COVID-19 Effects on School Diversity

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ABSTRACT

Introduction: The impact of the pandemic on K-12 student learning was considerable since students found themselves five months behind in mathematics and four months behind in reading on average by the end of the school year. In this study, we aimed to learn how COVID-19 affected the number of new enrollments in primary schools within Minnesota. We hypothesized that the overall number of enrollments would decrease during the pandemic and would be lower for individuals belonging to low financial backgrounds.

Methods: With the use of data from the Stanford digital Repository Stanford School Enrollment Project, we used Structural Equation Modeling to estimate the relationship between COVID-19 and the total amount of new primary school enrollments. Our explanatory and response variables are shown in the path diagram below. We conducted orthogonal rotation, and the cumulative variance was 84% thereby encompassing an adequate amount of data. We named our three factors Individual Details, Homeless, and Origin.

Results: Our model output had a large test statistic of 3,397.243 and a p-value of 0. Thus, the model was not a good fit for variance and covariance matrices of the original dataset. From this model we found that the factors Origin and Homeless did not have a significant effect on the total. The black variable had the largest significant effect in the path diagram, but since it only loaded onto Origin, and Origin was not a significant predictor of Total, Black did not have a direct or indirect effect on total. We found that NFI, IFI, CFI, RMSEA, MFI, were not within the threshold needed for this to be a good fit. The GFI tells us that 68.9% of the variance and covariance was explained by our structural equation model.

Conclusion: From our SEM, we saw that individual_details had the largest and most significant effect size on total and new_disability had the largest significant effect size on individual_details. Even though individual_details had the largest effect size compared to other variables on total, in itself the effect size was not large. Our SEM proved to not be a good fit to the original covariance structure. We concluded that further studies needed to be conducted to understand how COVID-19 impacted the demographic of new enrollments in primary schools within Minnesota. In the future, comparing the pre-covid era to the covid era could help understand what role the pandemic has played in the total number of enrollments.