

Explainable AI Analysis of Grit, Academic Hope, and Persistence in Iranian EFL Students

Keivan. Seyyedi^{1*}

¹ Department of Foreign Languages, Mah.C., Islamic Azad University, Mahabad, Iran

*** Corresponding author email address:** keivan1357@iau.ac.ir

Editor

Ahmad Amani
Associate Professor, Counseling
Department, University of
Kurdistan, Sanandaj, Iran
a.amani@uok.ac.ir

Reviewers

Reviewer 1: Hooman Namvar
Assisstant Professor, Department of Psychology, Saveh Branch, Islamic Azad
University, Saveh, Iran. Email: hnamvar@iau-saveh.ac.ir
Reviewer 2: Elham Azarakhsh
Department of Psychology, Islamic Azad University, Qom Branch, Qom, Iran.
Email: elhamazarakhsh@qom.iau.ac.ir

1. Round 1

1.1. Reviewer 1

Reviewer:

In the opening paragraph (“In recent years, the field of educational psychology has witnessed a growing interest...”), the manuscript would benefit from a clearer problem statement. Specifically, articulate what is methodologically or theoretically insufficient in prior grit/hope research that necessitates an explainable AI approach.

In the paragraph discussing explainable AI (“Explainable artificial intelligence (XAI) offers a powerful methodological framework...”), please add a concise definition of SHAP in conceptual (not technical) terms for readers in psychology who may not be familiar with AI interpretability methods.

In the Measures subsection on grit, the manuscript states that the Grit-S has “acceptable to strong internal consistency.” Please report the Cronbach’s alpha coefficients obtained in the current sample, rather than relying solely on prior literature.

Authors uploaded the revised manuscript.

1.2. Reviewer 2

Reviewer:

In the paragraph beginning “Grit, commonly defined as perseverance and passion for long-term goals...”, several studies are cited, but the review remains largely descriptive. Consider synthesizing findings by explicitly contrasting effect sizes, contexts, or educational levels to strengthen the analytical depth.

The paragraph starting with “Despite this growing body of research, grit is increasingly viewed not as a monolithic trait...” is theoretically strong; however, it would benefit from a clear transition sentence explicitly linking multidimensional grit to the need for non-linear modeling.

In the paragraph “Alongside grit, academic hope has been identified as a foundational motivational construct...”, please clarify whether the study treats academic hope as independent from or theoretically overlapping with grit, as this distinction affects interpretation of feature importance later.

In the paragraph beginning “In language learning contexts, academic hope plays a particularly critical role...”, consider adding 1–2 sentences explaining why EFL learning uniquely amplifies motivational constructs compared to other academic domains.

The paragraph starting “Moreover, existing studies in both Iranian and international contexts...” identifies a gap, but it would be strengthened by explicitly stating what previous models fail to detect (e.g., interaction effects, individual heterogeneity).

In the Study Design and Participants section, the sentence “A total sample of adequate size for machine learning modeling was targeted...” is vague. Please report the exact sample size and justify it with reference to ML stability or cross-validation requirements.

In the same section, clarify how many language institutes and classes were included at each sampling stage, as this information is necessary to evaluate sampling bias and clustering effects.

Authors uploaded the revised manuscript.

2. Revised

Editor's decision after revisions: Accepted.

Editor in Chief's decision: Accepted.