

Impact of AI technologies on the challenges of rural education in Mexico

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INTRODUCTION & AIM

Generative Artificial Intelligence and the DeepSeek chatbot represent new opportunities to improve educational processes, especially in rural contexts where school dropout is a persistent problem. This research looks at how DeepSeek can support the creation of strategies to decrease this phenomenon.

General objective.

To evaluate the use of DeepSeek as a means to develop strategies that contribute to reducing school dropout in upper secondary education in a rural area of the State of Mexico.

METHOD

Instrument Design

Diagnostic questionnaire generated with DeepSeek from a specialized prompt.
Instrument composed of 29 dichotomous questions (yes/no):
6 of socioeconomic factors
10 academic performance
13 of interpersonal factors

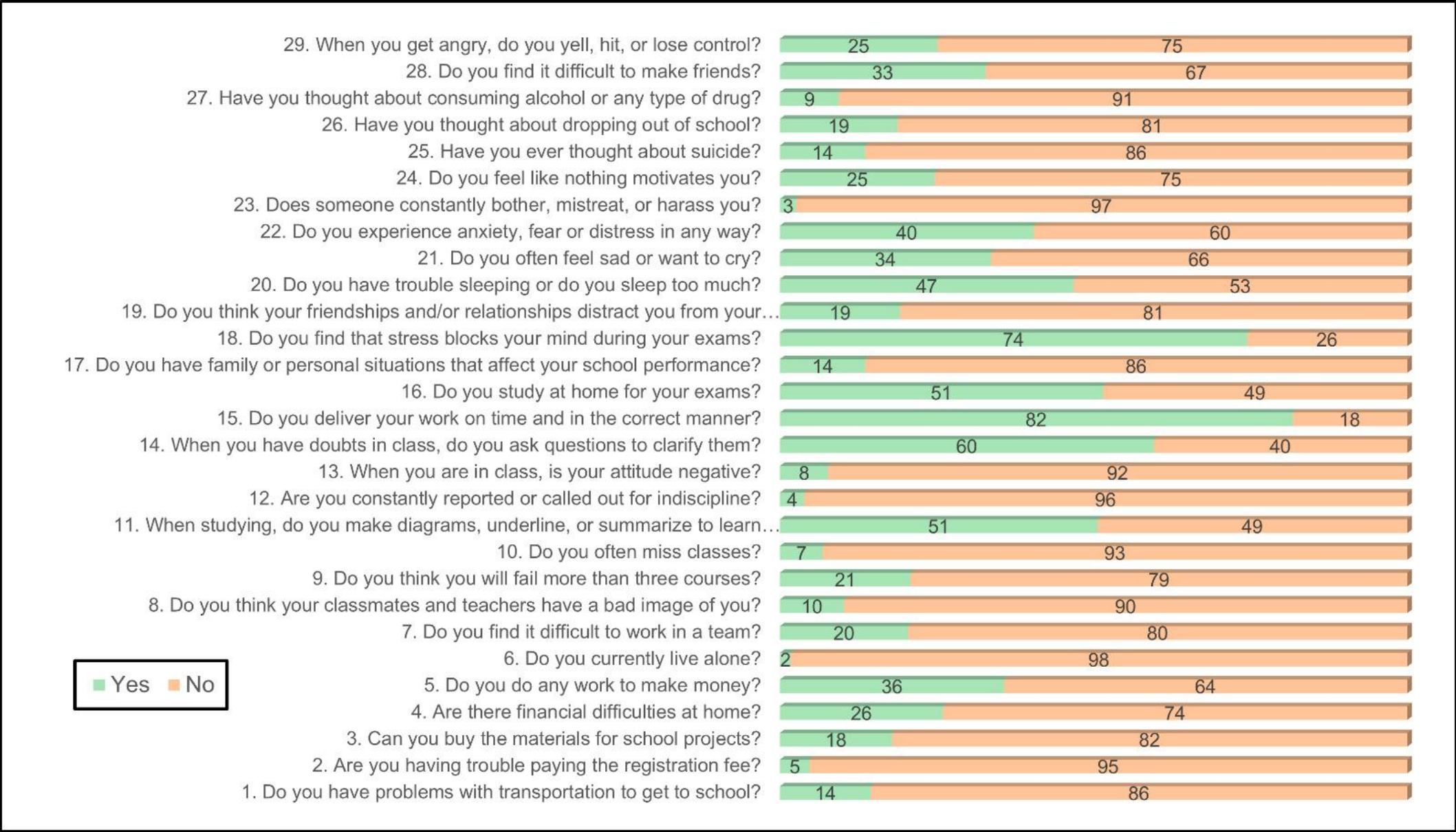
Sample

Population: 353 students
Sample needed (99% confidence / 5% error): 231
Sample obtained: 237 students

Application

Made using Google Forms
Between October 8 and 14, 2025
The three grades of EMS (1st, 2nd, 3rd) participated

RESULTS & DISCUSSION



Socioeconomic Factors

Financial problems at home: 26%
Need to work for money: 36%
Difficulty buying materials: 18%

Academic Performance Factors

Do not study outside of school: 49%
They do not make notes or study techniques: 49%
They do not ask questions in class: 40%
They plan to fail more than three subjects: 21%

Interpersonal Factors

Stress in evaluations: 74%
Sleep problems: 47%
Anxiety/fear: 40%
Sadness or depression: 34%
Problems socializing: 33%
Thoughts of dropping out of school: 19%
Suicidal ideation: 14%

Brief discussion

The results show that school dropout has a multifactorial origin, where academic and socio-emotional factors are significantly more determinant than economic ones. AI (DeepSeek) made it possible to structure and apply a clear instrument that helped identify risk patterns that are difficult to observe with the naked eye.

CONCLUSION

School dropout in rural EMS is a multifactorial phenomenon mainly influenced by:
Academic stress
Deficiencies in study habits
Emotional problems (anxiety, depression, demotivation)

FUTURE WORK / REFERENCES

Future lines of work

Implementation of an Early Warning System with AI.
Teacher training in the pedagogical use of AI.
Socio-emotional support programs.
Instructional design based on personalization of learning via DeepSeek.