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Cross-cultural Study of Grit among Iranian, Turkish, and Iraqi EFL Learners

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ABSTRACT

Introduction: Positive psychology has been a buzzword in language learning and teaching practices recently. Among different concepts, grit, a tendency to maintain stamina to tackle long-term challenges, has received significant but inadequate consideration. Therefore, the current study aimed to investigate the role of grit in learning English as a foreign language (EFL) by Iranian, Turkish, and Iraqi learners.

Methodology: Using a non-experimental and descriptive design, the present study explored three cohorts from Iranian, Turkish, and Iraqi learning contexts to compare EFL learners' grit to examine whether language played a role in their perseverance of effort combined with passion. A total of 684 EFL learners participated in the study from three different cultures. The data for the study were collected via Google form employing the domain-specific L2 grit scale designed by Teimouri et al. (2020).

Results: The findings revealed that Persian learners' grit in language learning was higher than the other two groups in terms of proficiency level. Moreover, regardless of the EFL learners' first language, learners at advanced levels had the highest mean, followed by the intermediate and elementary groups. However, there was no significant interaction between the first language and proficiency.

Conclusion: In conclusion, grit can act as a strong predictor of EFL learners' achievement as their level of English proficiency increases. The findings could benefit material developers and teachers and help them consider grit as a predictor of achievement for EFL learners.

1. Introduction

Over the last decade, second language acquisition (SLA) research has shifted from individual difference (I.D.) characteristics, including motivation, anxiety, and aptitude, to personality traits and ESL/EFL learning (Dörnyei & Ryan, 2015). Interested in positive psychology (Seligman & Csikszentmihalyi, 2000), applied linguists study how students' personality traits affect their L2 performance (Dewaele, 2014; Dewaele & MacIntyre, 2016; MacIntyre et al., 2016; Oxford, 2015).

Grit is one of the many positive emotions that warrants in-depth research because of its critical function in goal-oriented settings. Defined as toughness of character and tenacity, grit is one of the often mentioned non-cognitive I.D. factors that received significant but inadequate consideration (Duckworth et al., 2007). Positive psychology focuses on maintaining interest and drives to work toward long-term objectives; therefore, psychological grit is a crucial component. Teamwork, imaginative

creativity, involvement in learning, and the capacity to overcome challenging situations are just a few of the critical abilities that grit may improve in both academic and professional contexts (Heckman & Mosso, 2014).

Conscientiousness and grit are closely connected as one of the big five personality traits. However, grit emphasizes long-term objectives, or as Duckworth puts it, "long-term stamina," while conscientiousness does not (Duckworth et al., 2007, p. 1089). As purported by Credé et al. (2017), grit has characteristics with other psychological traits like assiduity but also has the extra feature of continuity of interest. According to Duckworth and Quinn (2009), grit is a higher-order construct with two facets, including the constancy of interest and the tenacity of effort. The former refers to a propensity to put up much effort and keep going when things become challenging. The latter, however, entails continuing to be interested over time despite obstacles and failures (Duckworth et al., 2007).

Researchers have discovered that psychological grit is connected to educational achievement (Duckworth et al., 2007; Robertson-Kraft & Duckworth, 2014). According to the U.S. Department of Education (2013), grit is a crucial component in a person's ability to pursue and achieve long-term and higher-order objectives and persevere in the face of various difficulties and setbacks throughout life. Previous empirical studies indicated that grit could predict college students' academic achievement (Duckworth et al., 2007; Strayhorn, 2014). Eskreis-Winkler et al. (2014) investigated the relationship between psychological grit and graduation in a heterogeneous population of Hispanic/Latino and African American/Black (45% and 43%, respectively) studying in state schools in Chicago. Students with greater psychological grit levels were more likely to complete high school. In addition, Duckworth et al. (2007) looked into the correlation between psychological grit and academic success in a higher education context and found that grit was associated with both higher GPAs and lower SAT scores, suggesting that students who performed poorly on standardized tests may also lack psychological grit.

In a recent study, Wei et al. (2019) examined the effect of foreign language enjoyment (FLE) and classroom environment (CE) in mediating the link between Grit and Foreign Language Performance (FLP). The findings demonstrated a substantial positive correlation between gender and Grit, FLE, CE, and FLP, with females reporting higher scores on these measures than their male counterparts.

Educators feel that promoting grit might help learners realize their full, often latent potential in numerous fields (e.g., Calo et al., 2011; Moen & Olsen, 2020). Gritty people are hard workers, focused on a job, dedicated, and not demoralized by failures. Less gritty people are easily distracted by new ideas, change goals, and have trouble focusing on long-term tasks.

According to some research studies, it should come as no surprise that grit is a crucial factor in second language acquisition (Horwitz et al., 1986; Horwitz, 2001; Dörnyei, 2005; Pawlak, 2011). It is a demanding endeavor that necessitates an almost infinite supply of stamina and dedication to sustained study despite the difficulty or discouragement of the process. Due to its great significance in the field of second language acquisition (SLA), where it has been identified as a further predictor of performance and achievement in L2 learning (Khajavy et al., 2021; Teimouri et al., 2020; Yamashita, 2018), a more systematic, domain-specific approach is warranted.

Yamashita (2018) identifies grit as one of the traits shared by successful language learners, who must put up an enormous, consistent effort to produce their best work, and for whom the presence of ambiguity and challenge propels them forward with a can-do attitude.

Existing research on grit is still under-explored. Due to the lack of a language-specific grit scale until relatively recently, SLA researchers had to adjust the domain-general inventory Grit-O and Grit-S (Duckworth et al., 2007; Duckworth & Quinn, 2009) in ESL/EFL contexts. As a consequence, there was always a risk that grit would be

measured inadvertently and inaccurately, failing to properly account for the particularities of the L2 learning process (Teimouri et al., 2020).

A small number of quantitative studies on L2 grit have been conducted in various learning contexts with the aim of investigating the relationship between grit and other individual difference factors, such as curiosity, enjoyment, willingness to communicate, and motivation, using the domain-general, Grit-O, and Grit-S (shortened version of the Grit-O) scales (Duckworth et al., 2007; Duckworth & Quinn, 2009).

According to the research by Lake (2013), pupils with greater grit were more motivated to put in the time and effort necessary to learn English. Another research revealed a strong, favorable relationship between top achievers' drive and grit (Changlek & Palanukulwong 2015). By analyzing the data collected, Lee (2020) identified strategies for developing L2 communicative willingness, such as encouraging students to keep trying to begin English-language dialogue and providing a supportive learning environment. A growing language mentality was shown to favorably, if weakly, predict the 'perseverance of effort' component of grit, while a fixed language mindset was reported to negatively predict the 'consistency of interest' sub-construct of grit, according to research by Khajavy et al. (2021).

Teimouri et al. (2020) developed and validated the nine-item L2-Grit scale, which, like the domain-general scales, comprises the 'perseverance-of-effort' (5 items) and the 'consistency-of-interest' (4 items) dimensions. This was done to avoid the global-local inconsistencies accompanying previous personality-focused SLA research. The research indicated a link between participants' drive for L2 acquisition and language-specific grit. Furthermore, it was shown that L2 grit, as opposed to domain-general grit, was more significantly associated with motivational elements and L2 accomplishment.

One hundred fifty-three Russian undergraduates studying several extra languages participated in Sudina and Plonsky's (2021) research on grit from a domain-specific approach. The study aimed to examine any connections between L2 grit and L2/L3 proficiency, accomplishment, and anxiety. Quantitative data analysis revealed that L2 grit had a better predictive validity than domain-general grit and was adversely linked with anxiety. The study team addressed some of the concerns raised earlier in the publication using the data to support a two-dimensional component structure of L2 grit and reframe it as a language-domain-specific variable in the L2 learning process.

According to Duckworth (2016), grit is polygenetic, which means that it is determined by more than one gene. The heritability of persistence was 37%, while the heritability of passion was 20%, comparable to the heritability rates of other qualities. It seems as if Duckworth was attempting to confine the notion of culture to that of an organization or team. She used the example of a team of swimmers who had a coach with grit, who fostered grit in the team members and provided situations that required tenacity from the team members.

Culture shapes grit scales. Research has shown that there are significant cultural variations between individualistic settings (like the West) and collectivist societies (eastern countries; Akin et al., 2011; Datu et al., 2016; Nishikawa et al., 2015). Individualistic cultures emphasize personal autonomy and the self-first approach, while collectivistic cultures emphasize interpersonal harmony and interchangeably pursuing family/group and personal goals (Ting-Toomey & Chung, 2012). These changes may impact grit dimensions. Individualistic students may be more consistent in achieving objectives in a shorter time, whereas collectivistic students may be less consistent in balancing personal and family aspirations. Even if it takes longer, they persist in achieving their aspirations (Datu et al., 2016).

According to Duckworth's interpretation of grit, interest stands for the intensity of a person's commitment to a long-term goal (Duckworth et al., 2007), which is shown by a strong readiness to invest energy in a particular activity or item that they consider to be significant (Carbonneau et al., 2008). As mentioned by Liu and Chiang (2019), a person's interests develop due to interactions with their surroundings. According to Schunk et al. (2014), the interestingness of the context refers to the environment's ability to stimulate attention. Individual perceptions of objects are formed via social communication, which is impacted by social beliefs and conventions (Shepherd, 2017). In a similar vein, Alesina and Giuliano (2015) accentuated that a culture is a group of people who share a shared set of social norms, including ideas, values, and beliefs. As a result, persons from diverse cultural backgrounds may have different perspectives on various items of interest.

Western research has demonstrated that high-interest kids are more engaged and re-engaged in studying (Ainley & Ainley, 2011). This stems from individualistic civilizations' emphasis on personal interests (i.e., goals were pursued based on strong personal interest and curiosity; see Ryan & Deci, 2000; Siwek et al., 2017). Sang (2017) discovered that Western students were encouraged to explore their interests, allowing them to make more interest-based decisions. The East's intense focus on grading and performance may restrict individual interests but drive competitiveness for better marks (Tong et al., 2021). The nonsignificant role of constancy of interest in various educational outcomes in collectivistic nations like South Korea (Park & Cho, 2019), which is supported by the Philippines (Datu et al., 2016). In a longitudinal study of Chinese learners, Liu et al. (2020) found that academic learning was their responsibility to society and their parents. Because collectivists are preoccupied with present needs and societal expectations (e.g., family and society), they tend to adapt their aims to fit external expectations rather than their own interests (Datu et al., 2018). When kids are not engaged, extrinsic motives may help them learn (Liu et al., 2020). In the current study, country-level cultural variables from Hofstede and Hofstede (2001) was used to distinguish between individualism and collectivism. Hofstede's method is reliable and effective, and cross-cultural meta-analyses routinely use it (Choi et

al., 2015; Taras et al., 2010). According to Hofstede's Cultural Comparison Model, the three nations' attitudes are collectivist (Iran, Turkey, and Iraq received a score of 41, 37, and 31, respectively).

Learner's proficiency as an independent variable in this study was selected for two reasons. First, past analyses of grit research have shown that student grade level considerably modifies the relationship between grit and academic success in terms of the academic setting. Second, the outcomes in the setting of the school were conflicting. For instance, different studies on tenacity and success in elementary school pupils came up empty (Barrington, 2017; Jiang et al., 2019). Grit may not impact primary students' academic performance as it does on their secondary school counterparts, who view high academic achievement as the primary route to university admission and occupational and social success. Primary students may not have the same strong determination or aspirations to perform better in school (Serbin et al., 2013). Therefore, investigating the relationship between grit and language accomplishment in beginner, intermediate, and advanced EFL learners would provide more solid and empirical proof of how grit influences learning a foreign language at various competence levels. So, as one possible moderator in the grit-achievement association, three levels of language background (elementary, intermediate, and advanced) were considered.

With this in mind, the current study set out to cross-culturally explore the relationship between foreign language proficiency levels and grit among Persian, Turkish, and Iraqi language learners, deemed worthy of investigation to shed light on the interactive effect of these variables in terms of different L1 users. To the best of researchers' knowledge, there has been a dearth of research on the cross-cultural study of the domain-specific grit scale addressing EFL learning. Therefore, the following research questions were posed:

1. Is grit significantly different among elementary, intermediate, and advanced Iranian, Turkish, and Iraqi EFL learners?
2. Is there any significant difference among Iranian, Turkish, and Iraqi EFL learners in terms of grit?
3. Does L1 make any difference in grit among three Persian, Turkish, and Iraqi EFL learners?

2. Methodology

2.1. Design and context of the study

This study employed an ex post facto non-experimental design to evaluate the grit among three different cohorts of Iranian, Turkish, and Iraqi EFL learners. The participants were male and female students studying English as a foreign language to take advantage of English at their university level. The type of sampling was convenient sampling.

2.2. Participants

The study participants were 683 male/female Iranian,

Table 1.
Demographic Background of the Participants

Total number of participants	686 (232 Iranians, 248 Turkish, & 203 Iraqi)
Gender	Male/female
Level of education	MA/PhD
Countries	Iran, Turkey, Iraq
First language	Persian, Turkish, Arabic
Target language	English
Field of study	TEFL

Turkish, and Iraqi EFL students from three countries of Iran, Turkey, and Iraq who took part in the study based on convenience sampling or available sampling. They were 232 Iranians, 248 Turkish, and 203 Iraqi EFL learners who were studying English as their major at different elementary, intermediate, and advanced levels. Table 1 presents the demographic background of the participants.

2.3. Instruments

2.3.1. Oxford placement test

To collect the data, Oxford Placement Test (OPT) was first used to categorize the students’ level of proficiency in different cohorts. The OPT is computer adaptive, which means it adapts to the complexity of questions depending on the test taker’s answers. This makes it more motivating and guarantees a more exact evaluation than conventional placement exams. The results include CEFR level (Pre-A1 to C2). Therefore, students who were ranked Pre-A1 to A2, B1 to B2, and C1 to C2, were classified as elementary, intermediate and advanced EFL learners, respectively. After completing each activity, the answers were immediately graded and were given an immediate score.

2.3.2. Domain-specific L2-grit scale

Another instrument used in the current study was domain-specific L2-grit scale developed by Teimouri et al. (2020). The scale consists of 9 items addressing perseverance-of-effort (5 items) and the consistency-of-interest (4 items) dimensions based on a 5-point Likert scale. was internally consistent, with an alpha coefficient ($\alpha = .80$). The discriminant validity of the L2-Grit scale was supported as it correlated positively but moderately with the domain-general Grit scale.

Table 2.
Descriptive Statistics Test of Normality

L1	Proficiency	N	Skewness		Kurtosis	
			Statistic	Std. Error	Statistic	Std. Error
Persian	Advanced	68	-.692	.291	.822	.574
	Intermediate	82	-1.105	.266	.736	.526
	Elementary	82	-.326	.266	-.284	.526
Turkish	Advanced	80	-1.540	.269	1.933	.532
	Intermediate	79	-.719	.271	.226	.535
Iraqi	Elementary	89	.020	.255	-.547	.506
	Advanced	63	-1.094	.302	.511	.595
	Intermediate	71	-.900	.285	.044	.563
	Elementary	69	.215	.289	-.469	.570

Std. error: Standard error

2.4. Procedure

The data were collected during 2020 to 2021 for 6 months in context of Turkey, Iraq and Iran. Google forms were used to collect the data through which the participants answered the questionnaires provided on Google forms. The participants responded to the questionnaire based on the Likert Scale. It should be mentioned that the participants took part in the placement test before conducting the study to ensure that they were homogeneous. They took OPT, and their levels were determined using the test. To analyze the data, a two-way ANOVA was run to compare the grit. Moreover, Levene’s test of equality of error variances was calculated. Tests of between-subjects effects grit were also administered. Descriptive statistics and multiple comparison test grit on proficiency and first language were also run to analyze the data, which will be elaborated on in the following sections.

2.5. Ethical considerations

In conducting this study, several ethical issues and challenges were considered cautiously. During the entire data collection procedure, the primary concern of the researchers was to ensure the welfare and protection of all participants involved in the study. As the first step, the participants were informed that they were free to decline participation or withdraw from the research. All participants, supervisors, and teachers were assured of confidentiality in observing ethical issues. To protect participants’ privacy while collecting, analyzing, and reporting data elicited from the tests and the questionnaires, the researchers adhered to the ethical confidentiality principle by isolating from the data any personally identifiable information supplied by participants. Accordingly, the required permissions from the authorities involved were obtained before conducting this study. The researchers assured all parties that the data collected would only be used for the present study under complete confidentiality.

3. Results

A Two-way ANOVA was run to compare the grit of elementary, intermediate and advanced Persian, Turk, and Iraqi EFL learners. Before discussing the results, it should be noted that the normality assumption was retained. As shown in Table 2, the absolute values of skewness and

Table 3.
Levene's Test of Equality of Error Variances

	Levene statistic	df1	df2	Sig.
Based on mean	5.057	8	674	.000
Based on median	3.960	8	674	.000
Based on the median and with adjusted df	3.960	8	603.915	.000
Based on trimmed mean	4.941	8	674	.000

df: Degree of freedom

kurtosis indices were lower than 2 (Bachman, 2005; Bae & Bachman, 2010; George & Mallery, 2020).

Besides the assumption of normality, Two-Way ANOVA requires that the groups should enjoy homogenous variances on the pretest of interaction. Table 3 shows the results of Levene's test of homogeneity of variances. The results [F (8, 674) = 3.96, p= .000] indicated that the assumption of homogeneity of variances was violated. To compensate for the violation of the assumptions, the main results of Two-Way ANOVA is reported at .01 levels (Tabachnick & Fidell, 2014).

Table 4 indicates the descriptive statistics for the Persian, Turkish, and Iraqi EFL learners on grit. The results showed that the Persian EFL learners (M= 31.59) had a higher mean than the Turkish (M= 29.90), and Iraqi (M = 28.61) groups.

Table 5 tabulates the results of the Two-Way ANOVA.

Table 5.
Tests of Between-Subjects Effects Grit by First Language by Proficiency

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
First Language	969.067	2	484.533	10.086	.000	.029
Proficiency	26463.307	2	13231.654	275.427	.000	.450
L1 *Proficiency	424.553	4	106.138	2.209	.066	.013
Error	32379.304	674	48.041			
Total	665857.000	683				

df: Degree of freedom

Table 6.
Multiple Comparisons Tests Grit by First Language

(I) First Language	(J) First Language	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Persian	Turkish	1.57*	.633	.048	.01	3.12
	Iraqi	2.83*	.666	.000	1.20	4.47
Turkish	Iraqi	1.27	.656	.155	-.34	2.88

*. The mean difference is significant at the .05 level.

Table 7.
Descriptive Statistics Grit by Proficiency

Proficiency	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Advanced	37.284	.480	36.342	38.225
Intermediate	30.851	.456	29.956	31.746
Elementary	21.981	.450	21.097	22.864

Std. error: Standard error

Table 8.
Multiple Comparisons Tests Grit by Proficiency

(I) Proficiency	(J) Proficiency	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Lower Bound
Advanced	Intermediate	6.30*	.659	.000	4.68	7.92
	Elementary	15.08*	.654	.000	13.48	16.69
Intermediate	Elementary	8.78*	.638	.000	7.22	10.35

*. The mean difference is significant at the .05 level. Std. error: Standard error

Table 4.
Descriptive Statistics Grit by First Language

First language	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Persian	31.595	.457	30.698	32.492
Turkish	29.904	.441	29.039	30.770
Iraqi	28.617	.487	27.660	29.573

Std. error: Standard error

The results [F (2, 674) = 10.08, p > .01, partial $\eta^2 = .029$ representing a weak effect size] indicated that there were significant but weak differences between the Persian, Turkish, and Iraqi EFL learners' grit. Therefore, the results should be interpreted cautiously due to the weak effect size value of .029.

Table 6 shows the results of post-hoc comparison tests. The results of post-hoc comparison tests indicated that Persian EFL learners (M = 31.59) significantly outperformed the Iraqi EFL learners (M = 28.61, MD = 2.83, p < .01) on grit. There were no significant differences between other pairs of means, i.e., p > .01.

The results displayed in Table 4 [F (2, 674) = 275.42, p < .01, partial $\eta^2 = .450$ representing a large effect size] indicate significant differences between the advanced (M = 37.28), intermediate (M = 30.85), and elementary (M = 21.98) groups' means on grit (Table 7).

The results of post-hoc comparison tests (Table 8) indicated that advanced EFL learners (M = 37.28) significantly outperformed the intermediate (M = 30.85, MD = 6.30, p < .01), and elementary (M = 21.98, MD = 15.08, p < .01) on grit. The intermediate EFL learners (M = 30.85) had a significantly higher mean than the elementary group (M = 21.98, MD = 8.78, p < .01).

Table 9.
Descriptive Statistics Grit by First Language by Proficiency

First Language	Proficiency	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Persian	Advanced	38.162	.841	36.511	39.812
	Intermediate	32.451	.765	30.948	33.954
	Elementary	24.171	.765	22.668	25.674
Turkish	Advanced	36.325	.775	34.803	37.847
	Intermediate	30.848	.780	29.317	32.379
	Elementary	22.539	.735	21.097	23.982
Iraqi	Advanced	37.365	.873	35.650	39.080
	Intermediate	29.254	.823	27.638	30.869
	Elementary	19.232	.834	17.594	20.870

Std. error: Standard error

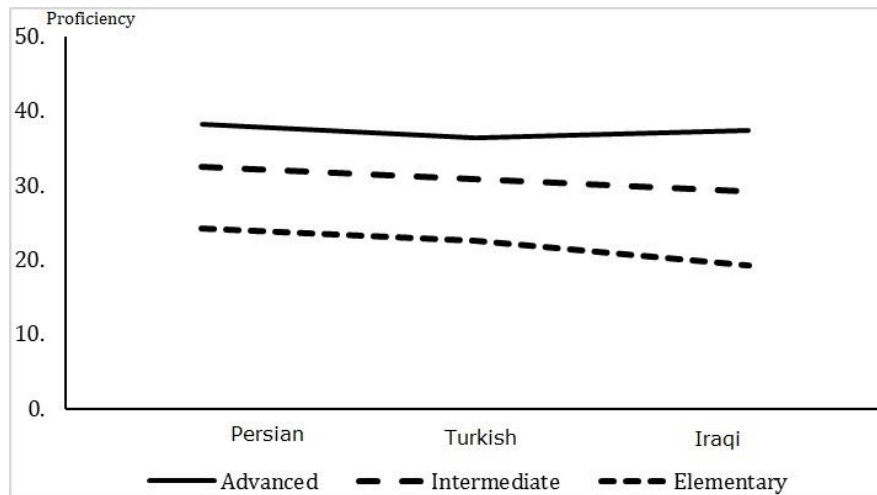


Figure 1.
Interaction between First Language and Proficiency

And finally, based on the results shown in Table 5, it can be concluded that there was not any significant interaction between first language and proficiency ($F [4, 674] = 2.20, p > .01$, partial $\eta^2 = .013$ representing a weak effect size). Thus, the null hypothesis was supported. As shown in Table 9 and Figure 1, regardless of the EFL learners' first language, the advanced group had the highest mean, followed by the intermediate and elementary groups.

4. Discussion

This study utilized an ex pose facto-non experimental survey design to cross-culturally investigate the relationship between grit and EFL among Persian, Turkish, and Iraqi learners. It was discovered that grit predicted Persian EFL students with a higher mean. There was just one pair where Persian EFL students did much better than their Iraqi counterparts. There was, however, no significant difference between the other pairings. The findings also showed that grit becomes a more significant predictor of success as the level of English proficiency increases.

Deploying domain-specific measure, this study resonates with the findings by prior research (Teimouri et al., 2020; Sudina and Plonsky, 2020) that better results in learning a foreign language are predicted with stronger grit. Teimouri et al. (2020), for instance, discovered a connection between participants' motivation to learn a second language and grit for that particular language.

Meanwhile, Sudina and Plonsky's (2020) found that L2 grit showed higher predictive validity than domain-general grit for EFL learners' success. Advanced EFL learners had statistically higher grit ratings than intermediate or primary EFL learners. Compared to their Turkish and Iraqi counterparts, Persian EFL learners' grit levels seem to be a greater predictor of success. By leveraging the data to establish a two-dimensional component structure of L2 grit and recast it as a language-domain-specific variable in the L2 learning process, these results help allay some of the concerns stated earlier in the paper.

The effect sizes in the current study and earlier L2 grit studies (Teimouri et al., 2020; Sudina & Plonsky, 2020; Wei et al., 2020) are fairly substantial. For the EFL learners who took part in the study, Teimouri et al. (2020) and Wei et al. (2020) found that grit accounted for almost a large account of the variation in grades. Additionally, this research discovered that grit strongly predicts proficiency in English (partial $\eta^2 = .450$), which is often regarded as having a high impact size. However, Persian, Turkish, and Iraqi EFL learners' roughness differs significantly but weakly (partial $\eta^2 = .029$). Another point is related to the effect of L1 on grit. The study findings revealed no significant effect of L1 learners on their grit. One reason can be participants of the three countries are from a similar culture as Hofstede (2001) classifies collective. Since their nations' attitudes are collectivist, these attitudes are reflected in their language and consequently grit.

5. Conclusion

The current research on grit provide an understanding of this concept among EFL learners of three different nation. However, future studies on grit's impact on language learning are needed to provide more information about how grit affects language learning. More longitudinal studies using mixed-methods techniques will probably be needed to explain grit's unique impacts on foreign language acquisition, even though the majority of grit research has been cross-sectional in nature (Crede et al., 2017). In addition, future research should take into account cross-cultural factors (Datu et al., 2016), non-academic situations with results that are generalizable, and other participants (language instructors) utilizing a domain-specific (L2) grit scale.

More studies should be conducted to investigate how grit influences language learning in different contexts and with participants. Even while the bulk of grit research has been cross-sectional in nature, further longitudinal studies utilizing mixed-methods methodologies will undoubtedly be required to understand grit's specific effects on foreign language learning (Crede et al., 2017). Besides, further research should consider cross-cultural (Datu et al., 2016), non-academic contexts with generalizability of findings (Teimouri et al., 2020), and miscellaneous participants (language teachers) using domain-specific (L2) grit measures.

Declarations

Competing interests

Authors declared no competing interests.

Authors' contribution

All authors participated equally in this study. They read and approved the final draft of the manuscript.

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