

Appendix A: Table of pairwise correlations

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1) Black Actors	1.00																
(2) MBWL	0.81	1.00															
(3) Hispanic Actors	0.05	0.03	1.00														
(4) Asian Actors	0.03	0.04	-0.03	1.00													
(5) Other Actors	0.03	0.00	0.07	0.03	1.00												
(6) National Advertising	0.04	0.02	0.07	-0.09	0.04	1.00											
(7) Production Budget	-0.02	-0.08	0.02	-0.08	0.07	0.62	1.00										
(8) Plot:Monster	0.04	-0.01	-0.02	0.01	-0.03	0.10	0.21	1.00									
(9) Plot:Rags	0.05	0.03	0.00	0.00	-0.03	0.01	0.00	0.43	1.00								
(10) Plot:Quest	0.05	0.02	0.04	0.00	0.00	0.15	0.14	0.49	0.46	1.00							
(11) Plot:Voyage	0.02	0.02	0.01	0.02	-0.01	0.01	-0.03	0.11	0.15	0.18	1.00						
(12) Plot:Comedy	0.03	0.04	-0.01	-0.02	-0.04	-0.05	-0.10	-0.09	0.15	0.01	0.15	1.00					
(13) Plot:Tragedy	-0.06	-0.03	-0.03	-0.01	0.01	0.03	0.10	0.03	-0.02	-0.01	-0.08	0.00	1.00				
(14) Plot:Rebirth	-0.03	-0.04	-0.06	0.02	-0.02	0.01	-0.06	0.00	-0.01	-0.02	0.09	-0.01	-0.05	1.00			
(15) Typecast Role	0.10	0.14	0.10	0.08	0.05	0.08	0.15	0.11	0.02	0.05	-0.02	-0.09	0.01	0.01	1.00		
(16) Oscar Appeal	-0.06	-0.02	-0.07	0.00	-0.06	0.10	0.05	-0.07	-0.06	-0.09	0.00	-0.04	0.06	0.07	0.05	1.00	
(17) Opening Theaters	0.09	0.06	0.07	-0.10	0.04	0.79	0.57	0.13	0.02	0.15	0.00	-0.07	0.00	-0.06	0.06	-0.04	1.00
(18) Female Actors	0.03	0.05	0.01	0.01	-0.04	-0.04	-0.21	-0.12	-0.01	-0.17	0.03	0.14	-0.01	0.09	-0.08	-0.04	-0.04
(19) Critic Rating	-0.03	-0.05	-0.05	0.02	-0.01	-0.08	-0.12	-0.08	-0.05	-0.07	-0.01	-0.08	-0.02	0.05	0.02	0.43	-0.22
(20) Runtime	0.02	0.00	-0.03	-0.06	0.02	0.31	0.48	0.09	0.00	0.06	-0.04	-0.04	0.07	-0.03	0.12	0.35	0.22
(21) Cast Star Power	0.19	0.21	0.06	0.21	0.01	-0.28	-0.43	-0.08	0.01	0.00	0.07	-0.01	-0.03	-0.04	-0.04	-0.09	-0.22
(22) Director Prior Films	-0.03	-0.01	0.03	-0.04	0.05	0.23	0.30	0.04	0.03	0.01	-0.05	-0.08	0.04	-0.05	0.05	0.11	0.18
(23) Director Star Power	0.09	0.10	0.04	0.03	-0.05	-0.24	-0.34	-0.04	0.00	0.01	0.05	0.08	-0.03	0.01	-0.10	-0.27	-0.16
(24) Director Past Oscar	-0.09	-0.06	-0.02	0.01	0.04	0.09	0.11	0.00	-0.01	-0.01	-0.01	-0.06	-0.01	0.06	0.01	0.27	0.07
(25) Seasonality	0.00	0.03	0.00	0.09	0.04	0.04	0.02	-0.01	-0.01	0.00	-0.03	-0.04	-0.04	-0.03	0.00	-0.02	0.05
(26) MPAA:Rating R	0.08	0.08	-0.07	-0.02	0.00	0.20	0.28	0.10	0.04	0.05	0.01	0.01	0.07	-0.02	-0.02	-0.02	0.18
(27) MPAA:Rating PG13	-0.09	-0.09	0.05	0.00	-0.01	-0.23	-0.30	-0.07	-0.06	-0.06	-0.05	-0.04	-0.04	0.03	0.05	0.06	-0.23
(28) Sequel	0.03	-0.05	0.08	0.02	0.01	0.18	0.28	0.09	-0.04	0.05	0.02	-0.05	0.03	-0.05	0.03	-0.08	0.21
(29) Black Director	0.54	0.45	0.05	0.03	-0.03	-0.02	-0.08	-0.01	0.03	0.01	0.00	0.01	-0.08	-0.02	0.07	-0.02	0.02
(30) Black Producer	0.42	0.41	0.07	-0.02	0.02	0.01	-0.07	-0.03	-0.02	-0.04	-0.01	0.03	-0.02	-0.03	0.02	-0.05	0.05

Variable	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
(18) Female Actors	1.00												
(19) Critic Rating	-0.05	1.00											
(20) Runtime	-0.16	0.22	1.00										
(21) Cast Star Power	0.07	-0.01	-0.25	1.00									
(22) Director Prior Films	-0.03	-0.02	0.24	-0.12	1.00								
(23) Director Star Power	0.07	-0.20	-0.34	0.35	-0.33	1.00							
(24) Director Past Oscar	-0.05	0.11	0.18	-0.04	0.31	-0.33	1.00						
(25) Seasonality	-0.05	-0.02	0.03	0.02	-0.01	-0.06	0.02	1.00					
(26) MPAA:Rating R	-0.03	-0.16	0.13	-0.08	0.05	-0.02	-0.02	0.01	1.00				
(27) MPAA:Rating PG13	-0.06	0.17	-0.11	0.00	-0.08	-0.04	0.02	-0.02	-0.85	1.00			
(28) Sequel	0.00	-0.06	0.11	-0.05	0.08	-0.05	-0.03	0.00	0.12	-0.12	1.00		
(29) Black Director	0.00	-0.01	0.05	0.13	0.01	0.03	-0.06	-0.08	0.03	-0.02	-0.05	1.00	
(30) Black Producer	0.05	-0.06	-0.01	0.17	-0.03	0.07	-0.06	-0.02	0.03	-0.06	-0.08	0.41	1.00

Appendix B: Summary statistics of distinguished by the number of Black actors in the principal cast

Variable	Black Actors = 0 (N = 599)	Black Actors = 1 (N = 212)	Black Actors \geq 2 (N = 114)
Hispanic Actors	0.175	0.212	0.263
Asian Actors	0.312	0.330	0.386
Other Actors	0.047	0.080	0.079
National Advertising	15.556	15.927	15.950
Production Budget	16.813	17.210	16.799
Plot: Monster	0.186	0.255	0.260
Plot: Rags	0.123	0.150	0.159
Plot: Quest	0.480	0.550	0.573
Plot: Voyage	0.344	0.323	0.367
Plot: Comedy	0.252	0.212	0.278
Plot: Tragedy	0.155	0.143	0.141
Plot: Rebirth	0.202	0.222	0.174
Typecast Role	0.115	0.146	0.281
Oscar Appeal	0.344	0.203	0.245
Opening Theaters	6.561	7.049	7.192
Female Actors	2.190	2.094	2.237
Critic Rating	55.856	55.528	51.482
Runtime	4.688	4.700	4.687
Cast Star Power	6.363	6.248	7.101
Director Prior Films	1.451	1.376	1.423
Director Star Power	8.590	8.626	8.956
Director Past Oscar	0.070	0.028	0.018
Seasonality	0.645	0.642	0.657
Sequel	0.100	0.203	0.140
Black Director	0.013	0.028	0.298
Black Producer	0.020	0.042	0.272
MPAARating: PG13	0.414	0.458	0.535
MPAARating: R	0.504	0.462	0.386
IMDB Genre: Drama	0.609	0.467	0.596
IMDB Genre: Comedy	0.346	0.297	0.395
IMDB Genre: Romance	0.222	0.165	0.167
IMDB Genre: Action	0.219	0.377	0.281
IMDB Genre: Crime	0.150	0.203	0.246
IMDB Genre: Thriller	0.280	0.387	0.246
IMDB Genre: Family	0.053	0.071	0.035
IMDB Genre: Adventure	0.172	0.250	0.088
IMDB Genre: Horror	0.104	0.085	0.035
IMDB Genre: Fantasy	0.110	0.090	0.044
IMDB Genre: Western	0.015	0.009	0.009
IMDB Genre: Mystery	0.097	0.146	0.035
IMDB Genre: SciFi	0.115	0.278	0.088
IMDB Genre: Musical	0.010	0.009	0.026
IMDB Genre: War	0.033	0.009	0.026
IMDB Genre: History	0.047	0.005	0.088
IMDB Genre: Biography	0.120	0.047	0.149

Appendix C: IV models of *Box-Office* as a function of *Multiple Black: With Lead (MBWL)*

	IV Model 1		IV Model 2		IV Model 3	
	MBWL	Box-Office	MBWL	Box-Office	MBWL	Box-Office
MBWL		0.787** (0.268)		0.981*** (0.255)		0.904*** (0.218)
Black Producer	0.438*** (0.0661)				0.293*** (0.0679)	
Black Director			0.516*** (0.0657)		0.404*** (0.0705)	
Critical Rating	-0.000180 (0.000395)	0.0157*** (0.00126)	-0.000258 (0.000381)	0.0158*** (0.00127)	-0.000190 (0.000368)	0.0157*** (0.00127)
Hispanic Actors	-0.00824 (0.0167)	-0.0444 (0.0459)	-0.00888 (0.0158)	-0.0445 (0.0464)	-0.0125 (0.0163)	-0.0444 (0.0462)
Asian Actors	0.000484 (0.0141)	0.00132 (0.0417)	-0.00964 (0.0145)	0.00256 (0.0422)	-0.00435 (0.0141)	0.00207 (0.0420)
Other Actors	-0.00283 (0.0423)	-0.200* (0.0847)	0.0181 (0.0364)	-0.200* (0.0861)	0.0112 (0.0405)	-0.200* (0.0855)
National Advertising	-0.000737 (0.00757)	0.457*** (0.0629)	0.000908 (0.00784)	0.457*** (0.0628)	0.000612 (0.00747)	0.457*** (0.0628)
Production Budget	-0.0238* (0.0111)	0.0830* (0.0417)	-0.0193+ (0.0105)	0.0889* (0.0421)	-0.0174+ (0.0104)	0.0866* (0.0417)
Typecast Role	0.116*** (0.0332)	0.0146 (0.0911)	0.0991** (0.0340)	-0.00915 (0.0904)	0.0998** (0.0329)	0.000204 (0.0890)
Oscar Appeal	0.00375 (0.0143)	0.126* (0.0549)	0.00654 (0.0133)	0.126* (0.0552)	0.00910 (0.0131)	0.126* (0.0551)
Opening Theaters	0.0151* (0.00628)	0.278*** (0.0386)	0.0140* (0.00661)	0.274*** (0.0393)	0.0109+ (0.00619)	0.276*** (0.0389)
Female Actors	0.00825 (0.00901)	0.0412 (0.0275)	0.0134 (0.00904)	0.0391 (0.0278)	0.0111 (0.00880)	0.0399 (0.0276)
Runtime	0.0949 (0.0736)	0.0320 (0.269)	0.0338 (0.0743)	0.00615 (0.272)	0.0297 (0.0700)	0.0163 (0.270)
Cast Star Power	0.0279*** (0.00794)	-0.0542* (0.0268)	0.0324*** (0.00777)	-0.0625* (0.0269)	0.0247** (0.00758)	-0.0592* (0.0261)
Director Prior Films	0.00890 (0.0122)	0.0310 (0.0411)	0.00240 (0.0113)	0.0298 (0.0414)	0.00497 (0.0113)	0.0303 (0.0412)
Director Star Power	0.00532 (0.00722)	-0.0424+ (0.0255)	0.00789 (0.00706)	-0.0430+ (0.0257)	0.00836 (0.00659)	-0.0427+ (0.0256)
Director Past Oscar	-0.0676* (0.0344)	-0.248* (0.117)	-0.0578+ (0.0348)	-0.229+ (0.117)	-0.0445 (0.0334)	-0.236* (0.116)
Seasonality	0.0502 (0.0695)	0.663*** (0.196)	0.110+ (0.0651)	0.658*** (0.199)	0.109+ (0.0648)	0.660*** (0.198)
Sequel	-0.0200 (0.0261)	0.582*** (0.0818)	-0.0307 (0.0231)	0.589*** (0.0828)	-0.0201 (0.0230)	0.586*** (0.0821)
Mpaa Rating Ind.	Yes	Yes	Yes	Yes	Yes	Yes
Plot Narrative Var.	Yes	Yes	Yes	Yes	Yes	Yes
IMDB Genre Ind.	Yes	Yes	Yes	Yes	Yes	Yes
Release Year Ind.	Yes	Yes	Yes	Yes	Yes	Yes
Major Studio Ind.	Yes	Yes	Yes	Yes	Yes	Yes
N	925	925	925	925	925	925
R-Squared	0.273	0.846	0.307	0.843	0.348	0.845

Robust standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix D: Logit model of *Single Black* showing that *Black Producer* and *Black Director* are not significant predictors for casts with a single Black actor.

	Sample: Movies with Black Actors ≤ 1	
	DV: Single Black (1/0)	
	(1)	(2)
Black Producer		0.648 (0.536)
Black Director		0.755 (0.761)
Critical Rating	0.00470 (0.00389)	0.00519 (0.00394)
Hispanic Actors	0.0311 (0.188)	-0.00929 (0.202)
Asian Actors	-0.0221 (0.139)	-0.0360 (0.142)
Other Actors	0.494 (0.300)	0.457 (0.309)
National Advertising	-0.0333 (0.0734)	-0.0376 (0.0730)
Production Budget	0.178 (0.123)	0.188 (0.125)
Typecast Role	0.145 (0.300)	0.130 (0.298)
Oscar Appeal	-0.233 (0.187)	-0.214 (0.186)
Opening Theaters	0.0589 (0.0717)	0.0575 (0.0713)
Female Actors	0.000562 (0.0928)	0.000785 (0.0928)
Runtime	0.133 (0.847)	-0.00611 (0.860)
Cast Star Power	0.0698 (0.0763)	0.0601 (0.0773)
Director Prior Films	-0.202 (0.127)	-0.198 (0.128)
Director Star Power	0.0413 (0.100)	0.0450 (0.102)
Director Past Oscar	-0.430 (0.480)	-0.392 (0.481)
Seasonality	-0.318 (0.680)	-0.211 (0.684)
Sequel	0.493+ (0.279)	0.526+ (0.279)
MPAA Rating Ind.	Yes	Yes
Plot Narrative Var.	Yes	Yes
IMDB Genre Ind.	Yes	Yes
Release Year Ind.	Yes	Yes
Major Studio Ind.	Yes	Yes
N	811	811
Pseudo R-Squared	0.0992	0.103
R-Squared		

Robust standard errors in parentheses; *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

Appendix E: Supplementary Tests of Director Race

Is a director's race identifiable?

To test this possibility, we used Amazon's Mechanical Turk service to recruit 450 respondents (US-based, with approval ratings over 95%, and a minimum of 100 prior HITs), each of which was asked to watch and assess the quality of one "movie trailer" (i.e. 90 second films used to advertise a feature film). After accepting, and prior to watching the trailer, respondents were asked to list the factors that had the greatest influence on their decision to watch a movie. Respondents were then randomly shown a film trailer by either a Black or white director¹ and subsequently asked to estimate the quality of the film (on a 5 point scale), state the name of the director, and guess the race of the director. After listing their impressions, respondents were asked two attention checks and a series of demographic and film-related questions. Respondents that failed the attention check, took more than 10 or less than 4 minutes, or attempted to take the survey a second time were excluded from the analyses, leaving 379 respondents for our survey.

[Insert Table E.1 about here]

The results of Table E.1 support the exogeneity of *Black Directors* and its use as an instrumental variable. Table E.1 shows that outside of Oscar winning directors, respondents do not generally focus on a director when selecting a movie, and therefore cannot recall the name of the director, cannot identify their race, and further that the director's race does not predict their assessment of the quality of the trailer. Specifically, we find that only 2% of respondents mention "director" when listing reasons to attend a movie (by comparison, 11% list "actor/actress" and 28% list "reviews"). In addition, after watching the preview only 9% of the respondents correctly identified the name of the director, and less than 4% correctly identified their race.

Is cast composition noticeable?

An operating assumption of both consumer discrimination theory and our interpretation of the observational data is that consumers notice employee diversity and alter their behavior based on this information. To our knowledge, this assumption – that consumers are attentive to variations in the hiring practices of an organization – has not previously been directly tested. Moreover, in many situations the diversity of employees will not be known

¹ Films were chosen by dividing our sample by the director's race and then randomly selecting three films with white directors and three with Black directors.

beforehand. For instance, in our setting it is plausible that consumers do not know the cast composition prior to watching the film. Therefore, to test our claim that the performance data reflects a lack of consumer bias, we conduct a secondary analysis that distinguishes between consumer inattention to, indifference to, and preference for diversity.

Subject Recruitment

We recruited 1500 participants on Amazon's Mechanical Turk service via a script asking them to "participate in research on how people select which movies to watch" and paid \$0.50 for the activity. We only accepted respondents with a 95% approval rate, who completed 100+ prior HITS, were located within the United States, and we did not allow anyone who had participated in the prior director test. In addition, respondents that completed the task in under 3 minutes or required 15+ minutes, those that failed either attention check ("This film was about..."), those that indicated any problem with the survey, and those attempted to repeat (e.g. shared mTurk ID or IP address) were excluded from our analyses. As a result, a total of 1185 respondents were used in our analyses. Respondents self-reported as majority male (59%), white (78%), under 35 (62%), and having attended a movie in the past month (56%).

Design

After agreeing to participate respondents were first asked an open-ended question: "How do you decide which movie to watch?" and then randomly assigned one of thirty possible films and asked if they had seen it, positive answers resulted in a question about a second film and so on, until we identified a film they had not yet seen. Respondents were then shown a preview of the film in question. After watching the clip respondents were asked to estimate the quality of the movie and to evaluate (7 point scale) relative to a typical movie, whether the film appeared More/Less: diverse, unique, realistic, funny, slow, confusing, appealing to women, appealing to teenagers, or appealing to minorities. Next respondents were asked two attention checks regarding what occurred in the trailer, the survey closed by asking respondents demographic questions.

To create a set of films we divided our sample into three pools: movies with no minorities in one of the 6 leading roles, movies with one Black actor, and movies with 2+ minorities. Given that we had no expectation that film quality or genre should influence attention to cast composition we randomly selected ten movies from each set to form a sample

of thirty films with varying cast compositions.² This design allowed us to determine whether recognition of cast diversity/homogeneity and the effect of cast diversity are consistent across a wide variety of film types.

Attention to Diversity

The first question we sought to answer was whether cast composition is recognized in typical promotional materials. The results show that audiences correctly identify the diversity of the cast based solely on the preview as respondents rated movies with more minority cast members as more diverse than movies with all-white casts. Specifically, estimating the perception of diversity, in Model (1) of Table E.2, using naïve OLS regression we find that including one (0.66, 0.11) or 2+ (0.49, 0.12) Black actors in the principal cast increased the perception of a film’s diversity relative to a film with an all-white cast. This affirms that consumers recognize cast composition prior to attending a film, additional models estimated with ordered logistic regression returned similar results.

[Insert Table E.2 about here]

Preference for Diversity

Given the observational evidence that diverse films perform better, we next estimated how cast composition affects respondent’s impressions of film quality by creating a composite “movie quality” variable that loaded each element (e.g. funny, slow, confusing, unique) of our 9 factor evaluation onto a single variable using principal component analysis. As shown in Model (2) of Table E.2, the presence of one (0.20, 0.06) or multiple Black actors (0.33, 0.07) increased the overall perception of the film’s quality across all respondents, reinforcing our interpretation of the observational results as a reflection of consumer’s preference for diversity.

Next, we considered a demographic explanation for the evidence of a diversity bonus: audiences do exhibit bias, but the exodus of white consumers is offset by the arrival of minority consumers, allowing films with minorities to outperform expectation. In Model (3) of Table E.2 we restrict the sample to white respondents and find results consistent in direction and significance with the prior models. This indicates that white consumers do not

² In a supplemental experiment we presented 100 respondents with one of three matched films that varied in cast composition but had similar: genres, ratings, budgets, critical rating, revenues, awards, and number of star actors. Using the same procedure described above we found results consistent with those reported here.

exhibit a bias that is masked by the behavior of other populations. While the scarcity of Black respondents makes it difficult to test for homophily among minorities, the results indicate that, in contrast to theory, white consumers infer cast composition from available evidence and then state a preference for the films that appear diverse.

Trait or Value Homophily: Realism and Cast Diversity

Finally, we considered an alternative interpretation of the consumer discrimination thesis. While the consumer discrimination hypothesis has been read to suggest that consumers prefer employees who resemble themselves, the results have often indicated that consumers prefer employers match their neighborhood demographics (Vogel 2014). Although these have been treated as synonymous concepts, it is possible to separate them and to test whether people prefer “their world” or themselves. For example, a white urban consumer, whose daily life involves people from a variety of backgrounds, may perceive a film with an all-white cast as dissimilar or unrealistic despite the shared ethnicity. As an initial test of this, in Model (4) of Table E.2 we estimate whether respondents’ impressions of how “realistic” a movie was varied with cast composition. The results indicate that casting one (0.65, 0.12) or multiple (0.37, 0.13) Black actors increased the perception of realism relative to an all-white cast. In Model (5) we restrict this analysis to only white respondents and find consistent results, indicating that even white respondents found an all-white film to be less realistic.

Discussion

This survey tested whether audiences recognize and, if so, adjust their behavior in response to cast composition. The results confirm both assumptions, suggesting that the observational results reflect a preference for diverse hiring. We propose that this supports an alternate reading of the consumer discrimination hypothesis where customers act not solely out of a desire for trait-based similarity but to support products that reflect their world or worldview, an interpretation we explore in detail below.

Appendix E.1: Effect of Director Race on Consumer Assessment

	Recall Director's Name	Quality
	(1)	(2)
<i>Film Characteristics</i>		
Black Director	0.267 (1.86)	.057 (.499)
Director Past Oscar	2.41† (1.29)	-.156 (.347)
Production Budget	.041 (.037)	-.001 (.012)
Critic Rating	.047 (.126)	-.019 (.046)
<i>Respondent Characteristics</i>		
Male	.003 (.400)	-.350** (.115)
white	-0.70 (.450)	.162 (.150)
Age	-0.345 (.352)	.108 (.091)
Democrat	0.836 (.667)	.074 (.158)
Movie Attendance	.092 (.214)	.177** (.062)
Constant	-7.16 9.04	6.51 (3.30)
Film Indicators	Y	Y
Observations	379	379
Pseudo R-squared	0.14	.10

Appendix E.2: OLS Estimates of Cast Diversity on Consumer Perception

	Diverse	Movie Quality		Realistic	
	(1)	(2)	(3)	(4)	(5)
<i>Cast Composition</i>					
Single Black Actor	0.66*** (0.11)	0.20** (0.06)	0.19** (0.07)	0.65*** (0.12)	0.70*** (0.14)
Multiple Black Actors	0.49*** (0.12)	0.33*** (0.07)	0.36*** (0.08)	0.37** (0.13)	0.48** (0.15)
<i>Respondent Characteristics</i>					
Male	-0.14 (0.08)	-0.19*** (0.05)	-0.18*** (0.05)	-0.23* (0.09)	-0.29** (0.10)
Age	0.02 (0.07)	0.09* (0.04)	0.11** (0.04)	-0.03 (0.07)	-0.03 (0.08)
white	0.00 (0.10)	0.00 (0.06)		-0.05 (0.11)	
Movie Attendance	0.05 (0.04)	0.09*** (0.02)	0.08** (0.03)	0.11* (0.05)	0.09 (0.05)
Democrat	-0.10 (0.08)	-0.05 (0.05)	-0.04 (0.05)	-0.05 (0.09)	-0.09 (0.10)
<i>Film Characteristics</i>					
Production Budget	-0.08* (0.04)	0.01 (0.02)	0.01 (0.03)	-0.31*** (0.04)	-0.33*** (0.05)
Director Past Oscar	0.13 (0.21)	0.03 (0.12)	0.01 (0.14)	-0.17 (0.22)	-0.10 (0.26)
Number of Stars	-0.14 (0.07)	-0.05 (0.04)	-0.06 (0.05)	-0.05 (0.08)	-0.04 (0.09)
Critic Rating	0.40* (0.19)	0.37** (0.11)	0.36** (0.13)	0.86*** (0.21)	0.89*** (0.24)
Constant	5.15*** (0.79)	-0.89* (0.45)	-0.94 (0.49)	8.85*** (0.84)	9.03*** (0.93)
MPAA Rating Indicators	Yes	Yes	Yes	Yes	Yes
IMDB Genre Indicators	Yes	Yes	Yes	Yes	Yes
Observations	1154	1154	907	1154	907
Adjusted R-Squared	0.09	0.08	0.08	0.16	0.17

Note: The reference category for "Cast Composition" is a film with an all-white cast, for Democrat it is a Republican; ***p<.001, *p<.01, *p<.05.

Appendix F: Linear probability models for *Black Director* and *Black Producer*

	Black Director	Black Producer
Multiple Black	0.264*** (0.0418)	0.214*** (0.0398)
Hispanic Actors	0.0168 (0.0149)	0.0185 (0.0183)
Asian Actors	0.00859 (0.0122)	-0.0138 (0.00939)
Other Actors	-0.0399+ (0.0214)	0.00435 (0.0423)
National Advertising	-0.00441 (0.00677)	-0.00109 (0.00616)
Production Budget	-0.0180* (0.00759)	-0.0122 (0.00778)
Typecast Role	0.0101 (0.0267)	-0.0132 (0.0238)
Oscar Appeal	-0.0193+ (0.0108)	-0.0163 (0.0120)
Opening Theaters	0.0116+ (0.00591)	0.0130** (0.00470)
Female Actors	-0.00722 (0.00673)	0.00408 (0.00627)
Critic Rating	-2.84e-05 (0.000300)	-0.000225 (0.000307)
Runtime	0.189** (0.0594)	0.0842 (0.0679)
Cast Star Power	0.00826 (0.00534)	0.0243*** (0.00592)
Director Prior Films	0.00651 (0.00985)	-0.00678 (0.0114)
Director Star Power	-0.0103 (0.00641)	-0.00596 (0.00585)
Director Past Oscar	-0.0567** (0.0216)	-0.0548* (0.0225)
Seasonality	-0.181*** (0.0501)	-0.0717 (0.0480)
Sequel	-0.0183 (0.0183)	-0.0444** (0.0166)
MPAA Rating Indicators	Yes	Yes
Plot Narrative Variables	Yes	Yes
IMDB Genre Indicators	Yes	Yes
Release Year Indicators	Yes	Yes
Major Studio Indicators	Yes	Yes
N	925	925
R-Squared	0.243	0.207

Robust standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix G: IV model of *Box-Office* as a function of *Multiple Black* with conservative newspaper critics excluded from the Critical Rating measure (0-100)

	IV Model	
	Multiple Black	Box-Office
Multiple Black		0.821*** (0.209)
Black Producer	0.261*** (0.0724)	
Black Director	0.460*** (0.0766)	
Critic Rating (Non-Conservative)	-0.000153 (0.000851)	0.0276*** (0.00262)
Hispanic Actors	-0.0101 (0.0200)	-0.0514 (0.0485)
Asian Actors	-0.00535 (0.0161)	0.00228 (0.0417)
Other Actors	0.0498 (0.0501)	-0.213* (0.0864)
National Advertising	0.00525 (0.00834)	0.455*** (0.0620)
Production Budget	0.00229 (0.0117)	0.0671+ (0.0407)
Typecast Role	0.0978** (0.0376)	0.0227 (0.0857)
Oscar Appeal	0.0172 (0.0161)	0.103+ (0.0572)
Opening Theaters	0.00683 (0.00770)	0.275*** (0.0393)
Female Actors	0.0112 (0.00986)	0.0301 (0.0286)
Runtime	-0.0987 (0.0918)	0.119 (0.267)
Cast Star Power	0.0262** (0.00867)	-0.0523* (0.0261)
Director Prior Films	0.00114 (0.0130)	0.00938 (0.0405)
Director Star Power	0.00920 (0.00895)	-0.0429 (0.0265)
Director Past Oscar	-0.0395 (0.0455)	-0.291* (0.115)
Seasonality	0.152* (0.0767)	0.623** (0.201)
Sequel	0.0304 (0.0339)	0.595*** (0.0830)
MPAA Rating Indicators	Yes	Yes
Plot Narrative Variables	Yes	Yes
IMDB Genre Indicators	Yes	Yes
Release Year Indicators	Yes	Yes
Major Studio Indicators	Yes	Yes
N	918	918
R-Squared	0.292	0.842

Robust standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix H: IV models of *Box-Office* as a function of *Multiple Black* with a broader definition of *Typecast Role*.

	IV Model 1		IV Model 2		IV Model 3	
	Multiple Black	Box-Office	Multiple Black	Box-Office	Multiple Black	Box-Office
Multiple Black		0.805** (0.274)		0.912*** (0.228)		0.878*** (0.206)
Black Producer	0.433*** (0.0684)				0.265*** (0.0723)	
Black Director			0.565*** (0.0668)		0.464*** (0.0759)	
Critical Rating	-7.94e-05 (0.000473)	0.0156*** (0.00126)	-0.000144 (0.000450)	0.0157*** (0.00128)	-8.50e-05 (0.000443)	0.0156*** (0.00127)
Hispanic Actors	-0.00444 (0.0204)	-0.0437 (0.0451)	-0.00614 (0.0194)	-0.0442 (0.0455)	-0.00954 (0.0199)	-0.0440 (0.0453)
Asian Actors	-7.85e-05 (0.0157)	0.00557 (0.0412)	-0.0106 (0.0162)	0.00627 (0.0415)	-0.00590 (0.0159)	0.00605 (0.0414)
Other Actors	0.0320 (0.0518)	-0.226** (0.0839)	0.0543 (0.0470)	-0.230** (0.0852)	0.0480 (0.0503)	-0.229** (0.0846)
National Advertising	0.00418 (0.00849)	0.453*** (0.0630)	0.00593 (0.00869)	0.453*** (0.0627)	0.00567 (0.00840)	0.453*** (0.0628)
Production Budget	-0.00432 (0.0122)	0.0692+ (0.0408)	0.00115 (0.0119)	0.0703+ (0.0409)	0.00287 (0.0118)	0.0700+ (0.0409)
Typecast Role	0.0825** (0.0304)	-0.0605 (0.0751)	0.0668* (0.0301)	-0.0691 (0.0735)	0.0707* (0.0297)	-0.0664 (0.0733)
Oscar Appeal	0.00891 (0.0171)	0.123* (0.0551)	0.0127 (0.0161)	0.123* (0.0555)	0.0149 (0.0158)	0.123* (0.0554)
Opening Theaters	0.0123 (0.00781)	0.280*** (0.0387)	0.0102 (0.00786)	0.278*** (0.0392)	0.00740 (0.00762)	0.279*** (0.0389)
Female Actors	0.00773 (0.00987)	0.0426 (0.0275)	0.0129 (0.00992)	0.0415 (0.0277)	0.0108 (0.00968)	0.0419 (0.0276)
Runtime	-0.0311 (0.0931)	0.136 (0.269)	-0.100 (0.0946)	0.135 (0.271)	-0.105 (0.0917)	0.136 (0.270)
Cast Star Power	0.0300*** (0.00909)	-0.0551* (0.0272)	0.0334*** (0.00871)	-0.0599* (0.0266)	0.0264** (0.00866)	-0.0584* (0.0261)
Director Prior Films	0.00722 (0.0139)	0.0315 (0.0409)	0.000231 (0.0128)	0.0310 (0.0411)	0.00263 (0.0129)	0.0312 (0.0410)
Director Star Power	0.00642 (0.00951)	-0.0452+ (0.0257)	0.00928 (0.00938)	-0.0456+ (0.0260)	0.00983 (0.00902)	-0.0455+ (0.0259)
Director Past Oscar	-0.0722 (0.0464)	-0.247* (0.116)	-0.0582 (0.0460)	-0.236* (0.115)	-0.0460 (0.0450)	-0.239* (0.115)
Seasonality	0.0655 (0.0797)	0.646** (0.198)	0.136+ (0.0754)	0.641** (0.199)	0.135+ (0.0753)	0.643** (0.199)
Sequel	0.0289 (0.0359)	0.540*** (0.0807)	0.0195 (0.0338)	0.539*** (0.0816)	0.0291 (0.0339)	0.539*** (0.0813)
MPAA Rating Ind.	Yes	Yes	Yes	Yes	Yes	Yes
Plot Narrative Var.	Yes	Yes	Yes	Yes	Yes	Yes
IMDB Genre Ind.	Yes	Yes	Yes	Yes	Yes	Yes
Release Year Ind.	Yes	Yes	Yes	Yes	Yes	Yes
Major Studio Ind.	Yes	Yes	Yes	Yes	Yes	Yes
N	925	925	925	925	925	925
R-Squared	0.266	0.845	0.300	0.843	0.342	0.845

Robust standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix I: Variable means for films with multiple Black actors (*Multiple Black* = 1) and for those without (*Multiple Black* = 0), including univariate tests of mean differences.

	Sample Averages of Main Independent Variables (N = 925)		
	Multiple Black = 1	Multiple Black = 0	P-value of univariate T-Test
Hispanic Actors	0.263	0.185	0.141
Asian Actors	0.386	0.317	0.309
Other Actors	0.079	0.055	0.361
National Advertising	15.950	15.653	0.168
Production Budget	16.799	16.917	0.395
Plot: Monster	0.260	0.204	0.159
Plot: Rags	0.159	0.130	0.369
Plot: Quest	0.573	0.498	0.207
Plot: Voyage	0.367	0.338	0.420
Plot: Comedy	0.278	0.241	0.333
Plot: Tragedy	0.141	0.152	0.640
Plot: Rebirth	0.174	0.207	0.266
Typecast Role	0.281	0.123	0.000
Oscar Appeal	0.245	0.307	0.328
Opening Theaters	7.192	6.689	0.025
Female Actors	2.237	2.165	0.526
Critic Rating	51.482	55.771	0.112
Runtime	4.687	4.691	0.806
Cast Star Power	7.101	6.333	0.000
Director Prior Films	1.423	1.431	0.916
Director Star Power	8.956	8.600	0.006
Director Past Oscar	0.018	0.059	0.066
Seasonality	0.657	0.644	0.352
MPAARating: PG13	0.535	0.425	0.027
MPAARating: R	0.386	0.493	0.032
Sequel	0.140	0.127	0.691

Appendix J: Treatment effect of *Single Black* on *Box-Office* estimated using Coarsened Exact Matching (CEM).

	DV: Single Black (0/1)		DV: Box-Office
	All Movies with Black Actors ≤ 1	CEM Sample	CEM Sample
Single Black			-0.0865 (0.0675)
Critical Rating	0.00470 (0.00389)	0.00473 (0.00395)	0.0166*** (0.00136)
Hispanic Actors	0.0311 (0.188)	-0.0318 (0.193)	-0.0232 (0.0619)
Asian Actors	-0.0221 (0.139)	-0.0259 (0.143)	0.0145 (0.0489)
Other Actors	0.494 (0.300)	0.353 (0.412)	-0.317** (0.121)
National Advertising	-0.0333 (0.0734)	-0.0460 (0.0735)	0.421*** (0.0826)
Production Budget	0.178 (0.123)	0.209 (0.131)	0.117* (0.0480)
Typecast Role	0.145 (0.300)	0.0356 (0.296)	0.133 (0.101)
Oscar Appeal	-0.233 (0.187)	-0.210 (0.188)	0.0885 (0.0613)
Opening Theaters	0.0589 (0.0717)	0.0661 (0.0716)	0.302*** (0.0505)
Female Actors	0.000562 (0.0928)	-0.00450 (0.0919)	0.0151 (0.0308)
Runtime	0.133 (0.847)	0.00356 (0.877)	0.118 (0.297)
Cast Star Power	0.0698 (0.0763)	0.0579 (0.0806)	-0.0693** (0.0260)
Director Prior Films	-0.202 (0.127)	-0.191 (0.133)	-0.00700 (0.0481)
Director Star Power	0.0413 (0.100)	0.0796 (0.101)	-0.0169 (0.0275)
Director Past Oscar	-0.430 (0.480)	-0.407 (0.495)	-0.274* (0.125)
Seasonality	-0.318 (0.680)	-0.176 (0.697)	0.706** (0.225)
Sequel	0.493+ (0.279)	-0.0764 (0.277)	0.546*** (0.0880)
MPAA Rating Ind.	Yes	Yes	Yes
Plot Narrative Var.	Yes	Yes	Yes
IMDB Genre Ind.	Yes	Yes	Yes
Release Year Ind.	Yes	Yes	Yes
Major Studio Ind.	Yes	Yes	Yes
N	811	804	804
Pseudo R-Squared	0.0992	0.0481	
R-Squared			0.857

Robust standard errors in parentheses; *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

Appendix K: Treatment effect of *Multiple Black* on *Box-Office* estimated using Coarsened Exact Matching (CEM)

	DV: Multiple Black (1/0)		DV: Box-Office
	Full Sample	CEM Sample	CEM Sample
Multiple Black			0.490*** (0.129)
Hispanic Actors	-0.0898 (0.183)	0.151 (0.258)	-0.0201 (0.0633)
Asian Actors	-0.143 (0.201)	0.0113 (0.335)	0.0497 (0.0629)
Other Actors	0.0913 (0.565)	0.324 (0.527)	-0.142 (0.130)
National Advertising	0.0570 (0.212)	-0.000590 (0.247)	0.546*** (0.0615)
Production Budget	-0.530* (0.216)	-0.268 (0.291)	-0.0265 (0.0656)
Typecast Role	1.750*** (0.409)	0.564 (0.505)	0.313* (0.145)
Oscar Appeal	0.0244 (0.320)	-0.238 (0.342)	0.117 (0.0816)
Opening Theaters	0.417* (0.162)	0.108 (0.176)	0.217*** (0.0505)
Female Actors	0.193 (0.129)	0.173 (0.148)	0.0242 (0.0453)
Critic Rating	-0.00935 (0.00658)	-0.00976 (0.00792)	0.0122*** (0.00217)
Runtime	1.072 (1.423)	0.898 (1.622)	0.966* (0.403)
Cast Star Power	0.752*** (0.141)	0.0848 (0.189)	-0.0219 (0.0439)
Director Prior Films	0.0169 (0.198)	-0.0156 (0.242)	0.123+ (0.0684)
Director Star Power	0.0160 (0.138)	0.0826 (0.183)	-0.0524 (0.0445)
Director Past Oscar	-1.951 (1.427)	-0.704 (1.493)	-0.807*** (0.238)
Seasonality	0.437 (1.113)	0.198 (1.364)	0.547 (0.344)
Sequel	-0.742 (0.531)	-0.248 (0.553)	0.405** (0.124)
MPAA Rating Indicators	Yes	Yes	Yes
Plot Narrative Variables	Yes	Yes	Yes
IMDB Genre Indicators	Yes	Yes	Yes
Release Year Indicators	Yes	Yes	Yes
Major Studio Indicators	Yes	Yes	Yes
N	925	461	461
Pseudo R-Squared	0.316	0.174	
R-Squared			0.821

Robust standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1