

Rancho Santiago Community College District Disproportionate Impact Study of Math MDTP Test

October 2015

The Math Diagnostic Testing Project (MDTP) is fully approved by the California Community Colleges Chancellor's Office (CCCCO) for use in placing students into math courses at Rancho Santiago Community College District (RSCCD), Santa Ana College (SAC) and Santiago Canyon College (SCC). This study is part of an on-going effort to ensure equity in placement testing by evaluating whether student placements significantly differ by ethnicity, gender, age and disability.

Assessment results of students who tested during Spring 2014 - Spring 2015 period were analyzed utilizing the EEOC¹ guidelines suggested by California Community Colleges Chancellor's Office (CCCCO). The tested population composed of 2,470 SAC and 1,547 SCC students taking one of the four-level MDTP test. For the purpose of this study, disproportionate impact will be analyzed for two levels: remedial (Math N06 and N48, 060) and college/transfer level (Math 080 or higher)

For each level, a comparison was made between the placement rate of each subgroup and the placement rate of the reference group multiplied by 80%. The subgroup with the highest count was chosen as the reference group. Demographic groups falling below the 80% threshold indicate disproportionate impact and are highlighted in red. If disproportionate impact is observed, faculty and staff will need to develop and implement a plan to correct the disparity.

¹ The "80% Rule" methodology compares the percentage of each disaggregated subgroup attaining an outcome to the percentage attained by a reference subgroup. The methodology is based on the Equal Employment Opportunity Commission (EEOC) 80% Rule, outlined in the 1978 Uniform Guidelines on Employee Selection Procedures, and was use in Title VII enforcement by the U.S. Equal Opportunity Commission, Department of Labor, and the Department of Justice.

Findings:

Disproportionate Impact by Ethnicity

Latinos is the largest ethnic group at both SAC and SCC (72% and 44%, respectively), so it was used as the standard for comparison. With Latino subgroup used as the reference group, SAC Asian/Pacific Islander, White and Non-Respondents subgroups placed into remedial level math courses 25%, 2% and 9%, respectively below the 80% cutoff indicating a disproportionate impact among these students. However, in the case of Asian/Pacific Islanders and Non-Respondents, these subgroups placed into college/transfer level math courses at significantly higher rates. Given the small difference, which corresponds to 2%, and the fact that half of the White students placed into college/transfer level courses, this disproportionate impact is not considered a serious violation and thus there is no need for action at this time.

At SCC, Asian/Pacific Islander students placed into remedial math courses at considerably lower rates than the reference group students did; however, the Asian/Pacific Islander subgroup placed into college/transfer level courses at significantly higher rates. Therefore, there is no evidence of disproportionate impact by ethnicity.

For placement into college/transfer level math courses, all ethnic subgroups at SAC, as well as at SCC, exceeded the 80% thresholds; therefore, there is no evidence of disproportionate impact by ethnicity.

Disproportionate Impact by Gender

Male students comprised slightly over half of the sampled population at both SAC and SCC (52% and 51%, respectively) and were used as the standard for comparison. At both SAC and SCC, all of the other subgroups (female and “not reported”) placed above the 80% cutoff; therefore, there is no evidence of disproportionate impact involving the gender of the students tested.

Disproportionate Impact by Age

Students age 21 or younger represented the majority of the sampled population (68% at SAC and 84% at SCC) and used as the standard for comparison. For placement into remedial level math courses, all of the age subgroups exceeded the 80% thresholds; therefore, there is no discernable disproportionate impact. The other age subgroups had too few students to draw conclusions.

Data indicated that the “22-29” age subgroup placed into college/transfer math courses at SAC and SCC 9% and 12%, respectively below the 80 percent cutoff. This disproportionality in placement rates into college math course may be due to a series of other factors such as:

- the amount of time that had elapsed between the placement test and a student’s last mathematics course; younger students tend to enroll in math courses immediately following graduation from high school
- previous math course grade in high school
- the relatively small number of students in the subgroups compared to the reference groups.

The other age subgroups contain few students to draw conclusions. However, it is recommended that faculty and staff continue to monitor this issue regularly and to plan for interventions to ensure that older students are not disproportionately impacted.

Disproportionate Impact by Disability

SAC and SCC have very few disabled students (16 and 5, respectively) in comparison to the general student body. Students with no disabilities were used as the standard for comparison. Data shows slight evidence of disproportionate impact for placement into the transfer level math courses for both SAC and SCC; however, there is insufficient number of students (five and two students, respectively) to draw any conclusions.

Conclusion:

Disproportionate impact was conducted for all placements into remedial and college/transfer level math courses during 2014-15 school year. Results of the analysis suggested there is no evidence of disproportionate impact involving the ethnicity, age and disability of the student being tested. On the other hand, older students (22years of age and above) are disproportionately placed. The colleges will continue to monitor disproportionate impact every three years as well as continue to support programs aimed at increasing math achievement for all students.

Santa Ana College
Disproportionate Impact Analysis by Math Course Level

	Total Count	Remedial Level Placement		College/Transfer Level Placement	
	n	n	%	n	%
ETHNICITY					
African-American	45	30	67%	15	33%
Latino	1771	1145	65%	626	35%
Asian/Pac. Islander	282	77	*27%	205	73%
White	208	105	*50%	103	50%
Other	52	26	**50%	26	50%
Non-Respondents	112	48	*43%	64	57%
<i>80% of reference group (Latino)</i>			52%		28%
GENDER					
Female	1191	737	62%	454	38%
Male	1275	691	54%	584	46%
Not Reported	4	3	75%	1	**25%
<i>80% of reference group (Male)</i>			43%		37%
AGE					
21 years old or younger	1689	859	51%	830	49%
22-29	560	390	70%	170	*30%
30-39	145	120	83%	25	**17%
40-49	50	40	80%	10	**20%
50+	26	22	85%	4	**15%
<i>80% of reference group (<=21)</i>			41%		39%
DISABILITY					
Non-DSPS	2454	1420	58%	1034	42%
DSPS	16	11	69%	5	**31%
<i>80% of reference group (Non-DSPS)</i>			46%		34%

**Although the placement rate is not within the 80% rule, this disproportionate impact is explainable and justifiable, as noted in prior pages.*

*** too few students to draw conclusions*

Santiago Canyon College
Disproportionate Impact Analysis by Math Course Level

	Total Count	Remedial Level Placement		College/Transfer Level Placement	
	n	n	%	n	%
ETHNICITY					
African-American	30	17	57%	13	43%
Latino	685	389	57%	296	43%
Asian/Pac. Islander	153	33	*22%	120	78%
White	539	256	47%	283	53%
Other	53	14	**26%	39	74%
Non-Respondents	87	44	51%	43	49%
80% of reference group (Latino)			45%	34%	
GENDER					
Female	748	388	52%	360	48%
Male	793	363	46%	430	54%
Not Reported	6	2	**33%	4	67%
80% of reference group (Male)			37%	43%	
AGE					
21 years old or younger	1301	580	45%	721	55%
22-29	187	127	68%	60	*32%
30-39	35	26	74%	9	**26%
40-49	14	12	86%	2	**14%
50+	10	8	80%	2	**20%
80% of reference group (<=21)			36%	44%	
DISABILITY					
Non-DSPS	1542	750	49%	792	51%
DSPS	5	3	60%	2	**40%
80% of reference group (Non-DSPS)			39%	41%	

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