## \*\*Project Title\*\*

“Can Test Scores Predict Future Contribution of an Individual in Society: An Empirical Analysis in R”

## \*\*Project Context & Motivation\*\*

The contemporary education system places overwhelming emphasis on quantifiable assessments - marks, grades, ranks, and scores. This project fundamentally challenges this paradigm by testing whether school marks performance is actually a good predictor of responsible social contribution or alternative school-life factors are superior predictors of an individual's future contribution to society compared to traditional academic marks.

The research addresses a critical gap in educational policy: Are we measuring the right things? Does our marks-obsessed culture identify and nurture the individuals who ultimately become responsible contributors to society, or are we missing the actual predictors of meaningful social contribution? Do students that score more contribute more to the society? In other words, does the society need to produce more high scorers for its betterment?

## \*\*Research Problem Statement\*\*

\*\*Primary Research Question\*\*: Do traditional school marks predict an individual's capacity to become a responsible contributor to society?

\*\*Secondary Research Question\*\*: Do alternative school-life factors do a better job at predicting an individual's capacity to become a responsible contributor to society?

\*\*Underlying Challenge\*\*: The current education system may be fundamentally flawed in its assessment methods, potentially overlooking individuals with high social contribution potential while over-emphasizing those who excel in traditional academic metrics.

## \*\*Hypothesis Framework\*\*

### \*\*Core Hypothesis\*\*

Alternative school-life factors (study fondness, curiosity, resilience, social integration, adaptability, etc.) are stronger predictors of responsible social contribution than quantifiable academic performance (marks, grades, ranks).

### \*\*Specific Hypotheses to Test\*\*

- \*\*H₀\*\*: School marks are significant predictors of responsible social contribution.

- \*\*H₁\*\*: School marks are significant predictors of responsible social contribution.

- \*\*H₂\*\*: Individual alternative school-life factors (like relation with school, child relation with school, school type, house environment) are stronger predictors than marks.

- \*\*H₃\*\*: Combined / multilinear alternative models show unquantifiable factors dominate marks in predictive power.

- \*\*H4\*\*: The relationship holds across different factors like profession, demography, age and highest educational qualification.

### \*\*Objective\*\*

My objective in doing this project is to dig deeper into how the society’s education system works and benefits itself and is a change in policy and/or mindset necessary to foster us towards the right direction. This project should also inspire others as it is not as robust as I would like it to be due to lack of data and time constraint.

### \*\*Data Source\*\*

IHDS-I (2005) to IHDS-II (2012) progression for longitudinal wide panel data:

DS3 Individual dataset

Link: https://www.icpsr.umich.edu/web/ICPSR/studies/37382/datadocumentation#

## \*\*Variable Definitions\*\*

### \*\*Dependent Variable: Responsible Social Contribution\*\*

<Description as in code>

### \*\*Independent Variables\*\*

<Description as in code>

#### \*\*Alternative Predictors (Alternative School-life Factors) \*\*

<Description as in code>

### \*\*Analytical Approach\*\*

1. \*\*Descriptive Analysis\*\*: Characterize school-life factors and current contribution levels

2. \*\*Correlation Analysis\*\*: Examine relationships between predictors and outcomes

3. \*\*Regression Analysis\*\*:

- Simple regressions (marks vs. contribution)

- Simple regressions (alternative factors vs. contribution)

- Multiple regression combining all predictors

4. \*\*Model Comparison\*\*: Compare predictive power (R² values) between traditional and alternative models

5. \*\*Robustness Testing\*\*: Test for heteroscedasticity, multicollinearity, and model stability

## \*\*Expected Outcomes & Implications\*\*

### \*\*If Hypothesis is Confirmed\*\*

- \*\*Educational Policy\*\*: Evidence to reform assessment methods and reduce marks obsession

- \*\*School Systems\*\*: Validation for investing in character development and social skills

- \*\*Parental Approach\*\*: Justification for balanced focus beyond academic achievements

- \*\*Individual Development\*\*: Validation of diverse pathways to meaningful contribution

### \*\*If Hypothesis is Rejected\*\*

- \*\*System Validation\*\*: Current marking systems may be more effective than assumed

- \*\*Refinement Need\*\*: Better measurement of alternative factors required

- \*\*Balanced Approach\*\*: Both quantifiable and alternative factors matter

## \*\*Methodology\*\*

### \*\*Research Design\*\*

Retrospective cross-sectional analysis using secondary data from Indian national surveys, examining earners to correlate their school-life experiences with current social contribution levels.

## \*\*Success Metrics for the project\*\*

- \*\*Statistical\*\*: Significant relationships identified, robust model performance

- \*\*Practical\*\*: Clear policy implications derived from analysis

- \*\*Technical\*\*: Comprehensive R code portfolio demonstrating econometric skills

- \*\*Impact\*\*: Actionable insights for educational stakeholders

## \*\*Ethical Considerations for the project\*\*

- Use only publicly available secondary data

- Ensure anonymity in all analysis

- Acknowledge limitations of retrospective analysis

- Present findings objectively without bias toward hypothesis

## \*\*Project Significance\*\*

This project addresses one of the most fundamental questions in education: Are we measuring what matters? By challenging the marks-based assessment paradigm, the research has potential to influence educational policy, school practices, and societal attitudes toward academic achievement. The findings could provide evidence for a more holistic approach to education that values character development, social skills, and intrinsic motivation alongside traditional academic performance.

The project's real-world relevance extends beyond academic exercise - it directly addresses current educational challenges in India and globally, making it a valuable addition to any policy research portfolio while demonstrating advanced econometric analysis capabilities.