**🔎 Key Insights from Data**

1. **Strongest Predictors of Performance**
   * **Attendance (r = 0.58)** and **Hours Studied (r = 0.45)** have the strongest positive correlations with exam scores.
   * **Previous Scores** and **Tutoring Sessions** also show moderate positive effects.
   * **Learning Disabilities** show a small negative correlation (-0.08).
2. **Parental & Resource Influence**
   * Higher **parental involvement** and **access to resources** lead to slightly better scores (~2 points higher than low).
   * **Parental education level** also matters: students with postgraduate-educated parents average ~68 vs. ~66 for high school–educated parents.
3. **School & Teacher Factors**
   * **Teacher quality**: High-quality teaching improves scores (~1 point difference vs. low quality).
   * **School type**: Private school students score only marginally better than public school students.
4. **Peer & Motivation Effects**
   * **Positive peer influence** boosts scores (67.6 vs. 66.5 for negative).
   * Higher **motivation** improves outcomes (~1 point difference between low and high).
5. **Demographic Disparities**
   * **Family income**: Higher income correlates with better scores (~1 point gap).
   * **Distance from home**: Students living far away score lower (~1 point less).
   * **Gender**: No meaningful difference (Male = 67.23, Female = 67.23).

**🎯 Targeted Interventions to Improve Student Performance**

1. **Academic Support**
   * Provide **structured tutoring programs** especially for students with low previous scores.
   * Encourage **study planning workshops** to help students optimize hours studied.
   * Use **attendance monitoring + mentoring** to improve consistency.
2. **Parental Engagement**
   * Organize **parent workshops** on how to support children academically.
   * Encourage regular **parent-teacher meetings** for students with low performance.
3. **Student Well-being**
   * Promote **balanced sleep routines** (most students average ~7 hours, but some are at risk with <6).
   * Provide **counseling and motivation-building programs** for low-motivation students.
   * Foster **positive peer culture** through group projects and mentorship programs.
4. **School Resources & Teaching Quality**
   * Invest in **teaching quality improvement** via professional training.
   * Expand **access to digital/learning resources** for low-resource students.
   * Create **study hubs** in schools to reduce the disadvantage of students living far away.

**🏫 District-Level Recommendations for Addressing Disparities**

1. **Equity in Access**
   * Provide **free/discounted learning resources** (books, internet access, devices) for low-income families.
   * Subsidize **transport or boarding options** for students living far away.
2. **Support for Special Needs**
   * Expand **learning disability support programs** with trained specialists.
   * Ensure **inclusive classrooms** with extra time/resources for affected students.
3. **Parent & Community Programs**
   * Create **community resource centers** to engage parents with low education levels.
   * Offer **family literacy and awareness programs** to break generational education gaps.
4. **Monitoring & Policy**
   * Implement **attendance intervention policies** for chronically absent students.
   * Track **school-level disparities** (public vs. private, teacher quality) and reallocate resources where needed.

✅ In short:

* **Focus on attendance, study habits, and tutoring** for direct score improvements.
* **Boost parental engagement, resource access, and peer culture** for long-term benefits.
* **Address demographic disparities** (income, distance, disabilities) through targeted district policies.

Here are the **visual dashboards** summarizing the key findings:

1. **Correlation with Exam Scores** → Attendance and study hours matter the most.
2. **Parental Involvement** → High involvement leads to better performance.
3. **Family Income** → Higher-income families’ children score better.
4. **Distance from Home** → Students living farther away score lower.
5. **School & Teacher Quality** → High teacher quality boosts scores across both public and private schools.
6. **Peer Influence** → Positive peer influence increases exam performance.

📊 These dashboards can be used to clearly **present insights to the school board**, showing both **academic drivers** and **demographic disparities**.