors.
4. We also tested whether similarity on single traits could predict seating distance. Specifically, we examined: sex, race, glasses wearing, hair color, hair length, eye color, and body mass index, computing a dichotomous similarity variable for each (1 = *similar to confederate*, 0 = *dissimilar to confederate*). Although no single, individual physical trait significantly predicted seating distance, all were in the expected direction, and a composite variable summing these physical traits reveals similar, statistically significant results to those in Table 4. These analyses are available upon request.
5. Because all of our stimulus photos are of White persons only, race similarity does not vary across participants. Race similarity is thus a Level 2 variable and has been entered as a Level 2 covariate in Study 4 analyses.

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