Examining the Relationship Between Nevada's Foster Youth Tuition Waiver Program and Student Outcomes

NPWR Research Forum

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Kenyon Lee Whitman, PhD Federick Ngo, PhD Anel Rojas, MEd

Karly Van Holten, MA Daniel Abeleda, MEd

University of Nevada, Las Vegas

The Foster Youth Population

- Foster youth are young people that have been deemed wards of the courts and thereby live in a non-relative foster home, group home, or kinship care (relative foster home), because of *alleged* signs of neglect and/or abuse from their parents
- In 2021, there were 4,183 children in Nevada's foster care system (U.S. Department of Health & Human Services, 2022)
- Of those children in Nevada's foster care system, 26% were Black, 27% were Hispanic, 37% were white, and less than 1% were Asian, Pacific Islander, or Native American (U.S. Department of Health & Human Services, 2022)

Background of the study

High School Completion and College Enrollment

- In Nevada, the high school graduation rate for foster youth was 44% in 2018-2019, compared to the general population which was 84% (Children's Advocacy Alliance, 2021)
- National college enrollment rate for foster youth is 13% (Tucker et al., 2023)

High School Completion and College Enrollment

- In 2020, fewer than one-third of foster youth were enrolled in one the NSHE seven degree-granting postsecondary institutions (Children's Advocacy Alliance, 2021)
- The low high school completion and college enrollment numbers for foster youth exist because of structural barriers such as:
    - Secondary school instability, basic needs (e.g. housing and food) insecurity, financial insecurity, and a lack of supportive adults (i.e. social workers, foster parents, and mentors)

Background of the study

Participation and Benefits of Tuition Waiver Programs

- There are 22 states with tuition waiver programs for foster youth in the U.S. (Hernandez et al., 2017)
- Tuition waiver programs for foster youth help to reduce barriers to college enrollment by making college more financially accessible (Watt & Faulkner, 2020) — in Texas they are 12% more like to enroll in college (Watt et al., 2018)

Background of the study

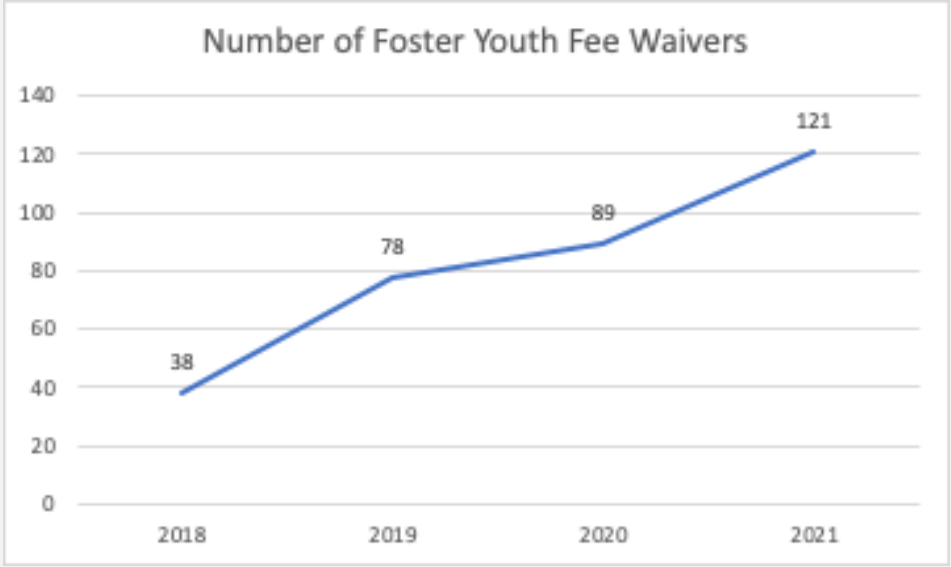
The Nevada System of Higher Education (NSHE) Foster Youth Tuition Waiver:

- Was implemented in 2018, expanding the 2018 Foster Youth Success Initiative
- Nevada's foster youth tuition waiver is a type of college financial aid that covers the undergraduate tuition and fees at any of Nevada's public postsecondary institutions

Policy Background

NSHE Tuition Waiver Qualifications

- In order to qualify for the waiver, students must be in foster care in Nevada at the age of 13 years or older for at least one day
- Graduated from high school, or passed the GED
- Students cannot be no more than 26 years old and must complete the Free Application for Federal Student Aid (FAFSA)



Source: NSHE Foster Youth Fee Waiver Program Report, June 2023

Policy Background

1. What is the impact of a college tuition waiver for foster youth on college preparation outcomes?
2. What are the characteristics and outcomes of Nevada foster youth after the implementation of the foster youth fee waiver?

Research Questions

ACF uses human capital and social capital theories (St. John et al., 2011).

There are six domains to Academic Capital Formation:

1. Easing concerns about costs
2. Supportive networks in schools and communities
3. Navigation of systems
4. Trustworthy information
5. College knowledge
6. Family uplift

We primarily draw upon easing concerns about costs to understand the impact of Nevada's foster care tuition waiver policy and the characteristics and outcomes after its implementation.

Conceptual Framework

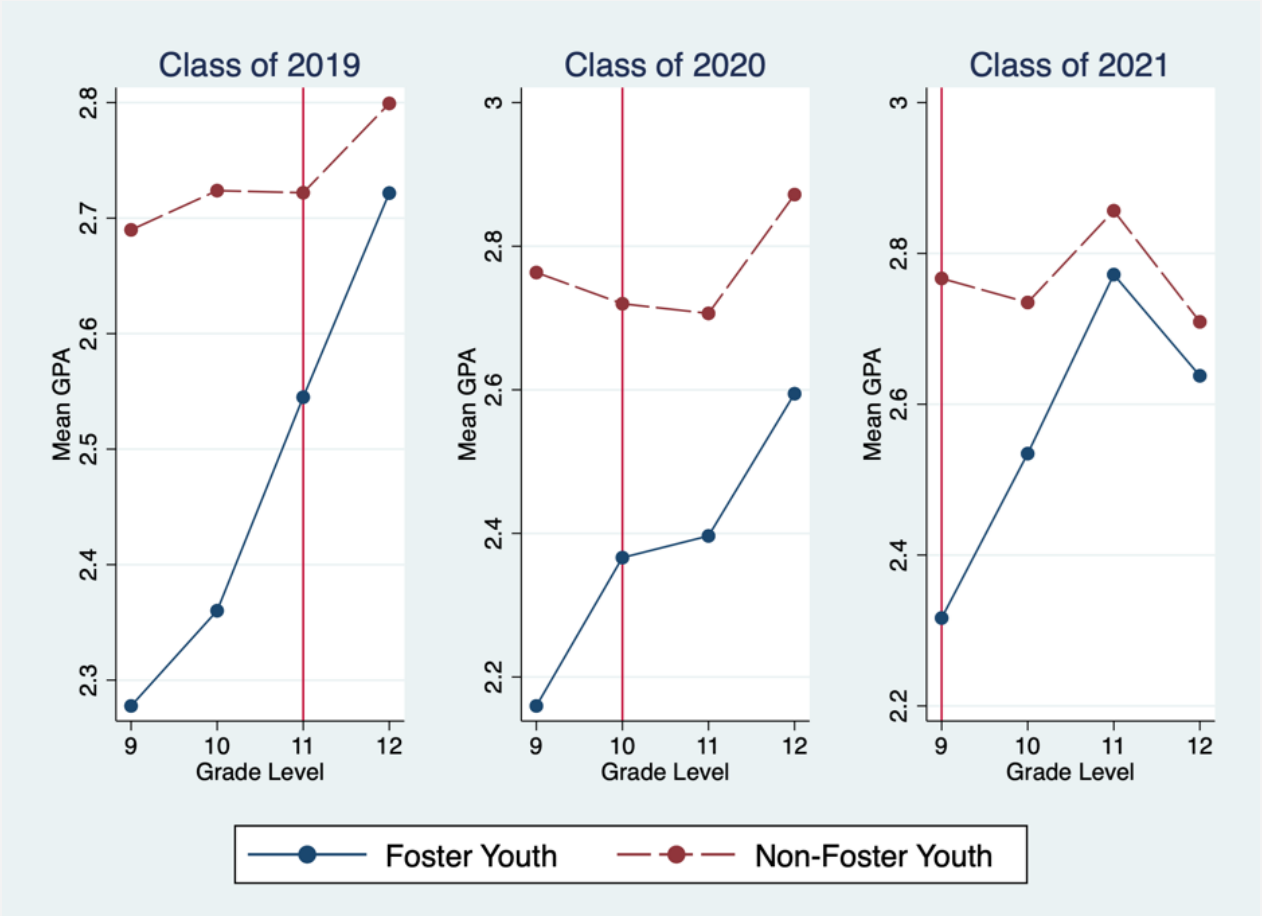
Data

- We conduct the analysis using data from the Nevada P-20 to Workforce Research Data System (NPWR), a statewide longitudinal data system (SLDS) that follows students from public preschool through public K-12 and higher education
- NPWR includes the records of approximately 30,000 graduates of Nevada high schools each year, and we draw from data for each of three graduating cohorts 2018/19, 2019/20, and 2020/21
- The data allows us to identify foster youth status in K-12 data from the Nevada Department of Education (NDE), before and after the Foster Youth Fee Waiver (FYFW)
- 246 Foster Youth in these three cohorts

Difference-in-Differences Design

- **Intuition:** FY experience a policy change related to college affordability, while other students do not
- **Identification:** The interaction between a foster youth indicator and a post-policy indicator estimates the change in foster youth outcomes following the FYFW announcement, relative to other groups' outcomes
- **Outcomes:** Cannot examine change in college enrollment, but can examine change in HS achievement (GPA) in response to the policy
    - % 2019 heard about the policy after 11th grade, perhaps changed effort in 12th grade
    - % 2020 heard about the policy after 10th grade, perhaps changed effort in 11th grade
    - % 2021 heard about the policy after 9th grade, perhaps changed effort in 10th grade

Methods



The visualizations suggest an increase in GPA among foster students after the policy announcement for each cohort (vertical line).

Results: Change in GPA after FYFW Announcement

DID: HSGPA	1	2	3	4	5	Unhoused as Control	Military as Control
Ever-Foster	-0.409***	-0.410***	-0.413***	-0.321***			
	(0.043)	(0.043)	(0.043)	(0.040)			
Post-Policy	0.049***	0.036***	0.018***	0.017***	0.018***	0.034	0.006
	(0.003)	(0.004)	(0.006)	(0.005)	(0.003)	(0.026)	(0.026)
Ever-Foster x Post-policy	0.228***	0.229***	0.231***	0.245***	0.257***	0.205***	0.271***
	(0.057)	(0.057)	(0.057)	(0.054)	(0.037)	(0.048)	(0.041)
Grade FE		x	x	x	x	x	x
Year FE			x	x	x	x	x
School FE				x	x	x	x
Student FE					x	x	x
Constant	2.731***	2.740***	2.723***	2.747***	2.746***	2.388***	2.803***
	(0.002)	(0.003)	(0.004)	(0.003)	(0.002)	(0.016)	(0.016)
r2	0.001	0.001	0.002	0.126	0.743	0.664	0.716
N	343558	343558	343558	343558	341864	8143	6765

- When ever-unhoused students are set as the treated group, there is a small, +, significant DID treatment effect (0.036)
- When ever-military students are set as the treated group, there is no DID treatment effect

Placebo Test	1	2
Post-Policy	0.018***	0.019***
	(0.003)	(0.003)
Ever Unhoused	0.036**	
	(0.014)	
Ever Military		-0.017
		(0.015)
Grade FE	x	x
Year FE	x	x
School FE	x	x
Student FE	x	x
Constant	2.747***	2.747***
	(0.002)	(0.002)
r2	0.744	0.744
N	340935	340935

Notes. Modes 1-5 include all non-foster youth as the control group. The policy indicator equals 1 after the policy was introduced to each cohort (e.g., after 9th grade for the Class of 2021).
*p<.05** p<.01 ***p<.001

Results: College Enrollment

- FY about 7pp less likely to enroll in NSHE (44% vs. 51%)
- Differences explained by ACT score (now shown)
- Lowest-scorers MORE likely to enroll in NSHE
- Is this related to policies available to support FY?

NSHE Enrollment by ACT Score Percentile	Foster Youth	NSHE Enrollment	Non-Foster Youth	NSHE Enrollment	MeanDiff
	N		*N*		*MD*
ACT Percentile					
75%+	39	0.59	27762	0.718	0.128*
50-75%	50	0.44	23261	0.582	0.142**
25-50%	87	0.448	24110	0.383	-0.065
<25%	70	0.343	16010	0.223	-0.119**
All	246	0.439	91143	0.508	0.069**

The visualizations suggest an increase in GPA among foster students after the policy announcements for each cohort (vertical line).

- Following the fee waiver announcement, FY were significantly more likely to increase their GPAs than non-FY (by ~0.25 GPA points), and also other students susceptible to volatile housing situations (unhoused students; students in military families)

- Targeted policies like fee waivers for foster youth can spur increased effort among students who may have otherwise not been seeing college as a possibility due to financial and other constraints (St. John et al., 2011).
    - Similar findings for undocumented students (Ngo & Astudillo, 2019; Ngo & Hinojosa, 2022)

Discussion

- While this analysis of college preparation behaviors was important, we recognize the goal of the foster youth fee waiver is to increase college enrollment. We could not answer that specific question with the available data
- Descriptively, FY were enrolling at lower rates than the non-FY population.
- FY with low-ACT scores were more likely to enroll than their peers, but…
    - Is this b/c of the Foster Youth Fee Waiver?
    - Is this b/c of the Nevada foster care extended benefits program?

Discussion

- Create **better data sharing systems** across county, state, and federal agencies
- We recommend **removing the under 26 y/o stipulation** and make it accessible to students regardless of their age
- We recommend **student loan forgiveness** for all students who were unable to benefit from the tuition waiver program who attended a Nevada postsecondary institution before the policy implementation

Recommendations for Practice

- Continued studies on foster care fee waiver usage is needed; particularly **longitudinal studies.**
- Research is needed that helps us understand how foster youth learn about the fee waiver in order to **create better outreach and awareness** about the fee waiver program.
- Future studies should **focus on high school graduates and likelihood to enroll** in college as a result of the fee waiver policy.

Recommendations for Research

Thank You!

The Consequences of the Rising Cost of Higher Education

- As college tuition increases, it makes the accessibility of higher education more difficult for underrepresented students (e.g., foster youth, low-income students, and homeless students)
- One-third of foster youth who never enrolled in college or eventually dropped out reported that they chose to enter the workforce because they could not afford college (Courtney, 2018)

Background of the study

Examining the Relationship Between Nevada's Corequisite Policy & Student Outcomes

Federick Ngo, PhD; Kenyon Lee Whitman, PhD;

Anel Rojas, MEd; Karly Van Holten, MA

University of Nevada, Las Vegas

Department of Educational Psychology, Leadership, and Higher Education

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Background of the Study

- According to NPSAS:2016, 56% of U.S. 2-year college students enrolled in developmental or remedial education; 40% in NPSAS:2020.
- Traditional developmental education has been associated with decreased student persistence and lower completion rates (Valentine et al., 2017).
- Black and Latinx students are disproportionately placed in remedial courses, exacerbating racial disparities and hindering their advancement in higher education (Bailey et al., 2010).

Background of the Study

- Corequisite models have emerged as an alternative, allowing students to enroll directly in college-level courses while receiving concurrent support.
- Corequisite models have shown positive short-term results by reducing the time students spend in remediation (Logue et al., 2019; Ran & Lin, 2022; Meiselman & Schudde, 2022), which can help prevent feelings of stigmatization and disengagement.
- In 2021, Nevada mandated corequisite support courses statewide, replacing traditional remediation. This policy aims to boost student success by providing extra support for students enrolled in college-level math and English.

Purpose of the Study

- The purpose of this study is to analyze the effects of Nevada's 2021 corequisite policy on student outcomes, particularly in relation to the completion of college-level math and English courses, credit accumulation, persistence, and GPA.

- The study also aims to investigate the variation in corequisite enrollment based on student demographics and institutional characteristics, with the objective of determining whether this model enhances access and success for underrepresented students.

Literature Review

Developmental Education Challenges

- Developmental education is intended to support underprepared college students, but the prerequisite model can hinders progress by delaying degree completion and reducing persistence (Bailey et al., 2010; Valentine et al., 2017).

Racial Inequities in Remediation

- Remedial education disproportionately impacts students of color who are more often placed in developmental courses due to placement test scores (Bailey et al., 2010).
    - Ex. Black and Latinx students are more likely to experience math misalignment in the transition to college, limiting their progression to higher-level courses (Melguizo & Ngo, 2020).

Literature Review

Corequisite Model as an Alternative

- Corequisites enable students to take college-level courses with concurrent support, reducing remediation time and boosting short-term course completion (Daugherty et al., 2018).
- States like Tennessee and Texas report positive outcomes, especially in gateway math and English courses, though long-term impacts on degree completion are mixed (Boatman, 2012; Ran & Lin, 2022; Meiselman & Schudde, 2022).
- Corequisites also show potential for addressing inequities, with Latinx students reporting more positive experiences than with traditional remediation (Coca et al., 2024).

Nevada's Corequisite Policy

- Just 25.5% of NV adults have a bachelor's degree or higher (US= 32.9%)
- 36% six-year graduation rate (US =65%)
- In 2021, Nevada replaced traditional prerequisite remedial courses with corequisite courses statewide.
- The policy applies to college-level math and English courses across all seven NSHE institutions, making Nevada one of only four states with such a mandate.
- By replacing traditional remediation, the state aims to close equity gaps and increase success rates for all students.

Research Questions

The following research questions guide our study:

- Which students are most likely to enroll in corequisite support courses in English and math?
- What is the impact of corequisite enrollment on early student outcomes?

Data

- Student Records from the Nevada P-20 Workforce Research Data System (NPWR), a statewide longitudinal data system.
- The sample includes 11,124 students from Nevada high schools enrolled in NSHE institutions from Fall 2021 to Spring 2022, the first year of the corequisite policy.

Research Design

Regression Discontinuity (RD): This quasi-experimental design estimates the causal impact of corequisite courses by comparing students near the placement cutoff.

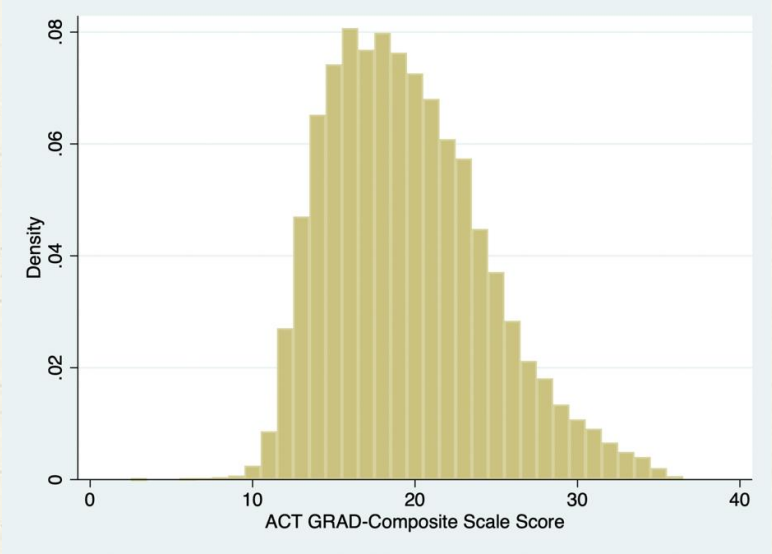
- **Cutoff-Based Placement:** Students are placed in corequisite courses based on cutoffs (e.g., *ACT/SAT* scores)
- **Similarities in Expected Outcomes:** Students just below the cutoff (ACT score of 17) are similar to those just above (ACT score of 18).
- **Discontinuity in Outcomes:** Differences in outcomes (e.g., completion of college-level math and English) for students near the cutoff can be attributed to cutoff-based placement.

“Fuzzy” RD Design

- Not all students are placed using ACT/SAT scores → bias in sharp RD
- **Test Score Instrument:** Since all Nevada students are required to take the ACT in 11th grade, ACT scores are used as an “instrument” for corequisite enrollment.
- **First Stage:** Corequisite enrollment is regressed on ACT scores and relevant covariates (e.g., demographics) to predict enrollment likelihood and test strength of instrument.
- **Second Stage:** Regresses academic outcomes (completion of math and English) on the instrument, at varying bandwidths of each cutoff.

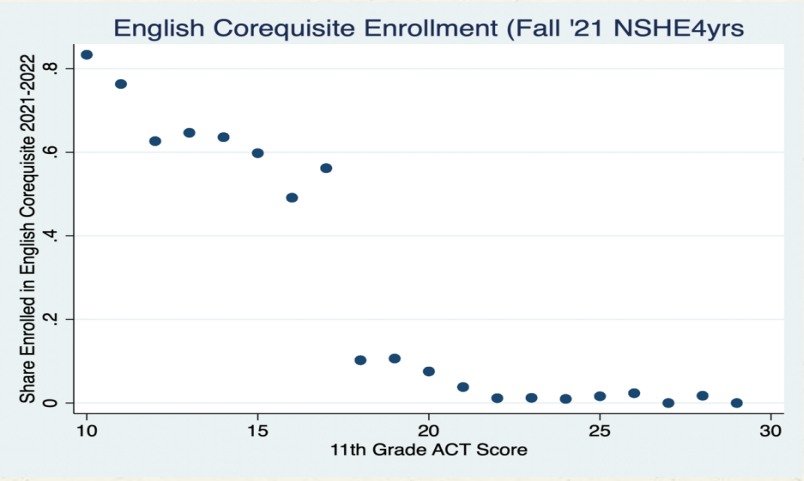
Validity

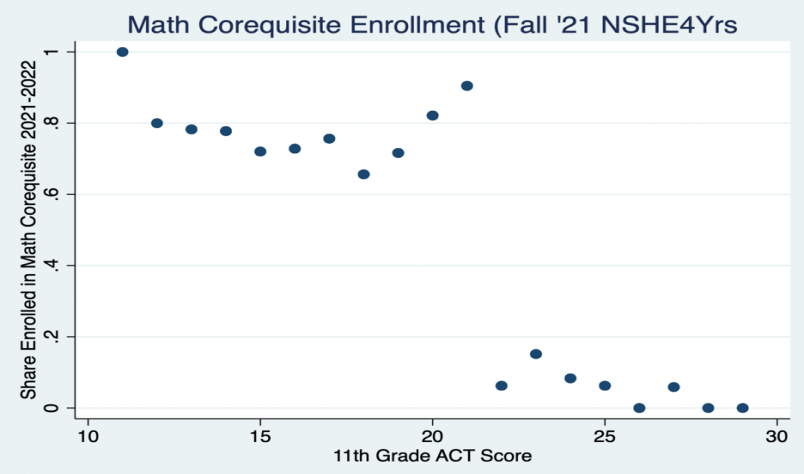
- No manipulation of 11th-grade ACT scores is observed at the corequisite cutoffs.
  - ACT_ela=18 for English
  - ACT_math=20, 22 for Math



Compliance

- Students below the cutoff were more likely to enroll in corequisite courses for both English and math, while those above were less likely.
- Discontinuities, especially in 4-year institutions and math, confirm ACT scores as a strong predictor of corequisite enrollment.





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Findings: Descriptive

Inequities in Enrollment & Institutional Differences

- 36% of all F21 students enrolled in math coreq; 24% in English coreq
- Black and Latinx students are 5 and 2 percentage points more likely to enroll in corequisite English, and low-income students are 3 percentage points more likely.
- Institutions like Truckee Meadows Community College (TMCC) and the University of Nevada, Las Vegas (UNLV) had higher corequisite math enrollment.

Findings: RD Eng.

- Only 68% of corequisite English students completed college-level English, compared to 89% of non-corequisite students.
- RD analysis showed no significant difference in college-level English completion rates at the margin of the cutoff.

Impact of corequisite English support on completion of English GE requirement

	Sharp RD	Sharp RD	Sharp RD	Fuzzy RD
	BW=+/-4	BW=+/-3	BW=+/-2	*rdrobust*
RD Treatment Effect (above cutoff)	-0.02	-0.03	-0.02	-0.02038
	(0.02)	(0.03)	(0.04)	(0.03)
p	0.28	0.33	0.58	0.46
N	4537	3281	1938	8563

*p<.05 **p<.01 ***p<.001
rdrobust (Calonico et al., 2017)

Findings: RD Math

- 73% of students enrolled in coreq math completed college-level math by the end of Spring 2022, compared to 72% of non-corequisite students.
- RD showed that students just above the Math 120 cutoff (not in corequisites) were less likely to complete math than those just below the cutoff who were placed in corequisites. (5-8pp)

Impact of corequisite math support on completion of math GE requirement (Math 120 cutoff)				
	Sharp RD	Sharp RD	Sharp RD	Fuzzy RD
	BW=+/-4	BW=+/-3	BW=+/-2	rdrobust
RD Treatment Effect (above cutoff)	-0.06*	-0.08*	-0.01	-0.05*
	-0.03	-0.04	-0.05	0.03
p	0.05	0.04	0.76	0.04
N	2177	1786	1228	2845

*p<.05 **p<.01 ***p<.001
rdrobust (Calonico et al., 2017)

Findings: Other Outcomes

- We also estimated the impact of corequisite placement on other outcomes of interest
  - Enrollment in the spring 2022 semester
  - GPA after spring 2022
  - Total credits attempted and completed by spring 2022
  - Enrollment in the fall 2022 semester.

➔ We found no statistically significant RD treatment effects for corequisite math placement or corequisite English placement. These results will be updated once additional cohorts of students are available in the SLDS.

Discussion

- Nevada's corequisite model, implemented in 2021, allows students immediate access to college-level courses, aiming to improve completion of gatekeeper math and English courses required for graduation.
    - In English, we found no significant impact on completion rates between students just above and below the cutoff, showing corequisites help students match their higher-scoring peers.
    - In Math, we found evidence of a positive benefit to corequisite enrollment.
- These findings align with previous research on the positive effects of corequisites in improving early student outcomes (Boatman et al., 2021; Logue et al., 2019; Ran & Lin, 2022)...but for now, mixed effects in the long-run

Implications & Recommendations for Policy

- Nevada's corequisite model shows promise in helping students achieve important early college milestones, warranting continued support and investment to enhance student success.
- English cutoffs are about right
- Math cutoffs could be raised
- Some faculty resistance to developmental education reforms…need to communicate the story

Conclusion & Future Work

- Early findings demonstrate the effectiveness of the reform in improving college success for students who would have otherwise been in remedial courses
- Further research is needed to assess long-term effects on persistence, degree completion, and support for diverse groups like low-income, first-generation, and students of color.
- We are continuing this work with a new 5-year IES grant that includes a mixed methods evaluation

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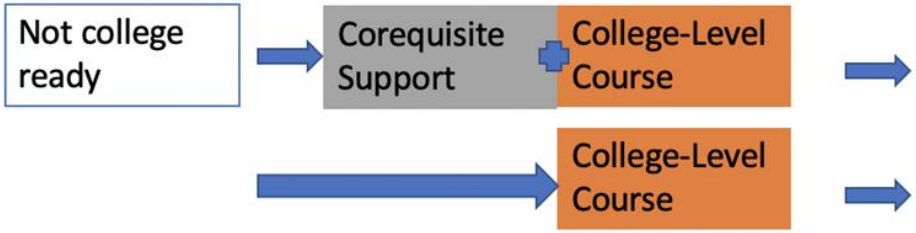
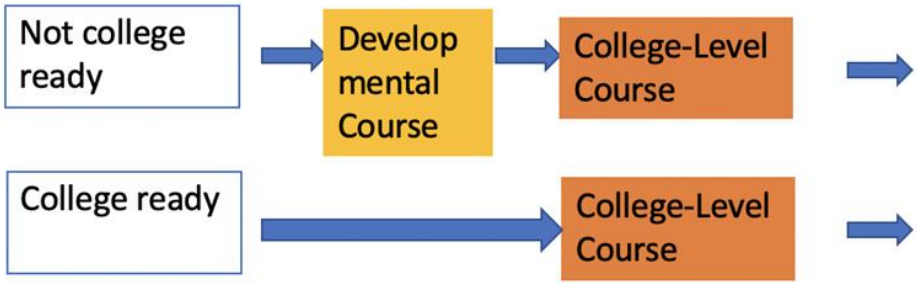
Thank You!

Corequisite Model



Outcomes: completion of college-level math/English course, grades, credits earned, persistence, field of study, graduation, employment and earnings

Prerequisite Model



Outcomes: completion of college-level math/English course, grades, credits earned, persistence, field of study, graduation, employment and earnings

Methodology

Study Design

Design: Regression Discontinuity (RD) design to estimate the impact of corequisite enrollment on student outcomes.

Data Source: Student Records from the Nevada P-20 Workforce Research Data System (NPWR), a statewide longitudinal data system.

Variables: ACT/SAT scores, race/ethnicity, gender, SES (socioeconomic status), and completion of college-level math and English.

Descriptive Analysis

- We compared students enrolled in corequisite support courses to those who did not enroll (i.e., those in non-corequisite math or English).
- Regression was used to examine how these student background characteristics (i.e., race, ethnicity, SES) are associated with corequisite enrollment.
- Regression coefficients highlight whether student demographics are predictive of corequisite enrollment, shedding light on potential inequities in the system.