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Remember Me?

A Field Study on Memory Biases in Academia*

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Abstract

Are some people more memorable than others? We conduct an experiment in a real work setting – academia. A month after two international conferences, participants are asked to recall presenters’ names, institutions and the papers they presented. We find that people recall distinctive “minority” attributes of presenters (such as being female or non-white) and better recall identities of ethnic minorities. In contrast, academic achievements have little explanatory power on the probability of being remembered. These findings provide evidence for a potential value of standing out and have implications for our understanding of the formation of professional networks.

Keywords: memory, discrimination, field experiment

JEL: C93, D83, J15, J16

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“If you want to win friends, make it a point to remember them. If you remember my name, you pay me a subtle compliment; you indicate that I have made an impression on you. Remember my name and you add to my feeling of importance.”

Dale Carnegie, Author of “How to Win Friends & Influence People”

1. Introduction

Remembering people plays a key role in many social contexts, and particularly in the labour market. Remembering is a necessary condition to forming social ties, and social ties are likely to matter for many dimensions of labour market performance. For example, social ties are a major channel used to find jobs (Calvó-Armengol and Jackson, 2004). Given the importance of memory in the formation and maintenance of social ties, one question is whether there are systematic biases in memory along attributes such as gender and ethnicity. If members of minority groups are more easily forgotten, this may make it harder for them to build professional social networks and, as a consequence, may explain why they fare less well in the labour market. On the other hand, their minority status could serve as a distinctive attribute, which makes them stand out and makes it easier to remember them. Thus, whether minority groups are more likely to be remembered or not is an open question and, ultimately, an empirical one.

To this date, we know little about possible biases in memory in a social environment, let alone how they may impact social ties and labour market success. This paper presents a study of possible memory biases in the context of academia. Academia is an interesting environment because it shares many characteristics with other labour markets, such as the reliance on social networks for recruitment or activities relevant to promotions (e.g. recommendations) and concerns regarding the success of specific groups of the population such as women and ethnic minorities. There is indeed ample evidence showing that women and ethnic minorities fare less well in academia compared to equally qualified peers who do not belong to these groups (Kahn, 1993; Blackaby and Frank, 2000, Blackaby et al., 2005, Carter et al., 1999).). Notably, there is a belief that social networks may play an important role in explaining differentials according to gender and ethnicity; which led leading professional institutions to invest specifically in improving the social networking opportunities of these sub groups.¹

¹ Prominent examples of such objectives are the professional network associations such as the “Black British Academics” or the “American Economic Association Committee on the Status of Women in the Economics Profession.”

Next to gender and ethnicity, attractiveness is another attribute that has been pin-pointed as associated with differential treatment in the labour market in general and in academia in particular. Hamermesh (2006, 2011) documents a “beauty premium” existing across a wide range of occupations. For academia, Hamermesh (2011) documents that attractive people are more likely to be elected to the board of the American Economic Association, conditionally on academic achievements.

One notable advantage of academia relative to other labour markets is, as Blackaby et al. (2005) point out, that it has readily available measures of productivity that are comparable across institutions (such as number of publications, ranking of publications, etc.).

We study how recall accuracy depends on specific attributes (such as gender, ethnicity and attractiveness) conditionally on detailed measures of academic achievements. Specifically, we conduct an experiment among participants of two international conferences in Economics. One month after each of the conferences, we sent an incentivised online questionnaire to all conference participants asking participants to match pictures of the presenters to titles of papers presented and to identify the presenters (name and institution) based on their picture. Next to the survey, we also collected data on presenters’ academic achievements and background characteristics (publication success, gender, ethnicity, institution, etc.) from the presenters’ personal webpages and collected additional data on presenters’ attractiveness. We can then evaluate if there are systematic biases in recall of information about others, conditioning on “productivity” variables.

As mentioned in the first paragraph, it is unclear whether minority groups should be less or more likely to be remembered. On the one hand, these groups fare less well, and this could partially be due to discrimination against them, either through stereotypes (Arrow, 1973) or preferences (Becker, 1961). These discriminatory biases could extend to memory: People may put less effort into remembering these groups compared to others. On top of that, there could be specific cognitive biases in the way we store information about others. Fryer and Jackson (2008) propose that we sort people into *categories*, which correspond to *prototypes*, defined as a vector of specific attributes (e.g. “white” & “woman”). People sorted into the same category are lumped together and cannot be distinguished from each other. They argue that the size of categories (i.e. the number of attributes that describe a prototype) may be a function of the expected value of interactions. Because minorities are minorities, the expected value of interacting with them may be perceived as lower and, as a consequence, they may be sorted into broad categories (e.g. “woman” or “ethnic minority”) and lumped together, which makes

it harder to re-identify a specific person. There is in fact a large body of evidence in Psychology that people have more difficulties recalling faces of people from other races than their own, which fits the hypothesis that we sort people into *finer* categories if they are from our own race than if they are from a different race (see Meissner and Brigham, 2001 and Slone, Brigham, and Meissner, 2000 for reviews of the literature). On the other hand, because these groups are minorities, they are perhaps more likely to stand out precisely because of their minority status. Race and gender have been found to be prime characteristics encoded about others (Montepare and, Opeyo, 2002). They are distinctive attributes – and distinctiveness has been found to enhance re-identification (Shepherd et al., 1991, Tibbetts and Dale, 2007, Valentine, 1992).

Our experimental design consists of two main tasks: One is to match pictures of people with titles of papers presented (using a multiple choice format) and the other is to name the presenter shown on a picture, as well as her institution. The first task allows us to test for a distinctiveness effect – if gender and race are prime attributes recorded in memory, we would expect these attributes to facilitate recall. The second task allows us to identify if people can remember a *specific* person.

Controlling for the presenters' academic achievements, we find that female or non-white presenters are more likely to be remembered than others are: The female advantage is only present in the first task, not in the second. That means that participants may recall the paper was presented by a woman, but may not remember exactly who she was. The ethnic minority effect appears in both tasks (but is not significant in the first). These results suggest that gender and race are distinctive attributes, but they only allow individual identification for ethnic minorities, perhaps because their size is relatively small.² We also find evidence that people who are more attractive than the average are more likely to be remembered, while the opposite is true for less attractive people. Variables capturing measures of productivity are poor predictors of recall accuracy. We find little evidence that academic achievements or productivity matter much. The effects we find regarding these dimensions are generally small and often not statistically significant. Finally, we find that a measure of social distance between the presenter and the remembering party (in terms of field of expertise) matters for the likelihood of correctly matching a face with a paper.

We investigate more directly the theory of distinctiveness by using important features of experimental design, and specifically of the first task, which has a multiple choice question

² In our sample, there are a larger proportion of women (20% in one conference and 35% in the other) than ethnic minorities (around 10% in both conferences).

format. The correct answer (presenter or title) must be identified among a set of alternatives. We use this feature to test if presenters who appear more distinctive (from the presenters proposed as alternative answers) are more likely to be recalled accurately. We construct a measure of distinctiveness in appearance by using independent ratings collected separately. Distinctiveness in appearance appears to be a key driver of accuracy of recall. It does contribute to some extent to explain the biases found earlier, but it does not completely eliminate them.

To our knowledge, we are the first to document empirical regularities in recall accuracy in a real professional context. We believe these findings have implications for our understanding of the structure of social networks and how they may impact success in real professional markets.

The rest of the paper is structured as follows. Section 1 presents a simple conceptual framework to guide our thoughts. Section 2 presents the experimental design and Section 3 presents the analysis of the results. We conclude in Section 4.

1. Experimental design

We collected data after two economics conferences. The first conference was the “Deception, Incentives and Behavior” conference, which took place in San Diego in April 2012 at the Rady School of Management at UCSD (in the following, we will refer to this conference as the San Diego conference). The second conference was the annual European “Search and Matching Conference” (organised by the professional network SaM – “Search and Matching”), which took place in Edinburgh in May 2014 (in the following, we will refer to this conference as the Edinburgh conference). Both conferences were one-session conferences, i.e. all talks were plenary talks. The presentations lasted for 10 or 20 minutes in San Diego and for 30 minutes in Edinburgh.

A month after each of the two conferences, we contacted all participants and asked them to participate in our experiment. We offered \$50 Amazon vouchers to the 5 best performers in the memory task (that is, 10 vouchers in total for both data collections). These were distributed by e-mail (participants did not need to be identified to receive the voucher). The questionnaire consisted of three memory tasks. The time to answer the questions was restricted in each one of these tasks (see Appendix 3 for screenshots.), such that it would be very difficult for participants to check information on the internet.

The first two tasks consist of matching pictures of presenters to the title of the paper they presented.³ In the first task, participants see a paper title and four pictures of conference participants.⁴ In the second task, participants see the picture of one presenter and four titles of papers. Each of these tasks included 6 questions. Participants had 25 seconds to answer each of the questions and faced six such questions.

The first and second tasks are similar in nature. Participants know that one of the four options is the correct answer. In both cases, the options were randomly chosen from the pool of presenters and the pool of papers. Suppose that gender, ethnicity, and attractiveness are prime attributes recorded in memory. Because minority groups are by definition small in size, most answer choice sets will have a majority of presenters from the majority groups and a minority of presenters from the minority groups. Thus, participants may remember that the presenter had these attributes (even though she may not recall specifically who that presenter was). As a consequence, presenters from minority groups may be matched more accurately to the paper they presented, simply because of these distinctive characteristics

The third task requires participants to provide the name and current academic institution of a presenter, shown on a picture. This task has a free format (participants must write something and cannot choose between pre-specified answers) and tests for the ability to recall who a specific presenter is. Here remembering distinctive attributes is not sufficient to provide a correct answer. Again, participants had 25 seconds to answer each question and were asked to identify 6 presenters.

After completing the three tasks, we asked participants to answer a short survey. We asked them to indicate which sessions they attended, and for the Edinburgh conference, we additionally asked respondents to indicate whether they knew the presenter before the conference (see Appendix 4). We also asked about demographics of the respondents such as gender, age, field, research position, and ethnicity. Finally, those participants who wanted to participate in the contest for an Amazon voucher were asked to provide an e-mail address.

We had 4 versions of the questionnaire for each conference, varying the presenters involved. Our data include questions about 37 of the 44 presenters from the San Diego conference⁵ and

³ The pictures were obtained from public websites (such as homepages).

⁴ The set of pictures mixed presenters and other attendants of the conference who presented a poster.

⁵ We could only include those with pictures on their public website and excluded one presenter from the San Diego conference because the presentation was not of an academic paper. Among the other presenters, we selected randomly.

about all presenters from the Edinburgh conference. Not all presenters are featured in each task though. The allocation of presenters to tasks was random.

Participants earned points for each correct answer. They earned two points per correct answer for the first two tasks. For the third task, they earned one point for a correct name and one point for a correctly indicated affiliation. For each conference, vouchers were awarded to those respondents who achieved the highest number of overall points for the three tasks.

Next to that, we gathered background information of presenters through the Internet. We recorded information about the presenter's current academic position, number of publications, number of top five journal publications, current research institution, and if applicable, time since completion of the PhD. We collected most of this information from personal webpages and CVs. We also recorded the presenters' ethnicity and gender. We constructed a measure of the presenters' attractiveness based on independent ratings from students (at the Universities of Cologne and Magdeburg). We showed students the same pictures used in the experiment and asked them to evaluate the person according to attractiveness and other factors (see Appendix 5 for screenshots). Each presenter was rated at least 21 times, and we use mean rates as estimates for attractiveness. As standard in the economics literature on attractiveness, we construct three dummy variables for attractiveness. The reference category includes people within one standard deviation of the mean attractiveness rating, the *plain* are those with an average attractiveness rating below the mean minus one standard deviation, and the *attractive* are those who have an average attractiveness rating above the mean plus one standard deviation.⁶

2. Analysis

The goal of the analysis is to establish whether there are systematic biases in memory according to gender, ethnicity and attractiveness, controlling for productivity variables. To test for systematic biases in remembering, we study the accuracy of memory conditioning on a large set of variables that are likely to correlate with "academic productivity", such as the seniority of the presenter, the number of publications in top ranked peer reviewed journals and the rank of the current institution of the presenter. Of course, some of these variables are likely to correlate with how established a person is (and known) and on past interactions as well. These

⁶The means and standard deviations are calculated for each conference separately as there are discrepancies in mean ratings across conferences. This ensures we have a similar proportion of attractive and plain people in each conference.

variables could also directly correlate with the quality of the presentation itself, which may make it more memorable. We will not be able to tease out between these alternative explanations. What matters though for our research question is whether there are systematic biases in memory along variables such as gender, ethnicity and attractiveness, conditioning on variables capturing productivity.

We start the analysis by presenting summary statistics on presenters and respondents (2.1). We then study how the presenters’ characteristics relate to the accuracy of recall (2.2) and test more specifically for the theory of standing out (2.3). In the Appendix, we report results on the relationship between recall accuracy and respondent characteristics and conduct some additional robustness checks.

2.1. Summary statistics - Presenters and Respondents

Table 1 presents summary statistics of the presenters included in the experimental study by conference. There were 44 presenters in San Diego, of which 37 are included in the experiment, and all 25 presenters from the Edinburgh conference are included. The most notable differences between the two conferences are in the percentages of women (about one third in the San Diego conference and one-fifth in the Edinburgh conference) and the percentages of economists (the Edinburgh conference was an all-economists conference while the San Diego conference was interdisciplinary, with a majority of economists).

Table 1 – Summary Statistics of the presenters included in our study

Characteristics of presenters Means (standard deviations)	“Deception, Incentives and Behavior”, San Diego, April 2012	“Search and Matching”, Edinburgh, May 2014
# of presenters	37	25
% female	35%	20%
% ethnic minority	11%	12%
% attractive	19%	12%
% plain	14%	12%
% non-native English speakers	73%	64%
# of years since PhD	12.6 (9.8)	13.9 (11.9)
rank current institution	51.1 (38.1)	88.8 (92.0)
# top 5 publications in economics	1.6 (3.0)	2.3 (4.1)
# of publications	26.1 (27.3)	17.8 (22.5)
% economists	73%	96%

Table 2 presents summary statistics of the respondents, again split by conference. There were 114 participants in San Diego, among which 42 participated to the experiment; and 111 in Edinburgh, among which 46 participated. To ensure anonymity, the information we collected about respondents is more limited and coarse. About a third of our respondents are female and only a quarter above 40 years old. Except for the fact that all respondents are economists in the

Edinburgh conference, against three-quarters at the San Diego conference, there are no large differences in the respondents' characteristics across the two conferences.⁷

Table 2 – Summary Statistics of the respondents

Characteristics of presenters Means (standard deviations)	“Deception, Incentives and Behavior”, San Diego, April 2012	“Search and Matching”, Edinburgh, May 2014
# of respondents	42	46
% female	36%	30%
% tenured	33%	33%
% non-white	24%	20%
% economist	74%	100%
% over 40 years old	26%	26%

2.2. Presenter characteristics and accuracy of recall

We pool the data from both conferences for the analysis, and we also pool the data from the first two tasks, as they both involve matching pictures of people to titles of papers (Appendix 2 discusses differences in results between the two conferences and the two tasks.) Overall, we find that people are much better able to map faces to paper titles (65% accuracy rate) than recalling names or institutions (43% accuracy rate).

In Tables 3 and 4, we present the results of a two-way error component linear probability model, allowing for presenter and respondents' random effects.⁸ The dependent variable is a dummy for correct answer. Note that we only consider answers of respondents who also attended the corresponding session.

Table 3 reports the results related to the task of mapping pictures of presenters to titles of the paper they presented (multiple choice type questions). Column (1) shows the estimates of a model conditioning on gender, ethnicity, and attractiveness dummies. Column (2) conditions in addition on characteristics correlated with the productivity or expertise of the presenter. We control for rank of current institution, number of publications, number of top 5 publications in economics, a dummy for being an economist, number of years since PhD completion, dummy for presenter being a native English speaker (we conjecture that being a native English speaker may be correlated with the quality of the presentation). Column (3) additionally conditions on characteristics of social proximity. We have two main variables of social proximity: same field (which is a dummy equal to 1 if both the presenter and respondent are economists; or both are

⁷ Since we collected information on the respondents as well, we are able to study to what extent their characteristics correlate with accuracy of recall (see Appendix 1). We do not find evidence of any significant variable affecting accuracy of recall, except for the respondent being an economist.

⁸ The model is estimated in STATA 12.0 using the command “xtmixed”.

psychologists, and equal to 0 otherwise) and gender (which is a dummy equal to 1 if both the presenter and respondent are of the same gender, and equal to 0 otherwise).

Table 3- Probability of correct mapping between face and title

	correct answer face and title		
	(1)	(2)	(3)
female	0.073 (0.062)	0.103 (0.063)	0.121** (0.062)
ethnic minority	0.067 (0.079)	0.098 (0.080)	0.105 (0.077)
attractive	-0.011 (0.077)	0.026 (0.083)	0.027 (0.080)
plain	-0.149** (0.076)	-0.133* (0.074)	-0.119* (0.072)
non-native English speaker		0.046 (0.059)	0.043 (0.057)
# of years since PhD		0.006 (0.004)	0.006 (0.004)
rank current institution		0.000 (0.000)	0.000 (0.000)
# of top 5 publications in economics		0.016* (0.009)	0.015* (0.008)
# of publications		-0.001 (0.001)	-0.000 (0.001)
economist		-0.011 (0.079)	-0.184** (0.088)
same field			0.243*** (0.061)
same gender			0.033 (0.034)
perceived expertise			
constant	0.632*** (0.035)	0.462*** (0.094)	0.402*** (0.095)
observations	892	825	825
number of groups	1	1	1

Two-way error component linear probability model, allowing for presenter and respondents' random effects. The dependent variable is a dummy for correct answer.

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

We find that women are more likely to be remembered accurately, by around 12 percentage points, once we control for academic achievements and social proximity (Column (3)). We do find an effect of similar magnitude for ethnicity but it is not statistically significant. Plain people, on the other hand, are significantly less likely to be accurately matched to the paper they presented. These results support the hypothesis that certain attributes (being female in particular) enhance re-identification. Others (such as plainness) seem to make it harder to remember people

Academic achievements do matter as well, but not to a large extent. All else equal, one needs eight top 5 publications in economics to achieve a similar improvement in recall as being female. This is perhaps surprising, as one would expect well-established researchers to be more likely to be remembered for several reasons: The value of social ties may be higher, they are likely to give higher quality presentations, and they are more likely to have been previously encountered. But, it appears that these factors do not matter much for recall accuracy. Being in the same field, on the other hand, is a strong and significant predictor of recall accuracy. On top of that, if the respondent and the presenter are not in the same field, the economist presenter is less likely to be remembered. This is again evidence in favour of a value of standing out – economist respondents (who are in majority) can better distinguish between presenters who are psychologists in comparison to psychologist respondents, who have a harder time distinguishing between the large fraction of presenters who are economists.

Table 4 shows the results for the task consisting of providing the names of presenters and of their institutions (Task 3). Columns (1) to (3) relate to the naming of presenters and Columns (4) to (6) relate to the naming of institutions. Thus, the task here is to recall who a specific person is, and remembering of distinct characteristic alone is not be sufficient to get a correct answer.

As in the previous Table, Column (1) includes gender, ethnicity and attractiveness dummies; Column (2) controls for productivity and expertise, and Column (3) controls for social proximity variables. We find evidence for an ethnic minority bias when conditioning on productivity characteristics (Column (2)-(3)). Participants are more likely to remember the names of participants from ethnic minority groups. The effect does not change much when controlling for social proximity variables. Measures of academic performance and establishment do matter as well, although only two variables (number of years since PhD completion and number of publications) are significant, and their effects are very small in magnitude. Finally, we find that social proximity matters greatly and in a similar way as for mapping between faces and titles. Of course, one obvious explanation for the effects of social proximity and of academic achievements is related to the fact that the respondent is more likely to know the presenter if they are in the same field and if the presenter is well established. This is a compelling story, but one we should be very cautious with, as knowing someone is not an exogenous factor of course and is likely to be correlated with factors affecting how memorable someone is. There is an obvious circularity in the fact that respondents can only claim to know someone if they remember them. Nevertheless, we refer to this point in Appendix 2. We

collected information on whether participants claimed to know the presenter for the second of the two conferences (Edinburgh). We discuss how the results change when taking this information into account in Appendix 2, where we also discuss differences in results between the two conferences.

Turning to the naming of institutions (Columns (4)-(6)), we do not find evidence of significant biases in the accuracy of recall according to gender or ethnicity, but we do observe an effect in favour of attractive people. The coefficient of the ethnic minority dummy remains large (but not significant at conventional levels). People are better able to remember the institution of the presenter if the institution is highly ranked, although again the magnitude of the effect remains modest. An improvement of 100 places in the ranking increases the accuracy of recall by about 10 percentage points. We find evidence of a social proximity effect, similar to the one we found for the task of naming the presenter.

Summarizing, we find that being female and from an ethnic minority facilitate re-identification, although in the case of women, respondents appear to remember the presenter was female but do not recall better her name than if she had been a male presenter. They are better able to recall specific identifies of ethnic minorities though. Attractiveness matters as well; respondents appear to remember better average or attractive presenters. Controlling for academic achievements has little impact on the estimates of these biases and, in fact, add little explanatory power.

Table 4 - Probability of correctly remembering of the name and the institution

	correct answer name			correct answer institution		
	(1)	(2)	(3)	(4)	(5)	(6)
female	-0.121 (0.094)	-0.048 (0.069)	-0.015 (0.072)	-0.079 (0.083)	-0.019 (0.071)	0.007 (0.073)
ethnic minority	-0.006 (0.103)	0.146* (0.075)	0.139* (0.077)	0.008 (0.092)	0.098 (0.077)	0.094 (0.078)
attractive	0.016 (0.119)	0.133 (0.090)	0.138 (0.093)	0.098 (0.108)	0.167* (0.094)	0.170* (0.094)
plain	-0.114 (0.121)	-0.006 (0.085)	0.007 (0.088)	-0.120 (0.107)	-0.048 (0.088)	-0.034 (0.089)
non-native English speaker		-0.130** (0.065)	-0.119* (0.068)		-0.110 (0.068)	-0.099 (0.068)
# of years since PhD		0.008** (0.004)	0.007* (0.004)		0.002 (0.004)	0.001 (0.004)
rank current institution		-0.001 (0.000)	-0.001 (0.000)		-0.001** (0.000)	-0.001** (0.000)
# of top 5 publications in economics		0.012 (0.010)	0.012 (0.011)		0.011 (0.011)	0.011 (0.011)
# of publications		0.002 (0.002)	0.003* (0.002)		0.002 (0.002)	0.002 (0.002)
economist		0.046 (0.081)	-0.230** (0.105)		0.084 (0.084)	-0.174 (0.107)
same field			0.358*** (0.081)			0.333*** (0.084)
same gender			0.062 (0.045)			0.042 (0.047)
constant	0.478*** (0.054)	0.311*** (0.101)	0.219** (0.110)	0.444*** (0.049)	0.380*** (0.105)	0.306*** (0.110)
observations	429	407	407	429	407	407
number of groups	1	1	1	1	1	1

Two-way error component linear probability model, allowing for presenter and respondents' random effects. The dependent variable is a dummy for correct answer.

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

2.3. Standing Out

We now investigate in more detail the theory of distinctiveness, or standing out, which could contribute to explaining the biases we found so far. Theories of distinctiveness suggest that some people are more accurately remembered because they are more likely to be distinct from others. We investigate this hypothesis more closely by using the data from tasks 1 and 2. In those two tasks, the respondent is asked to pick between four pictures of presenters and correctly match it to a presented paper (task 1) or to pick between four titles and correctly match it to a picture of a presenter (task 2). Because in each task, we chose the other three options at random,

presenters from minority groups will often be shown with other presenters who are from majority groups.

We collected additional data to construct a measure of distinctiveness between pairs of presenters. The degree of similarity of presenters (corresponding to the correct answer) with the presenters proposed as alternatives in each question was assessed by a number of independent raters (assistants from the University of Cologne). The similarity of pairs of presenters was rated on a scale from 1 (very similar) to 7 (very different), as shown in Appendix 6. We calculated the mean distinctiveness for each pair of pictures by averaging ratings across the 10 raters.

Table 5 presents a simple linear regression with the mean distinctiveness as a dependent variable and indicators of whether the pair of presenters shared the same gender or same ethnicity as independent variables. We find that these two variables are very strong predictors of distinctiveness and, in fact, explain 25% of its variation.

Table 5- Predictors of distinctiveness rating

	mean distinctiveness
	(1)
same gender	-0.699*** (0.103)
same ethnicity	-0.694*** (0.108)
Constant	5.893*** (0.105)
observations	288
R-squared	0.253

Ordinary least squares regression model. The dependent variable is the mean distinctiveness between the presenter corresponding to the correct answer and the presenters proposed as alternative answers.

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

The next question is whether distinctiveness matters for accuracy of recall and whether it partly explains the female and ethnic minority biases we found in the analysis above. To do this, we return to the analysis presented earlier in Table 3. In addition to this variable, we also control for same session, a dummy variable indicating whether the presenters shown to respondents as alternative options presented in the same session as the presenter corresponding to the correct option. We can consider same session as a proxy for similarity in research topic, as the sessions in the Edinburgh conference were arranged according to topics, while in the San Diego conference all talks were on deception.

Next, we estimate a conditional logit model in the spirit of McFadden (1973), where the dependent variable is a dummy indicating whether or not an option is chosen, and the independent variables are measures of similarity between an option and the correct option. The advantage of the conditional logit model is that it only uses variation in attributes within each choice set (i.e. between the four options) to estimate the effects of these attributes on the probability of being chosen. Here, we have four options and a measure of distinctiveness between each option and the correct option. We can use the variation in how distinct the options are from the correct option (the distinctiveness being 0 for the correct option itself) as a control.

The results of the conditional logit model are reported in Table 6. Column (1) shows the estimates of a model conditioning on whether an option is the correct option, whether the offered option is of the same ethnicity and gender as the correct option and whether the individual presented in the same session as the correct option. In the model displayed in Column (2), we control for the distinctiveness of answer options instead of controlling for same gender and same ethnicity. We find that respondents are significantly more likely to choose the correct option compared to the other options. When choosing a wrong option, we find that respondents are significantly more likely to choose a participant who presented in the same session compared to the other options. We do not find evidence that respondents are more likely to choose same gender or same ethnicity options. Distinctiveness, however, does have a significant effect on the probability that an option is chosen. The more similar an option is to the correct option, the more likely it is that respondents will choose this option.

Table 6 - Conditional logit for mapping between face and title

	option chosen	
	(1)	(2)
correct	1.820*** (0.223)	0.768** (0.375)
same gender	0.025 (0.131)	
same ethnicity	0.228 (0.149)	
presented in same session	0.584*** (0.217)	0.569*** (0.218)
distinctiveness		-0.233*** (0.063)
number of observations	4,196	4,196

Conditional logit model. The dependent variable is a dummy indicating whether an option was chosen. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

We find that distinctiveness has a strong effect on the probability of correct mapping of face and paper and (inversely) on the probability of confusing presenters or papers presented. Additionally, Tables 3 and 4 show that once controlling for social proximity, psychologists (who are a minority group at the conference) are more likely to be remembered compared to economists. Therefore, we conclude that distinctiveness matters, and mitigates somewhat the minority biases observed, although it does not convincingly eliminate them.

Conclusion

This paper investigates the presence of systematic biases in memory in a labour market context (academia). We conducted a field study among researchers who attended two international high profile conferences and study how accurately they can map pictures of people to titles of papers presented and whether they are able to provide the presenters' name and institution based on their picture.

We find evidence that gender, and ethnicity are prime attributes that facilitate recall, in the sense that respondents appear to rely on these attributes to identify academic peers. However, this does not mean they necessarily recall accurately who the specific peer was. It is only for ethnic minorities that we find a significant positive bias in recalling the name of the person. These results are in line with a distinctiveness effect that has been identified in previous studies on memory (Slone et al., 2000; Meissner and Brigham, 2001). The distinctiveness effect is related the concept of implicit discrimination (Bertrand et al., 2005) since it is an unconscious cognitive process that differs from tastes or stereotypes. Of course, the very reason why these groups appear to be advantaged here is precisely because they are a minority and the question remains of why these groups are minorities to begin with. Finally, we also find evidence of a bias against less attractive people, who are less likely to be correctly mapped to their paper title, while attractive presenters are more accurately mapped to their institution.

Overall, these results suggest that there we do not store information in the same way for people belonging to different groups, and this may affect how we form social ties and professional networks. While these results suggest that minority groups such as women and ethnic minorities may be advantaged and benefit from "positive discrimination", it is important to stress that this effect could precisely be driven by the fact that they are a minority. Women and ethnic minorities are typically under-represented in events like international conferences, and while this fact may make them more memorable, it still raises the question of why they are under-represented in the first place.

References

- Arrow, K. 1973. "The Theory of discrimination," in *Discrimination in Labor Markets*, O. Ashenfelter and A. Rees, eds. Princeton, NJ: Princeton University Press.
- Belot, M., forthcoming. "Cognitive Racial Discrimination: A Benchmark Experimental Study," *Journal of Neuroscience, Psychology and Economics*.
- Bertrand, M., Chugh, D., and Mullainathan, S., 2005. "Implicit Discrimination," *American Economic Review*
- Blackaby, D., Booth, A., and Frank, J., 2005. "Outside offers and the gender pay gap: Empirical evidence from the UK academic labour market," *Economic Journal* 115 (501), 81–107.
- Blackaby, D. and Frank, J., 2000. "Ethnic and Other Minority Representation in UK Academic Economics," *Economic Journal* 110, 293-311.
- Calvó-Armengol, A. and Jackson, M.O., 2004. "The Effects of Social Networks on Employment and Inequality," *American Economic Review* 94(3), 426-454.
- Carter, J., Fenton, S., and Modood, T., 1999. "Ethnicity and employment in higher education," London, Policy Studies Institute.
- Fryer, R. and Jackson, M.O., 2008. "A Categorical Model of Cognition and Biased Decision Making," *B.E. Journal of Theoretical Economics (Contributions)* 8 (1), Article 6.
- Hamermesh, D. S., 2006. "Changing looks and changing "discrimination": The beauty of economists," *Economics Letters* 93(3), 405-412.
- Hamermesh, D. S., 2011. *Beauty Pays: Why Attractive People Are More Successful*, Princeton University Press.
- Kahn, S., 1993. "Gender Differences in Academic Career Paths in Economists," *American Economic Review* 83 (2), 52-56.
- Laband, D. N. and Piette M. J., 1994. "Favoritism versus Search for Good Papers: Empirical Evidence Regarding the Behavior of Journal Editors," *Journal of Political Economy* 102(1), 194-203.
- Leslie, S.-J., Cimpian, A., Meyer, M., and Freeland, E., 2015. "Expectations of brilliance underlie gender distributions across academic disciplines," *Science* 347(6219), 262-265.
- McFadden, D., 1973. Conditional Logit Analysis of Qualitative Choice Behavior, in P. Zarembka (ed.), *Frontiers in Econometrics*, 105-142, Academic Press: New York.
- Meissner, C. and Brigham, J., 2001. "Thirty years of investigating the own-race bias in memory for faces," *Psychology, Public Policy, and Law* 7, 3-35.
- Montepare, J.M. and Opeyo, A., 2002. "The relative salience of physiognomic cues in differentiating faces: A methodological tool," *Journal of Nonverbal Behavior* 26, 43–59.
- Reuben, E., Sapienza, P., and Zingales, L., 2014. "How stereotypes impair women't careers in science," *Proceedings of the National Academy of Sciences*, 111(12), 4403-4408.
- Shepherd, J.W., Gibling, F., and Ellis, H.D., 1991. "The Effects of distinctiveness, presentation time and delay on face recognition," *European Journal of Cognitive Psychology* 3, 137-45.

Slone, A. E., Brigham, J.C., and Meissner, A., 2000. "Social and Cognitive Factors Affecting the Own-Race Bias in Whites," *Basic and Applied Social Psychology* 22(2), 71-84.

Tibbetts, E. A. and Dale, J., 2007. "Individual recognition: It is good to be different," in Tibbetts, E. A. and J. Dale 2007, *Trends in Ecology and Evolution*.

Valentine, T., 1992. "Towards an exemplar model of face processing - The effects of race and distinctiveness," *Quarterly journal of experimental psychology* 44 (4), 671-703.

For Online Publication

Appendix¹

Appendix 1. Respondent characteristics and accuracy of recall

Since we collected information on the respondents as well, we are able to study to what extent their characteristics correlate with accuracy of recall. The results are shown in Table A1. Column (1) shows the results for the task of naming presenters and institutions and Column (2) shows the results for the task of mapping pictures of presenters to titles of papers. We do not find evidence of any significant variable affecting accuracy of recall, except for the respondent being an economist. This is perhaps not surprising as economists are in a majority and therefore more likely to be familiar with the presenters.

Table A1- Respondents' characteristics

	naming presenters and institutions (1)	mapping pictures to titles (2)
female	0.012 (0.054)	0.046 (0.045)
ethnic minority	-0.063 (0.064)	-0.043 (0.053)
tenured	0.052 (0.078)	0.019 (0.063)
>40 years old	-0.040 (0.083)	-0.032 (0.067)
economist	0.228*** (0.084)	0.113 (0.070)
constant	0.228*** (0.087)	0.536*** (0.070)
observations	858	892
number of groups	1	1

Two-way error component linear probability model, allowing for presenter and respondents' random effects. The dependent variable is a dummy for correct answer.

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

¹Note that to protect the privacy of conference participants, the Appendix does not display the pictures used in the study. We have replaced pictures and have obtained the consent to use them for the purpose of this paper.

Appendix 2. Additional analysis and robustness checks

Differences between conferences

We replicate the analysis presented in Tables 4 and 5 for each conference separately. We should take the results of this analysis with caution because the number of presenters falling into the different categories of interest (female, ethnic minority, attractive and plain) is small when considering each conference separately.

We report the analysis in Table A.2. We find that the ethnic minority effect observed in the task of naming the presenter is of similar magnitude in both conferences. In contrast, the female effect observed in the task of mapping pictures of presenters to titles of papers is mainly driven by the San Diego conference, although the coefficient is also positive (but not significant) for the Edinburgh conference. As reported in the summary statistics of presenters and respondents, we have a higher proportion of women in the San Diego conference, and we seem to find a stronger bias in favour of women when they comprise a larger share. We can only speculate as to why that may be the case. Perhaps women only stand out if they form a critical mass, but this is a somewhat counterintuitive in the context of bounded memory. Note that we find much larger and significant effects of being attractive or plain in the Edinburgh conference. Overall, the effect of being distinctively attractive or unattractive is not as robust as the effects of gender or ethnic minority.

Table A2- Probability of correct remembering for separate conferences

	correct answer name		correct answer institution		correct answer face and title	
	San Diego (1)	Edinburgh (2)	San Diego (3)	Edinburgh (4)	San Diego (5)	Edinburgh (6)
female	0.054 (0.079)	-0.052 (0.108)	0.061 (0.080)	0.016 (0.114)	0.151** (0.069)	0.062 (0.100)
ethnic minority	0.212* (0.114)	0.200 (0.134)	0.340*** (0.114)	0.090 (0.143)	0.094 (0.091)	0.155 (0.132)
attractive	0.034 (0.106)	0.362** (0.152)	0.079 (0.107)	0.465*** (0.162)	0.104 (0.086)	-0.079 (0.121)
plain	0.001 (0.123)	0.025 (0.118)	-0.154 (0.124)	0.033 (0.125)	0.055 (0.082)	-0.223** (0.098)
non-native English speaker	-0.170 (0.122)	-0.191** (0.088)	-0.322*** (0.123)	-0.152 (0.094)	0.170** (0.071)	-0.018 (0.076)
# of years since PhD	0.001 (0.007)	0.024*** (0.005)	0.004 (0.007)	0.010* (0.006)	0.017*** (0.006)	0.003 (0.004)
rank current institution	0.001 (0.002)	-0.000 (0.000)	0.003 (0.002)	-0.001 (0.000)	-0.001* (0.001)	0.000 (0.000)
# of top 5 publications in economics	0.025 (0.016)	0.064*** (0.022)	0.009 (0.016)	0.059** (0.023)	0.010 (0.012)	0.027 (0.017)
# of publications	0.005*** (0.002)	-0.015*** (0.005)	0.004*** (0.002)	-0.011** (0.005)	-0.001 (0.002)	-0.004 (0.004)
economist	-0.271** (0.116)	0.298 (0.258)	-0.319*** (0.117)	0.301 (0.274)	-0.164** (0.083)	-0.072 (0.228)
same field	0.401*** (0.084)		0.372*** (0.085)		0.223*** (0.064)	
same gender	-0.008 (0.063)	0.143** (0.062)	-0.045 (0.063)	0.148** (0.066)	0.037 (0.049)	0.032 (0.049)
Constant	0.276** (0.127)	-0.111 (0.286)	0.326** (0.128)	0.044 (0.303)	0.199** (0.101)	0.695*** (0.241)
Observations	209	198	209	198	385	440
Number of groups	1	1	1	1	1	1

Two-way error component linear probability model, allowing for presenter and respondents' random effects. The dependent variable is a dummy for correct answer.

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Effects of knowing the presenter

As mentioned earlier, one obvious explanation for the large social proximity effects and the (small) effects of academic achievements on accuracy of recall could be because the respondent is more likely to know the presenter if they are in the same field and the presenter is more established. With the caveats mentioned earlier in mind, we enrich the analysis presented in Table A.2. with a dummy variable controlling for whether the respondent indicates knowing the presenter. We only have the data available for the Edinburgh conference though and therefore do not have variation in whether the presenter and the respondent are in the same field (since they all are). The results are presented in Table A.3., Columns (1), (3) and (5). We find that knowing the presenter is a strong predictor of

accuracy of recall in all tasks. But, it does not change much the estimates of academic achievements. Thus, knowing the presenter matters a lot, but that alone does not seem to explain the positive effects of academic achievements on the accuracy of recall.

Difference between picture and actual appearance

Since we use publicly available pictures of presenters, one worry is that presenters may look different from their picture – for example, because the pictures are relatively old. One would expect that a high discrepancy between the appearance on the public picture and the appearance at the conference might compromise the ability to recall. To address this concern, we took pictures ourselves of presenters during the presentations at the Edinburgh conference. We then asked assistants at the University of Cologne to evaluate the similarity of the presenter’s appearance on the publicly available picture and on the picture we took during the presentation (see Appendix 7). Again, 10 assistants were asked to evaluate the similarity between pictures of all presenters, and we constructed a variable that averaged ratings across raters. We add this variable to the model estimated in Table A.3., including data only from the Edinburgh conference. We do not find evidence that this variable matters, and the other coefficients are generally unaffected by the inclusion of this variable.

Table A3- Controlling for “knowing” representativeness of picture (Edinburgh)

	correct answer name		correct answer institution		correct answer face and title	
	(1)	(2)	(3)	(4)	(5)	(6)
female	-0.054 (0.086)	-0.073 (0.112)	0.017 (0.090)	0.002 (0.119)	0.059 (0.092)	0.045 (0.102)
ethnic minority	0.175 (0.107)	0.239 (0.147)	0.045 (0.112)	0.117 (0.157)	0.169 (0.122)	0.196 (0.142)
attractive	0.315** (0.125)	0.405** (0.166)	0.406*** (0.131)	0.495*** (0.177)	-0.043 (0.111)	-0.029 (0.140)
plain	0.002 (0.092)	0.040 (0.119)	0.000 (0.097)	0.043 (0.127)	-0.208** (0.089)	-0.225** (0.096)
non-native English speaker	-0.137* (0.071)	-0.213** (0.094)	-0.077 (0.074)	-0.167* (0.101)	-0.027 (0.069)	-0.037 (0.079)
# of years since PhD	0.017*** (0.005)	0.025*** (0.006)	0.001 (0.005)	0.011* (0.006)	0.002 (0.004)	0.004 (0.005)
rank current institution	-0.000 (0.000)	-0.000 (0.000)	-0.001** (0.000)	-0.001 (0.000)	0.000 (0.000)	0.000 (0.000)
# of top 5 publications in economics	0.043** (0.018)	0.066*** (0.022)	0.036* (0.019)	0.060*** (0.023)	0.022 (0.016)	0.029* (0.017)
# of publications	-0.010** (0.004)	-0.016*** (0.005)	-0.005 (0.004)	-0.012** (0.006)	-0.004 (0.004)	-0.005 (0.004)
economist	0.283 (0.210)	0.371 (0.281)	0.272 (0.220)	0.351 (0.300)	-0.058 (0.211)	0.010 (0.254)
same gender	0.132** (0.058)	0.145** (0.062)	0.135** (0.060)	0.150** (0.066)	0.017 (0.048)	0.032 (0.049)
respondent knows presenter	0.387*** (0.061)		0.454*** (0.063)		0.177*** (0.044)	
difference between picture and appearance at conference		0.025 (0.040)		0.017 (0.043)		0.021 (0.031)
Constant	-0.213 (0.234)	-0.254 (0.366)	-0.077 (0.245)	-0.054 (0.390)	0.628*** (0.223)	0.554* (0.314)
Observations	198	198	198	198	440	440
Number of groups	1	1	1	1	1	1

Two-way error component linear probability model, allowing for presenter and respondents’ random effects. The dependent variable is a dummy for correct answer.

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

For one presenter in the Edinburgh conference, there was no picture available online. We used the picture made during the conference and thus set the difference between picture and appearance at conference to zero.

Differences between tasks 1 and 2

Next, we replicate the analysis presented in Table 5 for tasks 1 and 2 separately (see Table A.4.). We find that the female effect is much stronger in task 2, where respondents have to choose between four paper titles to match to a picture. The negative effects of being plain on the accuracy of recall are of similar magnitude in both tasks. Otherwise, we find small differences in the effects

of academic achievements (which are not always significant or not significant in both tasks at the same time).

Table A4- Differences between tasks 1 and 2

	one title four presenters			one presenter four title		
	(1)	(2)	(3)	(4)	(5)	(6)
female	-0.090 (0.080)	-0.038 (0.077)	-0.014 (0.075)	0.187** (0.074)	0.232*** (0.078)	0.239*** (0.077)
ethnic minority	0.123 (0.103)	0.146 (0.096)	0.143 (0.092)	0.056 (0.103)	0.078 (0.109)	0.081 (0.106)
attractive	0.051 (0.093)	0.086 (0.094)	0.079 (0.090)	-0.050 (0.098)	-0.026 (0.115)	-0.027 (0.112)
plain	-0.197* (0.118)	-0.153 (0.117)	-0.165 (0.112)	-0.162** (0.080)	-0.160** (0.078)	-0.148* (0.076)
non-native English speaker		-0.016 (0.074)	-0.003 (0.071)		0.045 (0.071)	0.043 (0.070)
# of years since PhD		0.004 (0.004)	0.003 (0.004)		0.005 (0.004)	0.005 (0.004)
rank current institution		-0.000 (0.000)	-0.000 (0.000)		0.001** (0.000)	0.001** (0.000)
# of top 5 publications in economics		0.033** (0.013)	0.032** (0.013)		0.014 (0.009)	0.014 (0.009)
# of publications		-0.005* (0.002)	-0.005** (0.002)		0.000 (0.002)	0.001 (0.002)
economist		0.013 (0.103)	-0.247** (0.113)		-0.023 (0.112)	-0.123 (0.129)
same field			0.363*** (0.077)			0.126 (0.085)
same gender			0.031 (0.045)			0.002 (0.048)
Constant	0.633*** (0.042)	0.587*** (0.112)	0.508*** (0.112)	0.641*** (0.038)	0.428*** (0.132)	0.416*** (0.133)
Observations	451	418	418	441	407	407
Number of groups	1	1	1	1	1	1

Two-way error component linear probability model, allowing for presenter and respondents' random effects. The dependent variable is a dummy for correct answer.

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Appendix 3: Screenshots remembering tasks (San Diego)

Introduction

Thank you for participating to our survey. The survey is based on the conference on Deception, Incentives and Behaviour that took place at the Rady School of Management in April 2012. You will be asked to do three tasks and we will **reward the 5 best performers** with a **\$50 Amazon voucher**. To determine the winners of the prize we will consider those participants who took part before May 29th 2012. A random draw will decide in case of ties. **Note that there is no deception involved at any stage.**

Next

Michèle Belot and Marina Schröder
Complete Imprint

0% completed

First Task

Your task is to match a person to a paper presented at the conference. You will see 4 pictures of people (who were present at the conference) and are asked to indicate which one presented the paper with the indicated title.

The time for answering these questions is restricted to **25 seconds** for each question.

Next

Michèle Belot and Marina Schröder
Complete Imprint

4% completed

Who presented:

A temporal view of the costs and benefits of self-deception?

Time remaining: 23 seconds.

Tick the correct picture.



Next

Michèle Belot and Marina Schröder
Complete Imprint

8% completed

Second Task

Your task is to **match a person to a paper presented at the conference**. You will see a picture of a person present at the conference, as well as 4 titles of papers presented, and you are asked to indicate which paper was presented by the person on the picture.

The time for answering these questions is restricted to **25 seconds** for each question.

Next

Michèle Belot and Marina Schröder
Complete Imprint

32% completed

Which paper did the person on this picture present?

Time remaining: 21 seconds.



- Lying and friendship
- ESA executive committee composition guessing game
- The Impact of Goals on Ethical Behavior
- Lying about what you know or about what you do?

Next

Michèle Belot and Marina Schröder
Complete Imprint

36% completed

Third Task: Recall names and institutions

We will provide you with the photo of one presenter of the conference. Please indicate the **name of the presenter** and the **institution the presenter is currently at**.

The time for answering these questions is restricted to **25 seconds** for each question.

Next

Michèle Belot and Marina Schröder
Complete Imprint

60% completed

Enter name and institution below.

Time remaining: 23 seconds.



Name

Institution

Next

Michèle Belot and Marina Schröder
Complete Imprint

64% completed

Sessions you attended

Please tick the sessions you attended.

Friday 9:10-10:30 a.m.

-
- Andreas Blume: A game theoretic approach to randomized response: theory and experiments
 - Alexander Cappelen: When do people tell white lies?
 - Gary Charness: Communication protocol, content, and deception
 - David Cooper: Managing credibility: an experiment on leadership and coordination

Friday 11:00-11:40 a.m.

-
- Florian Ederer: Dishonesty & incentives
 - Jan Potters: Disclosing advisors' interests neither helps nor hurts

Friday 1:15-2:15 p.m.

-
- Shahr Ayal: Moral cleansing strategies for ethical dissonance
 - Michele Belot: Buying lies: the effects of interaction and context on the ability to detect deceit
 - Molly Crockett: Selfishness and self-deception
 - Jason Dana: Incentives, crowding in, and dishonest behavior
 - Anastasia Danilov: The dark side of team identity: experimental evidence from financial service professionals

Friday 2:45-3:45 p.m.

-
- Anna Dreber: How do competitions affect social preferences
 - Martin Dufwenberg: Trickster's imprint
 - Sanjiv Erat: White lies
 - Roberto Hernan-Gonzalez: Information Asymmetry, Trust and Deception
 - Zachary Grossman: Strategic Ignorance, Default Effects, Self-Signalling and Omission Bias

Friday 4:15-5:15 p.m.

-
- Kristof Madarasz: Conscience accounting: emotional dynamics and social behavior
 - Alex Imas: Conscience accounting: emotional dynamics and social behavior
 - Erin Krupka: License to cheat: voluntary regulation and ethical behavior
 - Michel Maréchal: Bad boys: the effect of criminal identity on cheating
 - Nina Mazar: The heritability of moral standards for everyday dishonesty

Saturday 9:00-10:20 a.m.

-
- Tore Ellingsen: How does communication affect beliefs?
 - Ayelet Fishbach: The end justifies the means, but only in the middle
 - Francesca Gino: Children develop a veil of fairness
 - Daniel Houser: Broken promises and hidden partnerships

General Information

Gender:

- Female
- Male

Age:

- Below 40
- Between 41 and 55
- 56 and older

Current position:

- Ph.D. student
- Post-doctoral researcher / Assistant Professor
- Associate professor
- Professor
- Non Academic job

Years since Ph.D:

Field of Ph.D:

- Economics
- Management
- Psychology
- Other

Ethnicity:

- White
- East Asian
- South Asian
- Middle Eastern
- Black

Location of current institution:

- Africa
- Europe
- Australia
- East Asia
- Middle East
- North America
- South Asia
- United States

Place of birth:

- Africa
- Europe
- Australia
- East Asia
- Middle East
- North America
- South Asia
- United States

Location of institution where Ph.D. was obtained:

- Africa
- Europe
- Australia
- East Asia
- Middle East
- North America
- South Asia
- United States

Next

Thank you for your participation!

I would like to participate in the contest. I agree that my e-mail address will be saved until the winner is found. My e-mail address will not be passed on to third parties.

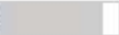
Enter e-mail address

Select the Amazon website for your voucher

[Please choose] 

Next

Michèle Belot and Marina Schröder
Complete Imprint

96% completed 

Appendix 4: Additional information collected for Edinburgh conference

Please indicate which talks you attended on Thursday (left column) and whether you knew the presenter before the conference (right column).

	Please tick if you attended	Did not know person before	Known from previous conferences	We work together/ are friends	Known for other reason
14:00: Wouter Den Haan "Unemployment (Fears), Precautionary Savings and Aggregate Demand"	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14:30: Pat Kehoe "Debt Constraints and Unemployment"	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15:00: Pietro Garibaldi "Labor and Finance (II): Financial Frictions and Unemployment Volatility"	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15:45 : Vincent Sterk "The growth potential of startups over the business cycle"	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16:10: Jake Bradley "Entrepreneurship in an Equilibrium Model of the Labor Market"	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16:35: Eran Yashiv "Capital Values, Job Values and the Joint Behavior of Hiring and Investment"	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Next

Michèle Belot and Marina Schröder
Complete Imprint

85% completed

Note that this question is different to the respective question in the deception conference, because we added a control question on whether the respondent knew the presenter.

Appendix 5: Screenshot of questionnaire on attractiveness

Liebe(r) Teilnehmer(in),

bitte nehmen Sie sich einen Moment Zeit, um den folgenden Fragebogen auszufüllen. Im Folgenden werden Personen abgebildet, die alle wissenschaftlich tätig sind. Es ist wichtig, dass Sie den Fragebogen vollständig und wahrheitsgemäß ausfüllen. Die Daten werden vertraulich behandelt.



1. Kennen Sie die Person auf dem Bild?

Bitte auswählen.

- Nein.
 Ja.

Weiter

Jun. Prof. Dr. Marina Schröder, Seminar für ABWL und Personalwirtschaftslehre Prof. Dr. Dirk Sliwka, Universität zu Köln

1% ausgefüllt



2. Für wie alt halten Sie die abgebildete Person?

Bitte geben Sie eine Zahl zwischen 20 und 80 ein.

Ich halte die Person für Jahre alt.

Weiter

Jun. Prof. Dr. Marina Schröder, Seminar für ABWL und Personalwirtschaftslehre Prof. Dr. Dirk Sliwka, Universität zu Köln

2% ausgefüllt

Dear participant,
Please take some time to answer the following questionnaire. In the following, you will see pictures of people that all do research. It is important that you fill the questionnaire in completely and truthfully. The data will be treated confidentially.

1. Do you know the person on the picture? Please mark.

- 0 No.
0 Yes.

Continue

2. How old do you think the person on the picture is?

Please enter a number between 20 and 80.

I think the person is ----- years old.

Continue



3. Inwiefern treffen folgende Aussagen auf die abgebildete Person zu?
Bitte wählen Sie aus.

stimme
nicht zu

stimme
eher
nicht zu

- | | | | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| Die Person auf dem Bild ist mir sympathisch. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ich finde die Person auf dem Bild attraktiv. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Die Person auf dem Bild wirkt auf mich kompetent. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Die Person auf dem Bild wirkt auf mich gebildet. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Weiter

Jun. Prof. Dr. Marina Schröder, Seminar für ABWL und
Personalwirtschaftslehre Prof. Dr. Dirk Sliwka, Universität
zu Köln

3% ausgefüllt

3. In how far do you think the following attributes
correspond to the person on the picture?

Please mark.

Scale: do not agree – rather do not agree – rather
agree – agree

The person on the picture seems likeable to me.
I consider the person on the picture as attractive.
The person on the picture seems competent to me.
The person on the picture seems educated to me.

Continue

Appendix 6: Questionnaire on similarity of answer options

Sie sehen unten zwei Bilder von verschiedenen Personen.
Bewerten Sie bitte, wie ähnlich die Personen auf beiden Bildern aus-

Below, you see two pictures of different people. Please indicate how similar these people look on the two pictures.



Sehr ähnlich 1 2 3 4 5 6 7 Sehr unterschiedlich

Scale:

1= very similar

7= very different



Sehr ähnlich 1 2 3 4 5 6 7 Sehr unterschiedlich



Sehr ähnlich 1 2 3 4 5 6 7 Sehr unterschiedlich



Sehr ähnlich 1 2 3 4 5 6 7 Sehr unterschiedlich

Appendix 7: Questionnaire on similarity of pictures of same person

Sie sehen unten zwei Bilder von derselben Person.
Bewerten Sie bitte, wie ähnlich die Person auf beiden Bildern aussieht!

Below, you see two pictures of the same person.
Please rate how similar the person looks in the two pictures.



Scale:
1= very similar
7= very different

Sehr ähnlich 1 2 3 4 5 6 7 Sehr unterschiedlich



Sehr ähnlich 1 2 3 4 5 6 7 Sehr unterschiedlich



Sehr ähnlich 1 2 3 4 5 6 7 Sehr unterschiedlich