Beauty and social capital: Being attractive shapes social networks

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ABSTRACT

It is a fact of life that being beautiful is advantageous (Hamermesh, 2011). Whether we consider incomes or the marriage market, the more attractive one is, the better one does. Drawing on psychological research that explains why beauty pays, we hypothesize that more attractive people will exploit social network opportunities differently than less attractive people and, consequently, their networks will comprise more beneficial features. As predicted, results of an experiment showed that more attractive people were more likely to select for themselves more profitable broker positions in networks relative to other positions and relative to less attractive people. Relying on network data supplied by young professionals, in a follow-up study we found that the networks of more attractive people were relatively less dense, as the findings of Study 1 would imply. We discuss the implications for our work as well as highlight the need for further research into an understudied, but potentially influential brokerage contingency factor—physical appeal.

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When it comes to personal and professional success, more attractive people have a clear advantage over their less attractive peers (Hamermesh, 2011). Better looking people tend to have better looking spouses (Feingold, 1988), for instance, and earn better rewards when they appear as contestants on reality television dating shows (BBC News, 2009). At work, too, being attractive pays (Dipboye et al., 1977). Relative to their less attractive peers, more attractive people are more likely to be called back for an interview (Bóo et al., 2013), more likely to be hired (Hosoda et al., 2003), earn more money (Biddle and Hamermesh, 1995; Frieze et al., 1991; Hamermesh and Biddle, 1993), achieve promotion relatively more quickly (Morrow et al., 1990), and, perhaps predictably, are more satisfied with their careers (Hosoda et al., 2003).

Two lines of psychological inquiry help to explain why beauty pays. One focuses on perceivers and how they think about, and consequently treat, attractive people. Studies show that perceivers ascribe a range of (unrelated) positive qualities to an attractive person, believing the attractive person to be relatively more intelligent, more sociable and mentally healthier, for instance (Dion et al., 1972; Eagly et al., 1991; Feingold, 1992; Langlois et al., 2000). Being stereotyped in this positive way benefits better looking people, helping them reach relatively more favorable outcomes.

Another line of research argues that people think and behave differently depending on how attractive they are, which accounts for their outcomes. Experimental and empirical studies document, for instance, that attractive people have relatively better social skills and stronger, more positive self-beliefs compared to their less attractive peers (Judge et al., 2002, 2003, 2009; Mobius and Rosenblat, 2006). These differences, too, explain why being attractive is so beneficial.

With the perceptions and behavior of attractive people as our focus, we draw on psychological research to hypothesize differences in network preferences and structures between people who are more and less attractive. In a laboratory experiment, we test whether attractiveness is linked to people's preferences for positions in networks. In a follow-up correlational study of young professionals, we test whether these preferences translate into differences in the structure of people's social networks, as one would predict. If our claims have merit, then our findings could open up new lines of inquiry into how a neglected attribute of nodes—their physical appeal—is a contingent factor for network activity, and brokerage, in particular.

Why beauty pays

When it comes to pretty faces, there is substantial agreement both within cultures and between them (Feingold, 1992; Langlois et al., 1999). Both men and women with more 'feminized' facial

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features tend to be judged as more attractive than those with less feminized features, though this effect is considerably stronger for women (Perrett et al., 1998). Generally, more feminine male and female faces (versus. less feminine males and females) tend to have fuller lips, larger eyes, a more heart-shaped (versus square) jaw-line, and higher cheekbones (Thornhill and Gangestad, 1999). Facial symmetry, too, is positively associated with beauty (Grammer and Thornhill, 1999; Møller and Thornhill, 1998). The advantages of being born with these features are significant.

Longitudinal studies show that facial attractiveness—measured early in a person's life—predicts longer-run professional success, including higher employment status and income, for instance (Benzeval et al., 2013; Fletcher, 2009). This "beauty premium" (Hamermesh and Biddle, 1993) transcends industries and national borders with attractiveness predicting higher salaries among American lawyers (Biddle and Hamermesh, 1998), NFL quarterbacks (Berri et al., 2011), and even beauty salon employees in East Asia (Hamermesh, 2011).

In a well-cited *meta*-analysis of over 900 studies on the effects of physical attractiveness for the outcomes of both children and adults, Langlois et al. (2000) found that, from childhood, more attractive people enjoy much more favorable treatment than their less attractive counterparts. For example, very young children who are more attractive are judged to be relatively better adjusted. Among their peers, these children enjoy greater popularity. These patterns continue into adulthood, with attractive adults treated better by others, enjoying greater positive attention as well as receiving relatively more help and cooperation from other people.

The benefits to being beautiful can be understood as the "what-is-beautiful-is-good" effect (Dion et al., 1972; Eagly et al., 1991).[1] Attractiveness carries a 'halo,' with people who are attractive seen as being more interpersonally competent and judged to have greater social appeal relative to less attractive individuals (Langlois et al., 2000). These positive stereotypes can help explain why other people offer attractive people better opportunities (Dion et al., 1972; Langlois et al., 2000; Zebrowitz and Montepare, 2008).

In a related way, stereotypes create their own reality, an effect known as the 'self-fulfilling prophecy' (Rosenthal and Jacobsen, 1968). People enjoy being in the presence of attractive people, preferring them over others (Byrne et al., 1968; Chatterjee et al., 2009; Eastwick and Finkel, 2008; Garcia et al., 1991; Lemay et al., 2010; Marks et al., 1981; Winston et al., 2007). This preference conspires to give more attractive people greater opportunity for social interaction (Feingold, 1992), leaving them less lonely and less socially anxious than their less attractive peers (Feingold, 1992). More social exposure also translates into greater opportunity hone social skills, and in fact, more attractive people have relatively better communication skills, for instance (Mobius and Rosenblat, 2006).

Relatedly, attractive people also report stronger core self-evaluations—a concept characterized as a general evaluation of a person's sense of competence, deservingness, and control over success in life (Judge et al., 2002; 2003; Judge et al., 2009). Because others treat attractive people as relatively more competent and deserving, this pattern of self-beliefs is not surprising.

With a lifetime of accumulated experience of positive social encounters, as well as stronger core self-evaluations, more attractive people should anticipate being relatively more socially successful. Believing that others will respond positively to their overtures, we argue that more attractive people will judge social opportunities differently than those who are less attractive. In particular, they should be more likely to pursue riskier and more challenging social roles.

Social networks

As the potential value that inheres in people's relationships with one another, social capital is a valuable asset for individuals (Lin, 1999, 2002). Close relationships (i.e., strong ties) with other people, for instance, provide social capital in the form of social and emotional support (Coleman, 1987, 1988, 1994; Portes, 2000; Putnam, 1993), particularly important during times of stress. Networks that features structural holes—spaces between clusters of unconnected groups—also pay dividends. Networks comprising these features offer opportunities for people to act as brokers, positioned to facilitate resource transfer between clusters (Burt, 2005). Not only can this activity build social capital, but also can be a profitable source of rents collected by the broker from the brokered (Burt, 2009; Hofstra et al., 2015; Jasny and Lubell, 2015; Totterdell et al., 2008).

While the benefits of structural holes and tie strength are well known (Burt and Ronchi 2007; Seibert et al., 2001; Collins and Clark, 2003; Argote and Ingram, 2000), the factors that enable these network features are less well understood. Studies show that traits play a role, for instance. People who are high self-monitors—both attentive and adaptive to social cues (Snyder, 1974)—are more likely to occupy broker positions (Mehra et al., 2001; Oh and Kilduff, 2008). Similarly, people who have an internal (as opposed to external) locus of control—seeing themselves as active agents who have the power to shape their environments—are more likely to have networks that comprise structural holes (Kalish and Robins, 2006). Common to both types of people is an understanding of social opportunity and a tendency to adopt an active approach to exploiting those opportunities.

We propose that relatively better looking people should anticipate receptive interaction partners, comparatively smooth and friendly social interactions and, thus, should be more likely to choose positions that carry greater social risk. Compared to less attractive people, more attractive people will be more likely to opt for broker positions in networks.

H1. People who are more attractive are relatively more likely to prefer broker positions in networks.

In a first study, we test whether there is a link between physical attractiveness and preferences for particular network positions.

Study 1

To test our hypothesis, we recruited a sample of 124 MBA participants from an experiment database. 61 percent (76) of the participants were men 39 percent (48) were women. Their average age was 29.06 (SD = 5.2; range: 18–49). We told participants:

> Today we are asking you to evaluate a social network. You will see a diagram depicting a network of colleagues in a task group for an upcoming experiment to be conducted in the business school.

> The circles show positions in the network–where a line exists between two positions, communication and flow of information may occur. If no line exists between 2 positions, then no communication or flow of information may take place

> While most of the positions are blue, some are not. It is your job to select for yourself one of the non-blue positions which you would like to occupy. In choosing the position, note that you would not be displacing anyone in that spot–we are still assigning people to different network positions

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[1] Others have identified a "beauty is beastly" phenomenon, but this effect appears to be limited to women who work in masculine-typed professions (Heilman and Saruwatari, 1979).
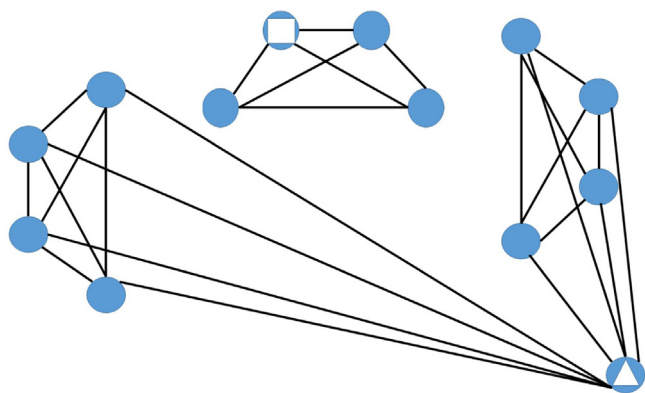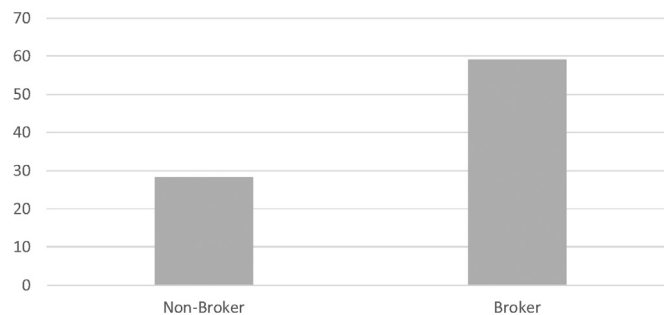
Fig. 1. Network diagram shown to participants in Study 1.

Fig. 2. Mean attractiveness of participants who chose non-broker and broker positions in the network in Study 1.

In fact, a random selection of today's experimental participants will be contacted at a later date, and asked if they would like to occupy the position they choose here. Those selected to participate in this future study may earn up to $50.00. Given that your choices here have future consequences, please choose carefully. There are no right or wrong responses, and your answers are entirely confidential

Method

Participants viewed a network diagram, shown in Fig. 1, which was adapted from Burt (2000). The diagram depicted is a portion of a larger network composed largely of bridge and cluster structures.

In the figure, the position marked with a triangle represents the brokerage role, whereas the square is the non-broker role. Because our hypothesis concerned choice of broker position or not, we coded choice of broker position as 1, and all other position choices as 0.

To avoid visual cues that might suggest that the brokerage position is more important (i.e., by placing the position front and center), the brokerage role was visually minimized and placed to the bottom right corner.[2] To avoid signals about the importance of one position over another, we identified the positions with symbols. We also made it a point to inform participants that in choosing a position they were not displacing another person to eliminate any concerns that their choices would interfere with other participants. After viewing the diagram, participants selected a network position for themselves. After providing demographic information, and were debriefed as to the study's purpose.

To assess participant attractiveness, we collected participants' university portraits. The photographs we used were professionally shot with identical lighting, facial positioning, emotional expression (neutral), and dress. Assessing attractiveness by coding the facial attractiveness of participants is common across a number of disciplines and is an accepted measure of overall attractiveness (Cunningham et al., 1990; Scheib et al., 1999; Grammer and Thornhill, 1994; Thornhill and Grammer, 1999). We had two coders, unaware of the hypothesis, provide attractiveness ratings for all participants, and these ratings served as our independent variable. The scale was 0–100 (0 = extremely unattractive, 100 = extremely attractive). Coders rated the photographs independent of one another, and these scores were merged to form an average overall

assessment of facial attractiveness (α = 0.70) Participants' average attractiveness was 54.37 (SD = 22.20).

Results

Whereas men were more likely to prefer the broker position over other positions (41%) relative to women (29%), this difference was not statistically significant, $\chi^2(124)$ = 2.36, p = 0.12. To test our hypothesis that attractive people are relatively more likely to choose broker positions, we conducted a logistic regression. As predicted, more attractive people were more likely to select a network broker position for themselves over a non-broker position, β = 0.05, $t(124)$ = 4.06, p < 0.01. To illustrate our effects, we also calculated the mean attractiveness of those who chose a broker position for themselves (M = 59.19, SD = 21.93) and those who did not (M = 38.24, SD = 15.69, $t(124)$ = −4.8, p < 0.001). Fig. 2 depicts these mean differences.

This result supports our primary claim that more attractive people are more likely to prefer broker positions in networks. Further, it supports our suggestion that attractive people may perceive and exploit network opportunity differently than others. While suggestive, the study has a few limitations. As much as we tried to make the decisions made by participants consequential by having them select positions for themselves for a subsequent task, these decisions were made in a laboratory. Similarly, preferring a spot in a network is not the same as selecting a position for oneself, of course. In our second study, we test the implication of our Study 1 results; specifically, the social networks of more and less attractive people will be structured differently and in predictable ways.

Study 2

If more attractive people are more likely to choose broker positions, as Study 1 shows, then their real-life networks should contain more structural holes relative to those who are less attractive.

H2. More attractive people will have networks that are relatively higher in brokerage potential.

Of course, whereas more attractive people may have networks with more brokerage potential, these structural variations could be due to factors other than attractiveness. To account for the effects of other human capital variables, we include these in our analyses as control variables. If we find that attractiveness can account for brokerage potential, as we predict, even when other factors like self-monitoring are considered, then we can have even greater confidence in our findings.

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[2] In prior experiments we tested whether positioning the broker in the center of the graph would make a difference to the results. Results showed no differences depending on the positioning of the broker. As a conservative test of our argument, we report results from the studies in which the broker is depicted out of the graph's center spot.

Table 1
Study 2. Means, Standard Deviations, and Correlations among Study Variables.

	M	SD	1	2	3	4	5	6	7
1 Sex	1.32	0.47							
2 Age	28.08	3.32	0.03						
3 GMAT	705	32.31	−0.24*	0.04					
4 Self-monitoring	9.60	2.78	−0.13	0.11*	−0.03				
5 Attractiveness	48.24	12.40	0.23*	−0.01	−0.25*	0.06			
6 Size	19.15	17.81	0.19*	−0.10	−0.06	−0.06	0.14		
7 Brokerage Potential	0.40	0.33	0.16*	−0.07	−0.04	−0.07*	−0.17	0.91*	

Note. *p < 0.05; participant sex: 1 = male, 2 = female.

Method

We recruited 62 MBA students from a U.S. university in the Northeast to take part in our study in exchange for a payment of $10. 66 percent were male. Participants completed a commonly used network assessment (i.e., the *Executive Network Assessment Exercise* available through Harvard Business School Press), which they completed in roughly 20 min.

Measures

Following their participation, we had the registrar print pictures of the study participants from the school's directory. Four undergraduate coders (2 males and 2 females) who were unfamiliar with this sample of participants, and unaware of the purpose of the study, rated the attractiveness of the pictures on a scale of 0 (not at all attractive) – 100 (very attractive). We instructed each coder to rate the same twenty photos and then the group compared their ratings. Where differences existed, the coders discussed their reasoning for assigning the attractiveness rating they did, and reached an agreement on the final rating (Peter, 1979). After resolving all discrepancies, the coders rated the remaining photos individually. Mean attractiveness score was 46 (*sd* = 13.2). Intercoder reliability was well within established parameters for high confidence (Cohen's kappa = 0.87).

On the assessment, respondents listed up to 9 people for each of the following four categories of contacts: 1) friends, 2) people with whom they talked about academic matters, 3) people with whom they talked about job search, and 4) people with whom they talked about professional development. Due to a lack of data regarding the structure of ego's alter relationships, we were not able to directly test two of the more traditional measures of brokerage opportunities: network constraint, and in-betweenness centrality (Scott and Carrington, 2011). We were able, however, to generate a suitable substitute variable which takes into account both the size of ego's network, as well as its density. To do this, we divided ego network degree by ego network density. We define this variable as estimating "brokerage potential." Given both the lack of data as well as the still undetermined "best" way to assess indicators of structural holes, we believe the measure to be a reasonable one for testing our hypothesis.

Results and discussion

Table 1 contains the means, standard deviations, and correlations among the study's variables. To test the impact of attractiveness on brokerage potential (H2), we conducted regression analyses, first regressing brokerage potential on the other human capital variables—sex, age, GMAT scores, and self-monitoring (see Table 2).

In a second step we added the attractiveness variable to the regression. Results showed that attractiveness had a significant impact on brokerage potential, with more attractive people

Table 2
Study 2. Regression Model Predicting Brokerage Potential.

Model #	(1)	(2)
Sex	0.02 (0.04)	0.11* (0.06)
Age	0.01 (0.01)	−0.01 (0.01)
GMAT	0.01 (0.01)	0.01 (0.01)
Self-Monitoring	0.02 (0.01)	0.02 (0.01)
Size	−0.01 (0.01)	−0.01 (0.01)
Attractiveness		−0.15* (0.01)
Observations	62	62

Notes: Robust standard errors in parentheses. 1 = Male
* p < 0.05

reporting sparser networks than less attractive people, as we predicted in Hypothesis 2. However, gender had an unanticipated effect as well, with women in our sample reporting less sparse networks relative to the men in our sample.[3]

These results show that the structure of the social networks of more and less attractive people varies in predictable ways. In particular, the networks of attractive people were more likely to be characterized by network brokerage potential. These results are consistent with those of our first study in which we found that more attractive people showed a preference for brokerage positions. Together, the results support our claim that whether a node is attractive can have a meaningful effect on the structure of his/her network.

General discussion

Our results highlight the importance of a node-level antecedent of network features that researchers have largely overlooked, but perhaps ought to explore—physical appeal. That people's network structures are shaped by their demographics is well known. Whether we consider race or age, studies show that individuals prefer those who are similar to them on these dimensions, a principle known as homophily (McPherson and Ranger-Moore, 1991; McPherson et al., 2001; Marsden, 1987). As a consequence, people's networks tend to be homogeneous with respect to a handful of demographic characteristics (Berry, 2006; Fischer, 1977; Kao and Joyner, 2004; Marsden, 1987; Verbrugge, 1977). Like race and age, attractiveness is an immediately visible physical characteristic. Yet, the contingent value of beauty remains neglected. Given our findings, physical attractiveness is likely to be a more influential personal attribute for network exploitation and evolution than its presence in the literature implies.

With few exceptions, psychologists and economists find that more attractive people achieve comparatively better professional outcomes—e.g., better pay and faster promotions (Hamermesh, 2011; Biddle and Hamermesh, 1998, Hamermesh and Biddle, 1993). To explain these same outcomes, sociologists and organizational behavior scholars point to systematic differences in people's social network structures (Burt, 2004, 2005, 2007, 2009). In particular, people whose networks feature structural holes (and weak ties)

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[3] Due to mixed results around the links between gender and brokerage (e.g., Brands and Kilduff, 2014), we did not hypothesize differences and refrain from discussion.

achieve greater material workplace gains (Burt and Ronchi, 2007; Seibert et al., 2001). Our work integrates these two perspectives and points to an alternative pathway by which beauty pays—through the differentially beneficial networks that attractive people create.

Limitations and future directions

Although participants in Study 1 expected that the positions they chose might be the ones they would occupy at a later date, their decisions reflected behavioral intentions. Given the costly demands of brokerage, it may be that attractive people would be less likely to assume broker roles than our data suggest. However, we are likely to have underestimated the likelihood of less attractive people choosing these roles as well. In that case, we would still find differences between the two groups, but at lower levels.

Our hypotheses about the links between attractiveness and network structure were rooted in psychological research on attractiveness, showing that better looking people differ from their peers when it comes to their self-perceptions, their social skills, and their behavior. Whereas we documented the link we hypothesized, we did not test its explanatory mechanisms. And while we controlled some alternative explanations, our data cannot account for all of them. What our data allow us to say is that there is a link between attractiveness and network features and in ways that psychological theory would predict. And these network features—namely, network brokerage—have long been linked to a wide variety of professional and material rewards. We must leave it to other datasets to uncover whether the mechanisms established elsewhere are at work here.

Here we focused on attractive people's interest in exploiting broker positions. Identifying this preference raises a host of related questions. Does the greater social appeal of better looking people improve their odds of having their efforts to initiate ties pay off? Are attractive people more effective in transferring resources—and extracting rents—across the network? Because other people enjoy working with better looking people are these triads less likely to close over time? The fresh lines of inquiry that attractiveness research opens up could pave the way for others to better understand how network structures take and maintain their shape and the role that physical cues play.

Because our paper centered on broker positions and structural holes, we did not explore the impact of attractiveness on other features, including, for instance, the development, persistence and maintenance of weak ties. Yet, weak ties are profitable features of networks (Seibert et al., 2001). It is possible that attractive people, because they are more likely to be targeted for social activity (Langlois et al., 2000), are more likely to create networks that include weak ties. Alternatively, others' interest in connecting with attractive people (Garcia et al., 1991) may mean that others are likely to invest in maintaining attractive people's weak ties, making it easy for attractive people to sustain them. Further work is needed to understand the link between attractiveness and strength of network ties.

Although explanations for why beauty pays highlight the roles of both the perceiver and the attractive person, we limited our investigation to the behaviors of attractive people. As we note above, there are a great number of questions one could ask about the important role perceivers are likely to play when it comes to the social networks of attractive people. Lastly, future work should employ the various indicators of structural holes in more direct manners—traditional constraint, in-betweenness centrality, etc. Due to a lack of data regarding the structure of the ties between ego's alters, we utilized a proxy for constraint potential that while valid, differs slightly from the more strict definition of constraint or in-betweenness centrality.

Conclusions

Just as beauty predicts outcomes in other contexts, we find that it matters to the development of people's social networks. We hope our findings broaden understanding of the factors that shape network evolution, and encourage fresh lines of inquiry into the role beauty pays in social networks.

Acknowledgements

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