

## OBSERVATIONS FROM STUDENTS' WELLNESS ANALYSIS

### 1. Heart Rate by Age of Students

- Observation: The average heart rate increases with age, peaking at **71.5 bpm for 22-year-olds**, and then declines to **69.5 bpm at 24 years**.
- **Implications:**
  - Students in their early 20s may be experiencing higher stress or physical activity levels, contributing to the peak heart rate.
  - Targeted stress-reduction or fitness programs might help normalize heart rates.

### 2. Health Risk Levels per Student

- Observation: Most students (**672**) fall under the **Moderate Risk** category, while **190** students are at **Low Risk** and **135** at **High Risk**.
- **Implications:**
  - Many students may need improved health management strategies to reduce moderate risks.
  - Students in the high-risk category require immediate attention, including access to medical and counseling resources.

### 3. Effect of Mood on Study Hours

- Observation: Students in a **neutral mood** studied the most, clocking **12.6k hours**, while those who were **happy** studied slightly less (**12.1k hours**). Stressed students studied the least (**5.5k hours**).
- **Implications:**
  - Stress significantly reduces study productivity. Wellness programs focused on stress management could enhance academic outcomes.
  - Encouraging positive emotions or mental states may further increase study hours and efficiency.

### 4. Classification of Students by Gender

- Observation: The student population is almost evenly split, with **519 female (51.9%)** and **481 male (48.1%)** students.
- **Implications:**
  - Gender-based analysis of wellness programs can provide balanced support.
  - Campaigns and initiatives should aim for inclusivity to address the needs of both genders.

### 5. Effect of Physical Activity on Heart Rate

- Observation: Students with **moderate physical activity** had the highest heart rate (**34.62K bpm total**), followed by those with **low activity (21.18K bpm)** and **high activity (14.30K bpm)**.
- **Implications:**
  - Moderate physical activity may correspond to a healthy and sustainable level of exercise, but high activity might reduce heart rate.
  - Tailoring exercise regimens based on heart rate data can help maintain cardiovascular health.

## 6. Effect of Project Hours on Sleep Quality

- Observation: Students with **7.1k project hours** reported **good sleep quality**, while those with **4.5k hours** reported **moderate sleep quality** and **3.0k hours** experienced **poor sleep quality**.
- **Implications:**
  - Increased project work seems positively correlated with good sleep quality, suggesting structured schedules might benefit sleep patterns.
  - Poor sleepers might require time-management training to balance academic and personal life effectively.

## 7. Classification of Students by Age

- Observation: The highest student ID registrations are seen at ages **18 (160 students)** and **21 (156 students)**, with the lowest at age **24 (136 students)**.
- **Implications:**
  - Programs targeted at incoming younger students could address adjustment issues and academic preparation.
  - Support services might need to shift focus as students age to address declining enrollment or engagement.

## 8. Average Weekly Study Hours

- Observation: Students average **30.23 study hours per week**.
- **Implications:**
  - Study patterns are within expected ranges, but improving time management or reducing distractions could enhance learning outcomes further.
  - Additional support for students spending less than the average study hours could close performance gaps.

## 9. Average Heart Rate

- Observation: The average heart rate across all students is **70.10 bpm**.
- **Implications:**
  - This indicates a relatively healthy population. Regular heart rate monitoring should continue to identify early health risks.
  - Encouraging physical activity and stress management can help maintain a stable average.

# RECOMMENDATIONS

## 1. Heart Rate by Age of Students

- **Recommendation:** Implement regular fitness assessments to monitor heart rate trends by age. Provide tailored physical activity programs for older students to maintain cardiovascular health.
- **Intervention:** Offer stress-relief workshops or fitness programs, such as yoga and mindfulness sessions, particularly targeting students aged 22-24 who show higher heart rate variability.

## 2. Health Risk Levels per Student

- **Recommendation:** Develop a tiered health management plan:
  - Moderate Risk: Implement preventive measures like routine health check-ups and wellness workshops.
  - High Risk: Provide one-on-one counseling, detailed health assessments, and immediate medical intervention.
- **Intervention:** Collaborate with healthcare providers to offer on-campus medical screenings and promote healthy lifestyle choices like balanced diets and exercise.

## 3. Effect of Mood on Study Hours

- **Recommendation:** Create a positive study environment to reduce stress and improve academic productivity.
- **Intervention:**
  - Introduce mentorship programs and peer-support groups to address stress-related challenges.
  - Host recreational activities like art therapy, music events, or mindfulness exercises to enhance mood.

## 4. Classification of Students by Gender

- **Recommendation:** Promote inclusivity in wellness programs by designing initiatives that address the unique needs of both genders.
- **Intervention:** Conduct gender-specific focus groups to understand health challenges and tailor resources (e.g., gender-sensitive counseling services, targeted health campaigns).

## 5. Effect of Physical Activity on Heart Rate

- **Recommendation:** Promote moderate physical activity as the ideal level for maintaining healthy heart rates.
- **Intervention:**
  - Encourage participation in intramural sports or group fitness classes.
  - Provide resources such as fitness trackers and educational materials on maintaining healthy exercise levels.

## 6. Effect of Project Hours on Sleep Quality

- **Recommendation:** Teach time management and prioritization techniques to students who experience poor sleep due to inadequate project planning.
- **Intervention:**
  - Host workshops on efficient project planning and stress management.
  - Offer counseling for students with chronic sleep issues and provide resources like meditation apps or sleep hygiene guides.

## 7. Classification of Students by Age

- **Recommendation:** Introduce age-specific programs to meet the unique needs of different age groups, particularly younger students who may require adjustment support.
- **Intervention:**

- For younger students (18-21): Offer orientation programs, academic tutoring, and social support networks.
- For older students (22-24): Focus on career readiness programs and stress management as they approach graduation.

### **8. Average Weekly Study Hours**

- **Recommendation:** Identify students falling below the average study time of **30.23 hours** and provide targeted academic support to enhance study habits.
- **Intervention:**
  - Introduce study skill workshops and personalized academic coaching.
  - Develop study spaces with minimal distractions to improve focus and time utilization.

### **9. Average Heart Rate**

- **Recommendation:** Maintain and monitor the current average heart rate of **70.10 bpm** through routine health screenings and physical activity programs.
- **Intervention:**
  - Implement campus-wide wellness initiatives like step challenges or physical fitness campaigns.
  - Provide nutrition counseling to ensure students are consuming heart-healthy foods.