SCHOOL CHARACTERISTICS, FAMILY BACKGROUND, AND VARIATION IN THE GENDER GAP IN COLLEGE GRADUATION AMONG AFRICAN AMERICANS

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Introduction

In recent cohorts in the United States, women's average educational attainment has equaled and is increasingly outpacing that of men. This emerging gender gap has begun to receive increased attention in both the popular and academic press. A much larger gap has long existed among African Americans, though it has generated less attention. The size of this educational gap has grown for the past several decades (Cohen & Nee 2000), and recent figures show that nearly two out of every three bachelors degrees earned by African Americans go to women (Cross & Slater 2000).

The size of the gap is both striking and sobering. While African American students are often hampered academically by racial segregation, disadvantaged neighborhoods and schools, and low economic standing, the gender gap suggests that even under current material conditions, academic attainment is far below what it might be. It is unclear, however, how pervasive the gap is across groups with different backgrounds. Does the gap result primarily from factors related to material deprivation and social isolation, which would lead to the largest gaps being concentrated among the urban poor—the sub-population that tends to be the primary focus of social science literature on African Americans? Or is it a phenomenon experienced to a comparable degree by African Americans across all social strata?

Qualitative studies of gender-specific educational outcomes among low income minority populations (Dance 2002; Ferguson 2000; López 2003; Roderick 2003) highlight a relatively consistent constellation of interacting factors. They focus in particular on the harmful impact of school personnel's negative reactions to Black males who display styles and behavior that Anderson (1999) refers to as the "code of the street." In his work, Anderson distinguishes between the 'street' and 'decent' individuals in highly disadvantaged areas, but

asserts that even those he categorizes as decent must adopt a street attitude when street elements dominate. He also suggests that this would likely not be the case in areas where material circumstances would tend to tip the social balance away from street and towards decent.

There is relatively little qualitative work specifically devoted to the education gender gap among Blacks in middle-class areas that would provide a counterpoint to the studies cited above that focus on the less advantaged. In an ethnographic study of a generally middle class school, Polite (1995) finds many of the same teacher-student issues that urban studies observed. Mary Pattillo-McCoy's (1999) ethnographic work on the Black middle class suggests that the gender gap may be just as wide if not wider among African Americans who live outside the poor urban core. Though the youth that she studies may lack the structural exigencies faced by very poor urban youths, Pattillo-McCoy (1999) finds that the lure of the "gansta" image exerts a strong influence on middle class suburban African Americans males. That lure appears to be both a cause and an effect of school personnel's behavior that tends to alienate African American males students.

Empirically it is unclear to what extent the severity of gender-specific academic alienation declines as material circumstances improve—if it does at all. This paper provides a starting point for answering that question by examining how educational gender gaps vary by the socioeconomic situation of students, both in terms of their families of origin and the schools they attend. I first summarize explanations for the gender gap that have appeared in the literature and describe what they imply regarding variation in the gender gap across students from differing circumstances. That discussion is followed by an empirical analysis of

the gender gap using data from the National Education Longitudinal Study: 1988-2000 (NELS).

Perspectives on Causes of the Gender Gap

African American students confront many barriers to school success, but why do males and females—who live in the same neighborhoods, attend the same schools, and come from the same families—have such divergent educational outcomes? Over the past two decades, a large literature has developed around Ogbu and Fordham's (1986) theory of "acting white." They assert that a major cause of poor school performance among African Americans is that doing well in school is denigrated as "acting white." According to Fordham (1988), Black students need to adopt a strategy of "racelessness" in order to succeed in school, though this strategy tends to threaten their ethno-racial ties. Of particular relevance to the present study is Fordham's finding that it is easier for females than for males to adopt a raceless persona that facilitates their school success.

A number of studies have challenged the "acting white" hypothesis, on grounds ranging from the survey findings that Black students overwhelmingly voice agreement with mainstream achievement norms (Harris 2006; Mickelson 1990) to the fact that one need not be Black to be hassled by peers for being overly bookish (Cook & Ludwig 1998). Carter (2003) argues that there is no inherent conflict between academic devotion and Black identity among youths, rather achieving status in school requires one form of cultural capital, while acquiring status among same-race peers requires another and not all students are equally successful at the necessary code-switching. Those who are unable to successfully deploy "dominant" cultural capital tend to encounter difficulties in school while those who fail to switch appropriately to "non-dominant" speech and behavior lose status with peers. The

students in her study describe how “the first thing teachers look at is how you present yourself” (p. 148) and that they will often be less attentive to students whose speech, demeanor, or even dress is identified as “Black.”

In her recent book, Carter (2005) expands further on male-female differences in the use of dominant and non-dominant cultural capital. Of particular salience is the section where she describes the “feminization” of dominant cultural capital traits. Because deployment of dominant cultural capital is seen as non-masculine, Black males are more reticent to do so, even though they may aspire to school success and white collar careers. For males in particular, part of the non-dominant cultural demeanor is displaying toughness (Anderson 1999). Failure to do so can invite verbal ridicule or, in some instances, physical danger (Dance 2002). But teachers are often unable to see past the exterior presentation to appreciate the student’s actual potential. When students determine that teachers are not going to grant them respect, they disengage from school and focus further on non-academic avenues to gain respect and status.

When this occurs, parents or other adults may step in to help re-engage the student (Freeman 1986; Regenerus 2000; Roderick 2003). But parents appear to provide much more autonomy to sons than to daughters, and are less likely to step in to enforce their academic effort (Carter 2005; López 2003; Waters 2001). Boys also tend to be less connected to non-familial sources of support such as churches (Sanders & Herting 2000). The reduced positive influence from other sources increases the role of peers as guides to young men’s behavior.

What do these findings imply for socioeconomic variation in the gender gap? If fear of “acting white” is a barrier to school performance, and conflict between academic success and ethno-racial identity is more problematic for boys than for girls, then we would expect the

gender gap to be smaller in areas where schooling is seen as less tied to whiteness. Doing well in school should be less likely to be seen as acting white in a situation where African American students tend to encounter more academic success early on. Since this would tend to happen more among students whose parents have financial resources and are wealthy themselves, then we might expect any conflict between academics and Black identity to be weaker in schools where African American students are more economically advantaged.

Another factor that could influence the connection between school performance and ethno-racial identity is the composition of the school. In racially mixed schools, Blacks tend to be relegated to the lowest academic tracks. Carter (2005) reports aversion to the "top niches" in the school among Blacks when those tracks are dominated by Whites. Her research was performed in schools that were majority Black and Hispanic, with a substantial White minority. In a school that is either nearly all-Black or all-non-Black, the connection between academic track and race may be less pronounced, which would arguably lead academic achievement to have fewer racial connotations (Goldsmith 2004).

With respect to cultural capital, the disincentives for males to employ dominant cultural capital should decline as socioeconomic status increases and racial segregation decreases. Since low income areas and areas where African Americans experience more racial segregation tend to be more physically dangerous (Morenoff, Sampson, & Raudenbush 2001; Peterson & Krivo 1999; Stretesky & Hogan 2005), it is more essential for males in those areas to adopt a demeanor that "discourage(s) strangers from even thinking about testing their manhood" (Anderson 1999:92). Even if the school itself is a relatively safe environment, "school walls have 'ears' that extend into the toughest of neighborhoods. Therefore street-savvy students sometimes find it necessary to engage in gangsterlike posturing in both the

streets and in school" (Dance 2002:69). For students who live and study in less physically dangerous environments, a "tough front" may still serve to achieve status, but students should be freer to code-switch.[1] This would lead one to expect greater gender similarity in academic achievement as SES rises.

Negative reactions by teachers and other school personnel towards African American students who display "gangsta" styles and demeanor emerge frequently in qualitative literature (Anderson 1999; Carter 2005; Dance 2002; López 2003; Roderick 2003). Most students who display those external characteristics are not actually involved in criminal activity, but adopt the outward trappings for reasons of personal safety or social status. However, school personnel frequently appear to be unable to discern the difference between students who really are potential trouble-makers and those who are just adopting a "hard" posture (Dance 2002). In schools that experience higher levels of violence, school personnel seem less concerned with increasing the engagement of male students than with removing potentially dangerous ones from school (Ferguson 2002; Roderick 2003). The phenomenon of school personnel being more interested in getting rid of black male students than engaging them has also been reported in more middle-class areas (Polite 1995). But I hypothesize that such efforts would be less concerted—and willingness to engage male students greater—in schools where mean socioeconomic status is higher and in-school violence tends to be lower.

Positive intervention by parents to counteract the academic difficulties of male students may also be less likely in low income areas. Pattillo-McCoy (1999) and López (2003) find that effective guidance from fathers or other male role models is particularly important for young men. But those figures are less likely to be present among the

[1] Upper-SES students, or those who live in more well-off areas, will also have had greater opportunity to develop skill in deploying dominant cultural forms.

economically disadvantaged and in segregated high poverty areas (Wilson 1987). So not only might we expect the in-school environment to be more hostile for males in low-income areas, those same students are also less likely to have access to external supports to help them confront those barriers.

African American males confront gender-specific disadvantages that tend to reduce their academic achievement vis-à-vis their female peers. The qualitative literature suggests that those difficulties cross class lines. Therefore, I expect to find substantial gender differences in educational attainment across the socioeconomic scale. However, the arguments above suggest that the severity of those gender-specific difficulties and the magnitude of their effects on academic attainment should decline as socioeconomic status rises. Therefore I expect to the gender gap to be smaller where individual- and school-level indices of socioeconomic status are higher.

Data and Methods

The analyses use data on African American students from the National Education Longitudinal Study (NELS), a nationally-representative study of the 8th grade population in 1988. The focus of this study is on variation in the educational gender gap among African American students, and I do not include non-African Americans in the analyses. Sample members were re-interviewed two, four, six, and twelve years after the date of the initial interview, allowing researchers to track the educational trajectories of sample members for a substantial period of time. NELS also collected information from administrators and teachers of the secondary schools that students attended.

This paper uses data from various waves of NELS, and all analyses use NELS-created sample weights to make the sample of respondents included interviewed in all waves

nationally representative. Standard errors in the multivariate analyses are corrected for clustering resulting from the sample design, which first selected schools, then students within schools.

The primary outcome of interest is whether the student had obtained a bachelors degree by the time of the 2000 follow-up – twelve years after the initial 8th grade interview. This is a binary outcome, coded as "1" if a B.A. had been received by the 2000 follow-up ("0" otherwise). I measure variation in the gender gap by two characteristics of family background: socioeconomic status and family structure. Wherever possible (and unless otherwise noted) I use measures from respondents' 8th grade year. This is not meant to reflect any judgment regarding the relative importance of circumstances in middle school versus high school, but rather a practical consideration that there is more missing data in schools in later waves resulting from students who drop out and are no longer enrolled.

Family socioeconomic status is measured using the index produced by NELS. The index is a composite of mother's education, father's education, mother's occupation, father's occupation, and family income. The variable used in this paper has been rescaled to have a mean of 0 and a standard deviation of 1 for our sample of African American students. Family structure is coded as a binary indicator with "1" indicating that the respondent lived with both his mother and father at the time of the 8th grade interview.

Measures of school composition are derived from administrative data. School-level economic disadvantage/concentrated poverty is measured as the fraction of students receiving free or reduced-price lunch. Racial concentration/segregation is measured as the percent of students who are African American. In the NELS data, both of those measures are reported in

categories corresponding to a given range (e.g., 11%-20%). For continuous variables used in the multivariate analyses, the percentage is coded as the midpoint of the range.

After examining variation in the gap by broad descriptors of families and schools, I proceed to investigate potential mediating factors derived from the preceding theoretical discussion. Those factors consist of parental supervision of peer relationships, parental academic involvement, teacher treatment of students, school violence, and peer attitudes. All five are standardized measures (mean = 0, SD = 1) based on Likert scale items. Parental supervision of peer relationships is measured as students' responses to "how often parents limit going out with friends." The responses are on a four-point scale: never, rarely, sometimes, and often. Parental academic involvement represents how often the student reports discussing their school academic program with their parents during the first half of their 8th grade year: not at all, once or twice, and three or more times.

Perceived teacher treatment is an index of agreement (strongly disagree, disagree, agree, strongly agree) with three statements (α = .515):

- "Teachers are interested in students"
- "When I work hard teachers praise my effort"
- "In class I often feel 'put down' by teachers" (reversed)

I include measures of school violence at two levels: one gauging physical threats to the respondent, the other an index of the level of violence in the school more broadly. The first is an ordinal measure of how many times the respondent was threatened with physical harm during the first semester of 8th grade: none, once, or more than once. The index of level of overall school violence is based on the student's perception of how serious of a problem (not serious, minor, moderate, serious) the following issues are at the school (α = .737):

- Fights between students
- Verbal abuse of teachers
- Physical abuse of teachers

The measure of peer academic attitudes is based on students' reports of how important studying and continuing education past high school, respectively, are to their peers in 10th grade (α = .621).

I use multiple imputation to replace data missing due to item nonresponse. Multiple imputation reduces bias and produces appropriate standard errors (Acock 2005). I created five complete imputed datasets using Stata's -ice- command, a highly flexible routine that permits imputation of missing data by linear regression, logit, multinomial logit, or ordered logit, depending on the nature of the variable in question (Royston, 2005). The results presented in this paper were derived from joint analyses of those ten datasets following procedures outlined in Rubin (1987) and Royston (2005). I retain all observations for African American students interviewed in all four surveys (N = 1,073). The results derived using the imputed datasets are qualitatively similar to those obtained restricting the analyses to complete cases.

Results

Table 1 presents sex-specific college graduation rates of students from different family and school circumstances. Those simple tabulations provide no evidence of variation in the gap by family background. Although the absolute size of the gaps are larger among students whose families are of higher socioeconomic status or two-parent households – groups who have higher educational attainment overall – the ratios of the female-to-male college graduation rates are remarkably similar among all sub-groups (between 1.61 and 1.88).

In contrast, we observe rather large variation in the gender gap related to school contexts, with gaps rising as poverty rates and the concentration of African American students increase. In fact, in middle schools where African American students comprise less than one-fifth of the overall student body, males in the sample go on graduate from college at a slightly higher rate than females (though the difference is not statistically significant).

Table 2 contains results from multivariate analyses of variation in the gender gap. The logistic regression coefficients in the table are exponentiated. The numbers in parentheses below the coefficients are *p*-values. The first column presents results of a model containing an indicator for male students and controls for family SES, family structure, school poverty, and school racial composition. Unsurprisingly, I find that family background predicts future educational attainment more strongly than do school characteristics. The coefficient for the gender indicator in the model provides a measure of the overall gender gap in college graduation, but the model does not allow us to observe contextual variation in that gap.

In order to test for variation, I add gender interaction terms for each of the four control variables in Model 2. An observed interaction would demonstrate variation in the gap. By contrast, if gaps were similar among students from families and schools of varying characteristics, we would observe no significant interactions. Here we find no evidence of variation in the gap by family socioeconomic status, family structure, or rates of free/reduced lunch receipt in a school. The pattern of rising gaps in schools with higher poverty rates in Table 1 appears to have been wholly due to the correlation between school-level poverty rates and racial composition. The gender interaction term for school racial concentration is negative, suggesting that males fare progressively worse relative to females as the concentration of African American students rises.

The tabulations from Table 1 suggest that the effect of racial composition/segregation may be non-linear, with gaps at low (0-20%) and high (>75%) concentrations being substantially different than the gaps occurring over the broad middle ranges (21%-75%). Model 3 tests this with indicator terms for low and high racial concentration. The results show a statistically significant difference variation in the gap between the low and middle concentrations, but not between middle and high (though the magnitude of the coefficient is substantively nontrivial).

Model 4 removes the indicator and gender interaction term for high racial concentration and that model is used for the base for the analyses in Table 3, which investigates potential explanations for the larger gender gaps in college graduation among African American students from schools with higher concentrations of African Americans vis-à-vis the gaps among students from schools that are predominantly non-African American. As discussed earlier, teacher treatment, levels of violence, peer culture, and/or parental involvement may differ across schools with different student compositions.

Model 1 in Table 3 is identical to Model 3 in Table 2. However, the only coefficient displayed in Model 1 is the gender interaction term for schools that are predominantly non-African American. Succeeding models allow us to analyze potential mediation by observing how the coefficient changes with the addition potential explanatory factors. As it happens, only a few of those factors are strongly associated with the probability of future college graduation. Being personally threatened in school is associated with a reduced probability of attaining a bachelors degree, though the overall level of school violence is not. There is some suggestion that the overall violence level may have a more negative effect for males than females, though the gender interaction term – while substantively important – falls short of

statistical significance and thus cannot be definitively substantiated with a sample of this size. Such an association would, however, be consistent with qualitative reports of negative teacher/administrator responses to Black male students in schools that experience higher levels of disorder. However, reported teacher treatment is not strongly associated with future college graduation for either male or female students. And – in analyses not shown here – I find no evidence that Black males report disproportionately negative teacher treatment in schools with higher concentrations of African American students.

Parental academic involvement is the second intervening factor that is strongly associated with future college degree attainment. This association is particularly large for male students. In addition, although female students overall report more parental involvement than males, ordinal logit regressions of predictors of parental involvement find that those gender differences in involvement are smaller among students in schools with low concentrations of African Americans. Returning to Table 3, the size of the African American concentration*gender indicator declines notably with the addition of the parental involvement variables (including the parental involvement gender interaction term). However, the majority of the difference in the gender gap between schools with different racial concentrations remains unexplained by any of the factors examined here.

Conclusion

Theoretical perspectives and qualitative findings produce unclear and sometimes discrepant predictions for how the gender gap in educational attainment among African American students should vary across students from different family backgrounds and school contexts. The results presented here demonstrate that the gaps are widespread and highly consistent, across students from differing family backgrounds. However, I also find important contextual

variation in future college graduation rates that is dependent on the racial concentration of students' secondary schools. Specifically, I find little to no gender gap among Black students from schools where the large majority of their fellow students are not African American, but large gaps among students from schools with larger African American student populations. This results from the fact that postsecondary attainment of African American males is highly sensitive to the racial composition of their secondary schools, while the corresponding outcomes of their female counterparts are not.

That variation cannot be attributed to observed differences in teacher treatment of students, levels of violence/disorder, or peer attitudes in schools of differing levels of racial concentration. I do find that parental academic involvement is strongly associated with a higher probability of future college graduation, especially for male students. And there is some evidence that parental involvement varies along with school composition and may contribute to the variation in the college graduation gap by racial make-up of schools. Further research is warranted both into why that might be and what accounts for the large unexplained variation in the gender gap between schools of different ethnoracial composition.

I find little evidence to support the qualitative findings of the importance of teacher treatment and peer attitudes for gender differences in postsecondary outcomes. Teachers and peers may matter in ways that are unmeasured and thus not accounted for the in current study. In supplementary analyses I did examine levels of school disorder/violence as reported by teachers and school administrators, rather than by students, but those reports were no more strongly related to either student outcomes or the variation in the gender gap by school racial composition than were the disorder/violence levels reported by students. There are undoubtedly student-teacher and student-peer dynamics that are not captured here, however.

This paper has largely proceeded from a framework of African American male underperformance relative to females. However, this is not the only possible interpretation of the gender gap. When observing gendered patterns in educational attainment across schools of differing racial compositions, one might consider the performance of African American female students to be more notable than that of males. African American females from even the most highly segregated secondary schools go on to graduate from college at a rate comparable to that of their same-sex peers from predominantly non-African American schools. Thus, an alternative perspective that is consistent with the data is a focus on academic resilience of African American female students. Such a perspective may lead to a focus on an entirely different set of mediators.

An alternatively perspective, also focusing on the experience of African American girls, would be why they do not fare better in less segregated schools. This perspective may lead to further examination of issues such as reports that African American female students are more socially excluded than males in school settings that are predominantly non-African American (AAUW 1992). A perspective on Black female underperformance in predominantly non-African American schools would, however, would return focus for the overall educational gender gap to underperformance of male students.

From future research it would also be useful to learn more about how educational trajectories (grades, test scores, course-taking, etc) differ for male and female students as students progress through school, and in what ways the gender differences in those trajectories may vary depending on the characteristics of the school. We need to know more about at the points at which gender differences in academic performance begin to occur that culminate in the large gender gaps in educational attainment that we ultimately observe.

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Table 1. College graduation rates of African American students, by family and school characteristics

	Female	Male	*Ratio*
Family Measures (8th grade)			
*Family Socioeconomic Status**			
Bottom 15% (Poor)	8.0%	4.3%	1.88
16-50% (Lower-Middle)	13.7%	8.4%	1.63
Top Half (Upper Middle/Wealthy)	49.5%	30.7%	1.61
Lived with both parents?			
No	16.4%	9.9%	1.65
Yes	32.9%	18.6%	1.77
School Measures (8th Grade)			
% Receiving Free/Reduced Lunch			
0-20%	27.9%	20.1%	1.39
21-50%	25.8%	13.2%	1.96
>50%	17.5%	8.4%	2.09
% African American			
0-20%	22.4%	26.8%	0.84
21-40%	18.3%	10.3%	1.78
41-75%	22.7%	13.8%	1.65
>76%	25.4%	8.9%	2.85

Data: National Education Longitudinal Study: 1988-2000

Table 2. Logistic regression estimates of variation in the gender gap in college graduation

Variable	(1)	(2)	(3)	(4)
Male	0.428 **	1.145	0.400	0.349
(*p*-value)	(.004)	(.834)	(.201)	(.157)
Family SES	2.570 **	2.732 **	2.779 **	2.782 **
(*p*-value)	(.000)	(.000)	(.000)	(.000)
Two parent household	1.590 †	1.539	1.553	1.554
(*p*-value)	(.072)	(.170)	(.148)	(.152)
School % free lunch	0.928	0.827	0.924	0.932
(*p*-value)	(.909)	(.809)	(.917)	(.926)
School % African American	0.782	1.738		
(*p*-value)	(.618)	(.290)		
School % African American <=20%			0.688	0.686
(*p*-value)			(.260)	(.242)
School % African American >=75%				
(*p*-value)				
Family SES * Male		0.856	0.868	0.845
(*p*-value)		(.568)	(.593)	(.554)
Two parent household * Male		0.926	0.880	0.907
(*p*-value)		(.887)	(.808)	(.858)
School % Free Lunch * Male		0.961	1.040	0.905
(*p*-value)		(.979)	(.978)	(.944)
School % African American * Male			3.401 *	3.947 *
(*p*-value)			(.041)	(.017)
School % Af-Am <=20% * Male			0.660	
(*p*-value)			(.547)	
School % Af-Am >=75% * Male				
(*p*-value)				
N	1073	1073	1073	1073

Reported coefficients are exponentiated.

†$p < .10$. *$p < .05$. **$p < .01$ (two-tailed).

Table 3. Potential mediators of the variation in the racial gap in college graduation by school racial composition

Variable	(1)	(2)	(3)	(4)	(5)
School % Af-Am <=20% * Male	3.947 *	4.096 **	3.264 *	3.908 *	3.124 *
(*p* -value)	(.017)	(.010)	(.026)	(.012)	(.032)
Teacher treatment (8th grade)		0.954		0.903	0.944
(*p* -value)		(.795)		(.443)	(.738)
School violence (8th grade)		1.261		1.059	1.250
(*p* -value)		(.262)		(.699)	(.265)
Threatened in school (8th grade)		0.559 †		0.501 **	0.527 †
(*p* -value)		(.089)		(.007)	(.061)
Peer academic attitudes (10th grade)		1.283		1.212	1.292
(*p* -value)		(.206)		(.138)	(.182)
Parent's supervision of free time (8th grade)			0.919	0.954	0.908
(*p* -value)			(.688)	(.750)	(.635)
Parents' academic involvement (8th grade)			1.162	1.584 **	1.207
(*p* -value)			(.509)	(.008)	(.399)
Teacher treatment (8th gr) *male		0.802			0.848
(*p* -value)		(.472)			(.544)
School violence (8th gr) *male		0.605			0.674
(*p* -value)		(.147)			(.237)
Threatened in school (8th gr) *male		1.033			0.910
(*p* -value)		(.953)			(.860)
Peer academic attitudes (10th gr) *male		0.946			0.820
(*p* -value)		(.844)			(.477)
Parent's supervision (8th gr) *male			1.091		1.137
(*p* -value)			(.756)		(.630)
Parents' acad involvement (8th gr) *male			2.034 *		1.923 *
(*p* -value)			(.032)		(.040)
N	1073	1073	1073	1073	1073

Reported coefficients are exponentiated.

All models also include a gender indicator, controls for family SES, family structure, school % free lunch, and an indicator for whether African Americans comprise 20% or less of the student body, as well as gender interaction terms for family SES, family structure, and school % free lunch.

†$p < .10$. *$p < .05$. **$p < .01$ (two-tailed).