Examining predictive effects of general grit and L2 grit on motivated behavior: The mediating effect of self-perceived proficiency

Mirosław Pawlak (Corresponding author)
Adam Mickiewicz University, Poznań, Poland
University of Applied Sciences, Konin, Poland
Email: miroslaw.pawlak@amu.edu.pl
ORCID: 0000-0001-7448-355X

Chengchen Li
Huazhong University of Science and Technology, Wuhan, China
ORCID: 0000-0002-7262-3309

Joanna Zawodniak
University of Zielona Góra, Poland
ORCID: 0000-0002-3219-145X

Mariusz Kruk
University of Zielona Góra, Poland
ORCID: 0000-0001-5297-1966

Received: 11/07/2023 / Accepted: 15/12/2023
DOI: *https://doi.org/10.30827/portalin.viIX.29884*
ISSN paper edition: 1697-7467, ISSN digital edition: 2695-8244

ABSTRACT: Following a recent surge of interest in the role of personality traits in second language learning, this study focuses on L2 grit as an important individual difference factor that is gaining growing recognition among second language acquisition researchers. Adopting a mixed-methods approach, we examined the predictive effects of general grit and L2 grit on motivated behavior among 549 advanced Polish university students majoring in English and the extent to which these effects were mediated by self-perceived proficiency. Data were collected by means of the Grit Scale (Duckworth et al., 2007), the L2 Grit Scale (Teimouri et al., 2022), the motivated behavior scale (Taguchi et al., 2009), and semi-structured interviews. Quantitative analysis demonstrated that general grit and L2 grit significantly co-predicted motivated behavior, with the effect of L2 grit being more pronounced. However, differences were found for students representing different proficiency levels. The results were corroborated by qualitative analysis of interview data.
Keywords: personality; general grit; L2 grit; motivated behavior, self-perceived proficiency

Un análisis de los efectos predictivos de la tenacidad general y la tenacidad sobre la L2 en la motivación: El efecto mediador del conocimiento auto-percibido de la L2

RESUMEN: Ante el reciente aumento en el interés por el papel que desempeñan los rasgos

de personalidad en el aprendizaje de una segunda lengua (L2), el presente trabajo se centra en la tenacidad en la L2 (*L2 grit*), un factor importante de diferencias individuales cada vez más reconocido entre los investigadores de la adquisición de una L2. Adoptando un enfoque metodológico mixto, se examinaron los efectos predictivos de la tenacidad general y la tenacidad en la L2 sobre la motivación de 549 estudiantes universitarios polacos de Estudios Ingleses con nivel avanzado de conocimiento de la lengua, y se analizó el grado en que dichos efectos estaban mediados por su autopercepción del nivel de conocimiento de la L2. Los datos se recogieron mediante la Escala de Tenacidad (Duckworth et al., 2007), la Escala de Tenacidad en L2 (Teimouri et al., 2022), la Escala de Motivación (Taguchi et al., 2009) y entrevistas semiestructuradas. El análisis cuantitativo demostró que la tenacidad general y la tenacidad en la L2 predijeron de forma conjunta y de manera significativa la motivación de los aprendices, siendo más pronunciado el efecto de la tenacidad en la L2. Sin embargo, se encontraron diferencias entre los participantes dependiendo de su nivel de conocimiento de la L2. Estos resultados se corroboraron mediante el análisis cualitativo de los datos de las entrevistas.

Palabras clave: personalidad, tenacidad general, tenacidad sobre la L2, motivación; conocimiento auto-percibido de la L2

1. Introduction

Second or foreign language (L2) learning is a unique and challenging process, the intricacies of which are affected by a wide range of learner-external and learner-internal factors (see Ellis, 2004; Ortega, 2009; Pawlak & Kruk, 2022). The latter include a host of individual difference (ID) variables, such as, for example, anxiety, aptitude, beliefs, emotions, or motivation which have garnered the attention of second language acquisition (SLA) researchers for decades and have been shown to mediate the process and outcomes of L2 learning (Dörnyei & Ryan, 2015; Oxford, 2017; Pawlak, 2017, 2020; Pawlak & Kruk, 2022). Despite the growing body of empirical evidence, some facets of individual variation still remain underexplored, one of which is personality (Dewaele, 2001; Dörnyei & Ryan, 2015; Piechurska-Kuciel, 2020). One personality trait which, while vastly examined by educational psychologists (Credé et al., 2017), has only recently become subject to empirical interest of SLA specialists is grit. It is a higher-order, non-cognitive construct, describing diligent individuals exhibiting long-term commitment to their ambitions and thus determined to pursue their goals regardless of obstacles and adversities (Duckworth et al, 2007; Keegan, 2017).

While the concept of grit was described and operationalized no sooner than with the advent of the 21st century, it had long fascinated psychologists (e.g., Ericsson & Charness, 1994) who viewed it as a force of character or eagerness to engage in deliberate practice on a lifelong basis. These early studies clearly showed that grit is at least as essential to ensuring high achievement as intelligence or inborn ability. As a result, grit came to be perceived as a predictor of success in various academic and non-academic contexts (Tyumeneva et al., 2019). The former include the L2 classroom in which this personality trait can be of special value, given that the challenge of L2 learning requires exceptional amounts of sustained effort, attention, and energy. Even though the last few years have seen an exponential growth of interest in grit in L2 learning (e.g., Alamer, 2021; Derakhshan & Fathi, 2023; Derakhshan et al., 2022, 2023; Elahi Shirvan et al., 2022; Feng & Papi, 2020; Pawlak, Csizér, et al., 2022; Pawlak, Zarrinabadi, et al., 2022; Solhi et al., 2023; Sudina & Plonsky, 2021; Zawodniak

et al., 2021), relevant empirical evidence is fragmentary and somewhat limited in focus. In particular, no investigation conducted thus far has examined the predictive effects of general grit and L2 grit on motivation, operationalized here as motivated behavior, also taking into account the moderating contribution of self-perceived target language (TL) proficiency. This is an important issue given the fact that the link between (L2) grit and motivation might vary considerably depending on whether learners view themselves as high achievers with respect to a particular additional language or, rather, they are aware of the fact that attaining the envisaged level of L2 attainment still requires a large amount of sustained effort and interest in the endeavor. This is the gap that this study aims to fill, thus painting a more nuanced picture of the relationships among general grit, L2 grit, and L2 learning processes.

2. Literature review

2.1. General grit

Grit was defined by Duckworth et al. (2007) as "perseverance and passion for long-term goals" (p. 1087), which implies readiness to strenuously work towards the attainment of envisaged goals and maintain interest despite obstacles and setbacks. Duckworth et al. (2007) describe grit as a single overarching construct comprised of two lower-order facets: *perseverance of effort* (PE; i.e., a person's tendency to maintain energy over a longer period of time), and *consistency of interest* (CI; i.e., a person's enduring passion for doing things in the face of obstacles or progress plateaus). While at first blush there might be a temptation to equate grit with resilience, self-control and conscientiousness, there are grounds to believe that this is in fact a distinct construct. First, it differs from resilience as it pertains not only to the ability to persevere in the face of difficulties but also to the enduring loyalty to commitments. Second, grit should be distinguished from self-control since it is orientated towards long-term rather than short-term goals. Third, the concept can be seen as distinct from conscientiousness since it emphasizes an individual's proclivity for attaining long-term goals at any cost (e.g., Duckworth & Gross, 2014; Tangney et al., 2004).

Duckworth et al. (2007) developed and validated the Grit Original-Scale (Grit-O) consisting of 12 items aimed at measuring both subcomponents of the construct: PE and CI (6 items each). Subsequently, the Short Grit Scale (Grit-S) was constructed, with eight items, four for each dimension (Duckworth & Quinn, 2009). The two scales were validated, translated into other languages (e.g., Japanese, Polish, Spanish) and employed in several studies in diverse settings. Such research showed that grit was related to, for instance, successful completion of demanding training programs, better retention, higher academic performance, fewer career switches, lower dropout rates or teacher effectiveness (Duckworth et al., 2007; Robertson-Kraft & Duckworth, 2014). Grit was also found to be positively tied to cooperation, creative thinking, and the ability to deal with changes (Roberts, 2009).

Notwithstanding the universal value of grit as a predictor of achievement in numerous contexts, its underlying structure has been subject to criticism. For example, Credé et al.'s (2017) meta-analysis failed to confirm the higher-order nature of this trait, indicating that the PE subcomponent is a better predictor of performance than both CI and grit overall. By the same token, Lam and Zhou (2022) revealed in their meta-analysis that correlations

between overall grit level with academic achievement were weak to moderate, PE making a much greater contribution than CI. In addition, PE has been shown to display significantly stronger criterion validities than CI, which implies that the two constructs are distinct (Tyumeneva et al., 2019) and that the former may be a better candidate for empirical investigation (Credé et al., 2017). Despite these controversies and the fact that its predictive effects may be trumped by other ID variables (Usher et al., 2019), grit is still considered a significant contributor to success, which why it has become incorporated into various character-development programs (Cohen, 2015).

2.2. L2 grit

Despite the evidently accumulating empirical evidence, the understanding of grit in SLA is still far from complete. Many available studies have relied on domain-general tools such as the *Grit-O* or *Grit-S* scales (Duckworth et al., 2007; Duckworth & Quinn, 2009), whose sensitivity in the wide range of contexts in which L2 learning occurs is severely limited (cf. Pervin & John, 2001). An important improvement in this respect was the development of the domain-specific L2-Grit Scale by Teimouri et al. (2022). What follows is a brief, necessarily selective overview of studies investigating the role of grit in L2 learning, first, such that have drawn on general grit scales and, second, those that have relied on domain-specific measures of this construct.

Lake (2013) conducted a study that explored associations among positive psychology constructs, L2 self-variables, motivation and L2 in 539 female Japanese university students. Analysis of the data, gathered through, for example, the Grit-O Scale (Duckworth et al., 2007), L2 motivational measures and positive L2 self-measures, demonstrated that grittier students were more eager to invest their effort in EFL learning, and that their curiosity, hope, subjective happiness and flourishing were more pronounced than for their less gritty counterparts. The study by Changlek and Palanukulwong (2015) involved 183 Indian high- and low-achieving students, and aimed to provide insights into relationships among anxiety, grit and motivation as well as the role of these three constructs in L2 attainment. Using several instruments (e.g., the *Grit-S Scale*; Duckworth & Quinn, 2009; respondents' 5-semester GPA in English), the researchers showed that motivation was significantly and positively correlated to grit among high-achievers, while anxiety and grit were significantly but negatively linked. At the same time, low-achievers' motivation turned out to be significantly and positively related to anxiety. Feng and Papi (2020) examined the relationships between grit, tapped into by means of the *Grit-O Scale* (Duckworth et al., 2007), future L2 selves, motivational intensity and L2 persistence among 94 learners of Chinese as a foreign language in the USA. Multiple regression showed that PE predicted motivational intensity and L2 persistence but also the best motivational profile comprised perseverance and the ideal L2 self/own future self-guide. Khajavy et al. (2021) explored correlations among 1,178 Iranian university students' grit, mindsets, gender and achievement in English, using the Grit-S Scale (Duckworth & Quinn, 2009), the language mindset inventory (Lou & Noels, 2017) and final course grades. Quantitative analysis offered support for a two-factor structure of grit, and showed that its PE subcomponent was positively related to the growth mindset which, in turn, was negatively associated with CI. Also, grit proved to be unrelated to gender and L2 achievement.

Particularly relevant to this study is research that has relied on measures of grit intended for L2 learning, such as Teimouri et al.'s (2022) L2-grit scale. It is a 9-item instrument, with five statements referring to PE and four to CI. The scale was validated in a study which explored relationships among L2 grit, motivation, emotions and L2 achievement among 191 English translation students. Quantitative analysis showed that L2 grit was more positively correlated to L2 learning motivation and attainment than general grit. Another study that drew on the L2-Grit scale was carried out by Sudina and Plonsky (2021), who collected data from 115 Russian undergraduates. It examined links between L2 grit and L2/L3 proficiency, anxiety, and achievement. Results demonstrated a negative correlation between anxiety and L2 grit whose predictive validity exceeded that of general grit. In a mixed-methods study involving 99 English majors in Poland, Pawlak et al. (2021) investigated levels of grit and its dynamics in L2 learning. The analysis of the data obtained from the Polish version of Teimouri et al.'s (2022) L2-Grit Scale and semi-structured interviews, revealed high average levels of grit and significant differences in CI between students in different levels of the program. CI was found to be subject to change, which indicates that it may be mediated by other ID factors (e.g., motivation, WTC, learning styles, or strategies). Grit was also shown to be a corollary of students' ability to identify their L2 learning problems and their readiness to tackle them. More recent studies have indeed provided evidence for the interrelationships of L2 grit and a number of other variables. Pawlak, Csizér, et al. (2022) found in their study of 99 Polish university students majoring in English that L2 grit was positively related to motivated behavior, enjoyment, and domain-general grit. In addition, while motivation was an important predictor of L2 grit for both younger and older participants, domain-general grit only predicted L2 grit in the case of the latter. Pawlak, Zarrinabadi, et al. (2022), in turn, used path analysis to investigate the impact of L2 grit, positive and negative emotions and perceived L2 proficiency on motivated behavior among 238 English majors in Iran. They reported that PE was a much stronger predictor of motivation than CE and that this variable was also positively influenced by enjoyment and anxiety but negatively by boredom. Teimouri et al. (2022) scale has also been used in other studies to explore changes in grit and other emotions through time (e.g., Elahi Shirvan et al., 2022), to compare this construct in different settings (e.g., Sudina et al., 2021), or to examine its effects on L2 vocabulary knowledge (e.g., Alamer, 2021).

2.3. L2 grit and motivation

Grit is an important predictor of achievement, including success in L2 learning. Given the connection between L2 achievement and motivation that has been attested to in numerous studies (see Csizér, 2017; Dörnyei & Ryan, 2015), it is not surprising that some researchers have included motivation, albeit under different guises, as one of the ID variables investigated together with grit, typically in relation to L2 attainment (e.g., Changlek & Palanukulwong, 2015; Feng & Papi, 2020; Pawlak et al., 2022; Teimouri et al., 2022). Such a research focus hardly comes as a surprise since there is an intuitive link between the two constructs. After all, as Dörnyei and Ryan (2015) point out, "without sufficient motivation, even individuals with the most remarkable abilities cannot accomplish long-term goals, and neither are appropriate curricula or good teaching enough... to ensure student achievement" (p. 72). Griffiths and Soruç (2020), in turn, state that "...motivation is, indeed, the ultimate

sine qua non!". This is because motivation influences the effort invested in pursuing goals (Melendy, 2008) and the utilization of L2 learning opportunities (Oxford, 1996). High levels of motivation, whether it is conceptualized in terms of a specific direction or magnitude (Muir, 2021), can clearly also be expected to characterize individuals with high levels of grit. Moreover, it is warranted to assume that the amount of grit, whether in general or with respect to L2 learning, can translate into the degree of motivation that L2 learners manifest. If we embrace Dörnyei's (2009) L2 motivational self system, comprised of the ideal L2 self, the ought-to self and the L2 learning experience, it is the first of these components that has been shown to lie at the heart of L2 motivation (Dörnyei et al., 2006) but also to be the strongest predictor of intended effort and L2 achievement (Al-Hoorie, 2018). Since the ideal L2 self focuses on students' goal-orientation that is fueled by a desire to succeed in L2 learning (Taguchi et al., 2009), it is warranted to assume that it is closely related to grit which would not exist without enduring passion for long-term goals. All of this justifies empirical investigations of these concepts in different contexts.

A major challenge for studies seeking to illuminate links between grit and L2 motivation is somewhat inevitably how to conceptualize and operationalize motivation as this construct has evolved considerably since early research by Gardner and Lambert (1972) adopting a socio-psychological perspective, with L2 motivational self-system (Dörnyei, 2009) and the view of motivation in terms of a complex dynamic system (e.g., Papi & Hiver, 2020) currently constituting cutting-edge paradigms. Current empirical evidence on the relationship between grit and motivation is limited and requires expansion across various settings and learner groups. The present study aims to fill this gap and in fact takes this line of inquiry a step further by examining the extent to which motivated behavior is jointly predicted by general grit and L2 grit. To adopt a measure of motivation that would be to some extent theory-neutral, we opted for the construct of *motivated behavior*, which is a criterion measure indicating intended effort to learn the TL and subsumes the amount of energy that is invested in the pursuit of this goal. The concept has been routinely used in studies drawing on L2 motivational self-system theory (e.g., Al-Hoorie, 2018; Taguchi et al., 2009). Besides, the effort that L2 learners are ready to invest translates into effective use of self-regulatory strategies which may be driving forces behind the two constitutive components of L2 grit: PE and CI (Kormos & Csizér, 2014). In view of these considerations, the study addressed the following four research questions:

RQ1: What are the levels of general grit, L2 grit, and motivated behavior?
RQ2: What are the correlations between general grit, L2 grit, and motivated behavior?
RQ3: What are the joint predictive effects of general grit and L2 grit on motivated behavior?
RQ4: Do predictive effects of general grit and L2 grit differ depending on the participants' self-perceived proficiency?

3. Methodology

3.1. Participants

The sample comprised 549 Polish university students majoring in English (388 females and 161 males). They were enrolled in Year 1 (n = 183), Year 2 (n = 145) and Year 3 (n =

140) of a three-year BA program as well as Year 1 (n = 52) and Year 2 (n = 29) of a two-year MA program. In both programs, participants are required to attend an intensive course in English comprising separate classes dedicated to TL skills and subsystems (e.g., speaking, grammar), content courses (e.g., literature, descriptive grammar) and electives. Their mean age was 21.84 (SD = 4.26) and their mean length of studying English equaled 12.46 (SD = 3.41) years. Participants' mastery of English oscillated between B2 and C1 in terms of the *Common European Framework*. Their overall self-perceived English proficiency amounted to 4.08 (SD = 0.79) on a scale of 1 (lowest) to 6 (highest). A 6-point scale was selected since it roughly corresponds to the grading system in Polish institutions of higher education.

3.2. Instruments

A mixed-methods approach was adopted, with quantitative and qualitative data being collected. The data collection tools are described below.

3.2.1. Student engagement

The questionnaire was composite in nature and comprised the following sections.

3.2.2. Background section

This part included items concerning demographic variables, such as sex, age, year of study and its length. It also contained seven questions that asked students to self-evaluate their English proficiency along different skills and subsystems (i.e., reading, listening, speaking, writing, vocabulary, grammar and pronunciation) on a 6-point scale (1 – low, 6 – high). The average score of the responses was used in the analyses. The internal consistency reliability of self-assessment scales was high, with the Cronbach's alpha value of .827 (Dörnyei, 2007).

3.2.3. General grit

The Grit-O Scale (Duckworth et al., 2007) was utilized. It consists of 12 items, six tapping CI and six PE. The six items representing the CI facet are negatively worded and need to be reversely coded. All items are responded to on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The validity and reliability of the scale were checked before subsequent analyses. CFA results showed that the original two-factor model was poorly supported ($\Delta\chi2(53) = 303.527$, $p < .001$, CFI = .743, TLI = .681, SRMR = .098, RMSEA = .131, 90%CI: [.117,.145]). Thus, item 3 and item 7 were discarded according to the modification index (52.177, 66.693). Another CFA produced better results ($\Delta\chi2(34) = 109.940$, $p < .001$, CFI = .897, TLI = .864, SRMR = .069, RMSEA = .090, 90%CI: [.071,.109]). Item 6 was discarded due to its low factor loading (.294). A third CFA confirmed the theoretical two-factor model ($\Delta\chi2(26) = 67.727$, $p < .001$, CFI = .936, TLI = .916, SRMR = .058, RMSEA = .076, 90%CI: [.054,.099]) (N = 549). The reliability of the entire scale as well as the CI and PE was acceptable, with Cronbach's alpha values equaling .791, .740, and .746, respectively.

3.2.4. L2 grit

L2 grit was measured using the L2-Grit Scale (Teimouri et al., 2022). It consists of 9 items, four assessing CI and five tapping into PE. The last four items are negatively worded and need to be reversely coded. All the items are responded to on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The scale has been shown to demonstrate acceptable psychometric properties of construct validity, discriminant validity, concurrent validity, predictive validity and reliability. This said, psychometric properties of any measurement scale should be subject to context-related variation (Li et al., 2023). Thus, we first conducted confirmatory factor analysis (CFA) to check construct validity of the L2-Grit Scale. The results of the first CFA showed that the original two-factor model was poorly supported ($\Delta\chi2(26) = 229.166$, $p < .001$, CFI = .824, TLI = .757, SRMR = .106, RMSEA = 186, 90%CI: [.148,188]) ($N = 549$). Item 5 was discarded according to the modification index (119.589). Another CFA confirmed the two-factor model ($\Delta\chi2(19) = 58.291$, $p < .001$, CFI = .957, TLI = .937, SRMR = .062, RMSEA = .086, 90%CI: [.062,112]). Reliability analyses showed high reliability for both the overall scale (Cronbach's alpha = .840), and the two subscales of PE (Cronbach's alpha = .852) and CI (Cronbach's alpha = .823).

3.2.5. Motivated behavior

Participants' motivated behavior was assessed using the scale developed by Taguchi et al. (2009). It consists of 10 items, which are responded to on a 5-point Likert scale (1 – *strongly disagree* and 5 – *strongly agree*). Basic psychometric properties were first checked. The first CFA showed that a unifactorial model was poorly supported ($\Delta\chi2(39) = 1671.895$, $p < .001$, CFI = .436, TLI = .349, SRMR = .296, RMSEA = .275, 90%CI: [.264,.286]). Based on semantic differences in each item, the authors proposed a two-factor model, with Items 1, 2, 6, 7, 9, 10 measuring *intended motivated behaviors* and Items 3, 4, 5, 8 tapping into *real motivated behaviors*. CFA results showed that a two-factor model was better supported ($\Delta\chi2(34) = 617.964$, $p < .001$, CFI=.798, TLI=.733, SRMR = .147, RMSEA = .176, 90%CI: [.164,.188]). Items 2 and 6 were discarded according to the modification index (657.073, 125.907). Another CFA confirmed a two-factor model ($\Delta\chi2(19) = 55.901$, $p < .001$, CFI = .977, TLI = .966, SRMR = .029, RMSEA = .059, 90%CI: [.042,.078]) ($N = 549$). The reliability for both the overall scale and the two subscales was acceptable, with Cronbach's alpha values equaling .842, .700, and .820, respectively.

Given TL sufficient proficiency of the respondents, all the items included in the questionnaire were worded in English. The questionnaire was administered via Google Docs with the help of the researchers' network of professional contacts. Participation was voluntary and students were asked to give their consent before filling out the survey. At the end of the questionnaire, a query was included which requested those interested in a follow-up interview to leave their contact details.

3.2.6. Semi-structured interview

To obtain further insights into the issues under investigation, semi-structured interviews were conducted with 30 participants randomly selected from the 78 individuals who expressed their willingness to provide such data. The students were asked the following questions: *Do*

you consider yourself to be a persistent person striving to achieve your goals in various areas of life? (general grit)*, How determined are you to learn English? How interested are you in that language?* (L2 grit) and *What are the reasons for which you are learning English?* (motivated behavior). Follow-up questions were also posed depending on the nature of the responses. The interviews were conducted through online platforms, such as Google Meet or Microsoft Teams, lasted approximately 10 minutes and were digitally recorded. A decision was made to use Polish, the participants' mother tongue, to ward off potential misunderstandings and allow ease of expression.

3.3. Data analysis

Regarding quantitative data, preliminary analyses included reverse coding, checking for missing values and outliers, and running reliability analyses using SPSS 22.0. CFAs were also conducted for each observed variable to verify their construct validity using Mplus 8.0. To answer RQ1, descriptive analyses were calculated accompanied by a normality check. For RQ2, Pearson correlation analyses were conducted. Regarding RQ3, a multiple linear regression analysis was run, with the issues of multi-collinearity and interactive effect being checked. In this regression model, L2 grit and general grit were entered as two independent variables and motivated behavior served as a dependent variable. For RQ4, the first step involved performing an analysis of participants' self-perceived English proficiency. Based on the means and SD values, three groups with differing self-perceived English proficiency were created. Group 1 represented the lowest level of self-perceived proficiency, lower than $M - SD$ (n = 73), Group 2, which was the largest, had a medium level of proficiency, within the range of [$M - SD$, $M + SD$] (n = 398), and Group 3 was characterized by the highest level of proficiency, higher than $M + SD$ (n = 79). Three multiple linear regression analyses were then run to test whether the proposed regression model could be supported among the three proficiency groups.

Participants' responses to interview questions were analyzed qualitatively to tease out potential similarities and differences among the three groups created based on self-perceived English proficiency (i.e., Group 1 – lowest proficiency level, Group 2 – medium proficiency level, and Group 3 – highest proficiency level). Interview data were first transcribed verbatim in Polish and translated into English by one of the researchers, with the translations being checked by another two authors. Subsequently, the responses were carefully read several times separately by two authors. The issues under investigation, as signaled by the use of such words and phrases as *persistent, passion, I'm trying, determined, nothing can prevent me, committed,* and *interest*, which concerned the construct explored in the present study (i.e., general grit, L2 grit and motivated behavior) were identified and annotated. All disagreements that surfaced were mutually debated and resolved.

4. Results

4.1. Profiles of general grit, L2 grit, and motivated behavior

As shown in Table 1, participants reported medium to high levels of L2 grit, general grit and motivated behavior. However, their L2 grit was clearly higher than their general

grit (M = 3.81 vs. M = 3.28). Importantly, their motivated behavior can also be considered as relatively high, exceeding the threshold of 3.5 (M = 3.57).

Table 1. *Descriptive results of general grit, L2 grit and motivated behavior (N = 549)*

	MIN.	MAX.	MEAN	*SD*	SKEWNESS	*SD*	KURTOSIS	*SD*
Grit	1.11	5.00	3.28	.68	-.201	.104	.428	.207
L2 grit	1.71	5.00	3.81	.76	-.730	.104	.135	.207
Motivated behavior	1.60	5.00	3.57	.70	-.675	.104	.845	.207

4.2. Profiles of general grit, L2 grit, and motivated behavior

Pearson correlation analysis revealed that participants' general grit was significantly, positively related to their L2 grit, with a small-to-medium effect size (r = .429, p<.001), accounting for about 18.5% of the variance (Plonsky & Oswald, 2014). In other words, participants who were grittier in general tended to exhibit more grit in relation to learning English as well. Both general grit and L2 grit were significantly, positively related to motivated behavior (r = .447, p<.001 and r = .591, p<.001). The effect sizes were small to medium and medium to large, with ca. 20% and 35% of the variance being explained, respectively.

4.3. Profiles of general grit, L2 grit, and motivated behavior

When entered into the same model, general grit and L2 grit co-predicted participants' motivated behavior significantly (see Table 2). The whole model fit the data well (R = .658, F = 140.801, p<.001), explaining about 43% of variance in motivated behavior. The predictive effect consisted of independent effect of L2 grit and of general grit as well as their interactive effect on motivated behavior. In addition, the predictive effect of L2 grit (β=.468) outweighed that of general grit (β = .259), and their interactive effect (β = -.090). The indicators of Tolerance and VIF suggested that there was little chance of multicollinearity. 95<CI results showed that the significance was reliable.

Table 2. *The joint predictive effect of general grit and L2 grit on motivated behavior (N = 549)*

VARIABLE		FIT INDEX			COEFFICENT				95% CI FOR *B*		COLLINEARITY STATISTICS	
Predictor	Outcome	*R*	*Adjusted* R^2	*F*	β	*B*	*t*	*p*	lower	upper	Tolerance	VIF
L2 grit					.468	.445	12.254	***	.373	.516	.704	1.421
Grit	Motivated behavior	.658	.433	140.801***	.259	.246	6.818	***	.175	.316	.711	1.407
L2 grit * Grit					-.090	-.070	-2.784	**	-.120	-.021	.988	1.012

Note: *** p<.001, ** p<.01. L2 Grit * Grit the interactive effect

4.4. Predictive effects of L2 grit and grit on motivated behavior as a function of self-perceived proficiency

When entered into the same model, L2 grit and general grit co-predicted participants' motivated behavior positively and significantly in the group with lowest self-perceived proficiency (see Table 3). The whole model fit the data well (R = .706, F = 23.158, p<.001), explaining ca. 50% of the variability in motivated behavior. Notably, the predictive effect consisted of only the independent effect of L2 grit and of general grit, and their interactive effect on motivated behavior was insignificant. In addition, the predictive effect of L2 grit (β = .458) outweighed that of general grit (β = .318). The indicators of Tolerance and VIF suggested that there was little chance of multicollinearity. 95% CI results showed that the significance was reliable.

Table 3. *The joint predictive effect of L2 grit and general grit on motivated behavior for Group 1 at lowest proficiency level (n_1 = 73)*

VARIABLE		FIT INDEX			COEFFICENT				95% CI FOR *B*		COLLINEARITY STATISTICS	
Predictor	Outcome	*R*	*Adjusted* R^2	*F*	β	*B*	*t*	*p*	lower	upper	Tolerance	VIF
L2 grit					.458	.426	12.254	***	.242	.611	.726	1.377
Grit	Motivated behavior	.706	.498	23.158***	.318	.320	6.818	***	.109	.531	.649	1.540
L2 grit * Grit					-.074	-.059	-2.784	ns	-.205	.086	.864	1.158

Note: *** p<.001, ** p<.01, ns means not significant

Table 4 shows the data for the group with medium self-perceived English proficiency (Group 2). When entered into the same model, L2 grit and grit co-predicted participants' motivated behavior. The whole model fit the data well (R = .522, F = 49.654, p<.001), but only 27% of the variance in motivated behavior was accounted for. The predictive effect consisted of both the independent effect of L2 grit and of general grit, and their interactive effect on motivated behavior. In addition, the predictive effect of L2 grit (β = .381) was largest, followed by their interactive effect (β = -.224) and the effect of general grit on motivated behavior (β = .148). The indicators of Tolerance and VIF suggested that there was little chance of multicollinearity. 95% CI results showed that the significance was reliable.

Table 4. *The joint predictive effects of L2 grit and general grit on motivated behavior for Group 2 at middle proficiency level (n_2 = 398)*

VARIABLE		FIT INDEX			COEFFICENT				95% CI FOR *B*		COLLINEARITY STATISTICS	
Predictor	Outcome	*R*	*Adjusted* R^2	*F*	*β*	*B*	*t*	*p*	lower	upper	Tolerance	VIF
L2 grit					.381	.222	7.468	***	.163	.280	.701	1.426
Grit	Motivated behavior	.522	.272	49.654***	.148	.084	2.875	***	.026	.141	.692	1.445
L2 grit * Grit					-.224	-.126	-5.181	***	-.174	-.078	.980	1.020

Note: *** p<.001, ** p<.01, ns means not significant

When entered into the same model, L2 grit and general grit also co-predicted motivated behavior for participants with highest self-perceived proficiency (see Table 5). The whole model fit the data well (R = .773, F = 38.150, p<.001), accounting for almost 60% of the variance in motivated behavior. The predictive effect consisted of both the independent effect of L2 grit and of general grit, and their interactive effect on motivated behavior. In addition, the effect sizes of the independent predictive effects and interactive effect on motivated behavior were similar to each other (β = .390, .349, and -.306 respectively). The indicators of Tolerance and VIF suggested that there was little chance of multicollinearity. 95% CI results showed that the significance was reliable.

Table 5. *The joint predictive effects of L2 grit and general grit on motivated behavior for Group 3 at highest proficiency level (n_3 = 398)*

VARIABLE		FIT INDEX			COEFFICENT				95% CI FOR *B*		COLLINEARITY STATISTICS	
Predictor	Outcome	*R*	*Adjusted* R^2	*F*	*β*	*B*	*t*	*p*	lower	upper	Tolerance	VIF
L2 grit					.390	.209	4.529	***	.117	.302	.703	1.423
Grit	Motivated behavior	.773	.598	38.150***	.349	.185	4.171	***	.097	.273	.747	1.338
L2 grit * Grit					-.306	-.087	-4.072	***	-.130	-.045	.924	1.082

4.5. Interview data

The analysis of the data related to general grit revealed that the three groups representing low, medium and high self-perceived proficiency (Groups 1, 2 and 3) included a mixture of students who described themselves as either very persistent or lacking in this respect. Those generally gritty participants showed more perseverance and resistance to setbacks, and they tended to finish what they had started. Conversely, the students who claimed to be less persistent were more susceptible to the obstacles they encountered, which diminished their

overall endurance. Such issues are illustrated in the following comments:

> *I consider myself a persistent person who pursues previously set goals. Sometimes there are more difficult moments, but they don't stop me from achieving my goals.* (Group 3)

> *Often, in life, if I set a goal for myself and encounter difficulties, I find it discouraging.* (Group 2)

As far as L2 grit is concerned, all the students displayed determination to learn English and considerable interest in the TL. However, judging by the way in which they described this issue, the three groups differed in certain respects. Students comprising Group 3 repeatedly used the adverb "very" when talking about their L2 grit and some of them indicated that nothing could stop and/or prevent them from investing time and energy in efforts to master English also because they were very interested in different facets of this language, thus demonstrating their dogged perseverance. The members of the other two groups simply talked about being determined and only individual students stressed their persistence in learning the TL or interest in its specific areas. Nevertheless, some of the students in these groups also mentioned interest in learning English and the need for self-improvement (Group 2) as well as their passion for learning (Group 1). In addition, students in all three groups felt the need to improve their TL skills and some individuals did so in a consistent manner. Almost all members of Group 3 were aware of their weak points, and they reported investing a lot of effort in improving in these areas. Students in Group 1 and Group 2 were also able to point out their weaknesses in English, but few of them engaged in specific, consistent actions to catch up in these domains. To illustrate:

> *Very much. There is nothing that can make me stop learning it. Even the most difficult issues. The language is so fascinating* (Group 3)

> *I am very determined to succeed in learning it.* (Group 3)

> *Foreign languages are my passion.* (Group 1)

> *It's hard to say. I guess I care about practicing my skills and learning the new ones...* (Group 2)

> *Not as much as I used to. Frankly, I have reached the point where I think that if I communicate in English without any problems in everyday conversations (at work), there is no use expanding this knowledge.* (Group 2)

> *Grammar – not particularly at present.* (Group 1)

The analysis of participants' responses related to motivated behavior revealed, perhaps unsurprisingly, that it was students constituting Group 3 that were the most committed to learning the TL and the most likely to conscientiously engage in actions potentially leading to its mastery. By contrast, students in Group 2, turned out to be the least likely to invest time and effort in learning English. Interestingly, while this was not the main focus of the interview, it is noteworthy that, irrespective of proficiency level, participants' dedication to the study of English was driven by a combination of intrinsic and extrinsic motives, or such that derive from the appeal and pleasure of L2 learning and those that stem from

some outside contingency rather than this activity itself (Noels et al., 2020). Such issues are exemplified in the following excerpts:

> *I believe that I am a person involved in learning English, because I always try to be prepared for classes, take part in various events and often try to develop my skills on my own, e.g., by buying or borrowing books in English. Additionally, I often watch movies and series in English, thus trying to get familiar with the language and expand my knowledge of vocabulary.* (Group 3)

> *For the time being, I think that not too much for lack of will and time.* (Group 2)

> *For myself and for professional purposes.* (Group 1)

5. Discussion

The study addressed four research questions tapping into general grit, L2 grit, and motivated behavior among English majors as well as exploring the relationships among these constructs, also taking into account the moderating role of self-perceived proficiency. RQ1 concerned the levels of the variables under investigation. Quantitative analysis showed that, overall, students reported medium levels of general grit (M = 3.28), high levels of L2 grit (M = 3.81) and relatively high levels of motivated behavior (M = 3.57). Qualitative analysis of interview responses corroborated these findings but also yielded some additional, interesting insights. First, it turned out that general grit did not differ much as a function of self-perceived TL proficiency, with all three groups comprising more and less gritty individuals, whether with respect to PE or CI. Second, the situation was more complex for L2 grit since, while all participants mentioned passion, determination and interest, it was students who perceived their TL mastery the most favorably that modified the adjectives they employed with the word "very" and were able to point to concrete ways of dealing with areas that could be in need of improvement. Third, yet again, it was students with the highest self-perceived L2 proficiency that tended to invest the most effort in learning English, and it was medium-level interviewees whose motivational intensity was the lowest. Interestingly, for all participants, the intended effort was underpinned by a combination of intrinsic and extrinsic motives. In general, the high levels of L2 grit and motivated behavior should not come as a surprise because participants were English majors who had made a conscious decision to study English and simply manifested considerable determination and took actions to improve different aspects of the TL to meet the requirements of the program.

These findings are in line with those reported by Pawlak et al. (2021) for Polish students in a similar program, although they also showed a decreasing trend over three years, an issue that was not explored in this study, as well as Pawlak, Csizér, et al. (2022). In terms of levels of general grit and L2 grit, they are also similar to Teimouri et al.'s (2022) findings. It is also to some extent predictable that general grit does not have to go hand in hand with more specific L2 grit. This is because while the former may be somewhat distinct from conscientiousness (Duckworth & Gross, 2014; Teimouri et al, 2022), it still represents systematicity, assiduousness, propensity to abide by rules, responsibility, desire to achieve goals and readiness to delay gratification (Mike et al, 2015; Piechurska-Kuciel, 2020), thus constituting one facet of this personality trait. Finally, while it is unsurprising that students representing higher proficiency should be the most gritty and motivated,

a comment is in order why participants with low self-perceived English proficiency should exhibit more motivated behavior than those with a medium level. A possible explanation could be that moderate levels of confidence in TL ability or rather self-efficacy (Bandura, 1986), might generate feelings of security or perhaps even complacency, which might have a detrimental impact on intended effort. By contrast, students who view their proficiency as low might feel compelled to invest time and effort in making progress in order to be able to pass final exams and survive in the program.

RQ2 concerned relationships of the three constructs, that is, general grit, L2 grit and motivated behavior. General grit proved to be positively correlated with L2 grit, with the effect size being small-to-medium and 18.5% of the variance being accounted for. In relation to the link to motivated behavior, correlations were also positive for general grit and L2 grit, but the effect size was larger for latter and the percentage of variability explained was higher (35% vs. 20%). While these issues were not directly addressed in the interviews, the analysis of qualitative data lends some support to these findings. More specifically, while grit did not seem to be a distinguishing factor among participants regardless of their proficiency level, L2 grit did and, moreover, it appeared to play a role in triggering motivated behavior, at least for students most confident of their mastery of English (Group 3). When it comes to the relationship between general grit and L2 grit, it is not easy to explain it against the backdrop of existing empirical evidence since previous studies did not really look into this issue, often relying on measures of general grit (e.g., Lake, 2013) or ignoring the interplay of these two factors (e.g., Sudina & Plonsky, 2021). As was signaled above, however, it would seem that while the two constructs predictably overlap, they are also largely distinct. This is because while general grit represents one of the facets of conscientiousness, as envisaged in the Big Five model (McCrea & Costa, 2003), thus constituting an overall approach to all walks of life, L2 grit is domain-specific and does not in all cases reflect overall propensities. In other words, participants may vary in how gritty they are in general but, being cognizant of the demands of the program, might make a conscious effort to exhibit more determination and perseverance in the study of English and their interest in different aspects of this endeavor might be more consistent.

With respect to the relationship between grit and motivation, our findings to a large extent concur with those of previous studies (e.g., Changlek & Palanukulwong, 2015; Feng & Papi, 2020; Lake, 2013; Teimouri et al., 2022), which offer evidence for the positive link between these constructs or at least some of their facets. Similar to this investigation, the study by Teimouri et al. (2022) looked into this relationship independently for general grit and L2 grit, and it also showed that the latter correlated more strongly with motivated behavior. This could be one more reason to view the two constructs as largely distinct and thus their importance for actual actions involved in mastering the TL is bound to differ as well. In fact, this tendency could be particularly pronounced among English majors, who, while generally having more or less grit, might be to some extent united by the common goal of mastering this language, either because they derive satisfaction from their exertions or have no choice but to persevere.

The last two research questions focused on joint predictive effects of general grit and L2 grit on motivated behavior, both in general (RQ3) and separately for participants with low, medium and high self-reported English proficiency (RQ4). Multiple linear regression analysis drawing on data for all students demonstrated that general grit and L2 grit were significant co-predictors of motivated behavior, together explaining 43% of the variance. However, L2 grit proved to be almost twice as important as general grit. This said, the effects of general grit and L2 grit proved to

be moderated by self-perceived proficiency. Specifically, the joint effects of these two constructs accounted for about 50% and 60% of the variability in motivated behavior in the low and high proficiency groups, respectively, but for just 27% in the medium-level group (Group 2). It is also important to note that, while L2 grit was the most important predictor of intended effort in all the groups, its role was the most evident for Group 1 and Group 2 but its predictive role was comparable to that of general grit as well as the interactive effects of general grit and L2 grit. Also noteworthy is the fact that general grit played a marginal role for motivated behavior of students with medium English proficiency. Some of these results are congruent with qualitative data since, as elucidated earlier, participants with greatest confidence in their TL ability were simultaneously gritty and motivated, whereas those characterized by moderate self-efficacy were less gritty and less likely to invest much effort in learning English. Taken together, these results are in line with empirical evidence generated by previous research, which also showed that general grit was linked to motivation (Lake, 2013), that such a link was likely to be stronger for more advanced learners (Changlek & Palanukulwong, 2015), and that L2 grit was a much better predictor of motivated behavior (Teimouri et al., 2022).

When we interpret the findings in the context in which the study was conducted, several observations are in order. First, it appears that grit, whether domain-general or domain-specific, can be seen as an important predictor of motivated behavior for English majors, with this effect being most evident for high- and low-level students. Second, grit may be of least relevance for students with medium self-perceived proficiency, which, once again, can be attributed to their conviction of being in a comfort zone, where there is no need invest excessive effort in learning the TL. In this case, general grit as a permanent personality trait might in fact be of least consequence, indicating that the main force that drives these students' efforts is determination, interest and perseverance directly tied to learning the L2. Third, when it comes to students with highest self-perceived proficiency, a combination of grit as a facet of personality, mainly conscientiousness, L2 grit and some amalgam of the two fuels efforts to master English.

The present study is not without limitations, which primarily have to do with how the criterion measures were operationalized. For one thing, the dependent variable was motivated behavior, which is often used in motivational research to establish links between different facets of motivation and L2 achievement. However, as shown by Moskovsky et al. (2016), such self-reported motivation does not have to translate into actual performance. In our defense, interview data showed that motivated behavior was reported by participants with the highest proficiency, although, obviously, these results have to be taken with circumspection. This brings us to another weakness which is the fact that self-reported proficiency rather than actual achievement was adopted as a basis for grouping students, which could be the reason for concern in terms of the validity of such assessment. This said, actual grades or institutional exam scores are not always a fully accurate reflection of students' level and the composite nature of the self-assessment measure, which reflected all TL skills and subsystems, surely enhances its validity.

6. Conclusions

The present study is an important contribution to the growing empirical evidence concerning the role of grit in L2 learning. Using quantitative and qualitative data, it yielded valuable insights into relationships among general grit, L2 grit and motivated behavior, also shedding light on how

such relationships may be a function of TL proficiency. Most importantly, the analyses indicated that general grit and L2 grit may be largely distinct constructs and that a combination of general grit and L2 grit may be the most relevant for motivated behavior but only in the case of low- and high-level students. With respect to L2 grit, it is likely to play a crucial role for low- and medium-level learners, while those more proficient may derive their intended effort from a combination of a relatively fixed personality trait as well as their perseverance in studying the TL. A key pedagogical implication is that, particularly for low- and medium-level students, teachers can take concrete steps to enhance L2 grit, which, representing less of an immutable factor, may be more malleable and thus amenable to such pedagogic intervention. This appears to be especially desirable in university programs for English majors where requirements are high and less successful students are often in desperate need of a boost to their perseverance and consistency of interest, which can generate motivated behavior and potentially result in better L2 achievement. For such recommendations to be more specific and context-sensitive, more research into L2 grit needs to be conducted. It could focus, for example, on how this attribute relates to other ID variables (e.g., other facets of motivation, emotions, strategy use), use valid and reliable measures of achievement (e.g., specifically designed measures of TL skills and subsystems), include learners of different foreign languages at lower educational levels, and appraise the effects of pedagogic interventions attempting to enhance L2 grit. Such evidence would allow us to better understand how grit can shape the process and product of L2 learning and offer feasible practical solutions for diverse instructional settings.

7. References

Alamer, A. (2021). Grit and language learning: Construct validation of L2-grit scale and its relation to later vocabulary knowledge. *Educational Psychology*, *41*(5), 544-562.

Al-Hoorie, A. (2018). The L2 motivational self system: A meta-analysis. *Studies in Second Language Learning and Teaching*, *8*, 721-754.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice Hall. Changlek, A., & Palanukulwong, T. (2015). Motivation and grit: Predictors of language learning Achievement. *Veridian E-Journal*, *8*(4), 23-38.

Cohen, R. M. (2015). Will students soon be tested for "grit"? *The American Prospect*. Retrieved from http://prospect.org/blog/tapped/will-students-soon-be-tested-grit.

Credé M., Tynan M. C., & Harms P. D. (2017). Much ado about grit: A meta-analytic synthesis of the grit literature. *Journal of Personality and Social Psychology*, *113*(3), 492-511.

Csizér, K. (2017). Motivation in the L2 classroom. In S. Loewen & M. Sato (Eds.), *The Routledge handbook of instructed second language acquisition* (pp. 418-432). Routledge.

Derakhshan, A., Dewaele, J.-M., & Noughabi, M. A. (2022). Modeling the contribution of resilience, well-being, and L2 grit to foreign language teaching enjoyment among Iranian English language teachers. *System*, *109*, 102890.

Derakhshan, A., & Fathi, J. (2023). Grit and foreign language enjoyment as predictors of EFL learners' online engagement: The mediating role of online learning selfefficacy. *The Asia-Pacific Education Researcher*. https://doi.org/10.1007/s40299-023-00745-x

Derakhshan, A., Solhi, M., & Azari Noughabi, M. (2023). An investigation into the association between student-perceived affective teacher variables and students' L2-grit. *Journal of Multilingual and Multicultural Development.* https://doi.org/10.1080/01434632.2023.2212644

Dewaele, J.-M. (2021). Personality. In T. Gregersen & S. Mercer (Eds.), *The Routledge handbook of the psychology of second language learning and teaching* (pp. 112-123). Routledge.

Dörnyei, Z. (2007). *Research methods in applied linguistics*. Oxford University Press.

Dörnyei, Z. (2009). The L2 motivational self system. In Z. Dörnyei, & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 9-42). Multilingual Matters.

Dörnyei, Z., Csizér, K., & Németh, N. (2006). *Motivation, language attitudes, and globalization: A Hungarian perspective*. Multilingual Matters.

Dörnyei, Z., & Ryan, S. (2015). *The psychology of the language learner revisited*. Routledge.

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, *92*(6), 1087-1101.

Duckworth, A. L., & Quinn, P. D., (2009). Development and validation of the Short Grit Scale (Grit-S). *Journal of Personality Assessment*, *91*(2), 166-174.

Duckworth, A., & Gross, J. J. (2014). Self-control and grit: Related but separable determinants of success. *Current Directions in Psychological Science*, *23*(5), 319-325.

Elahi Shirvan, M., Taherian, T., & Yazdanmehr, E. (2022). L2 grit: A longitudinal confirmatory factor analysis-curve of factors model. *Studies in Second Language Acquisition*, *44*(5), 1449-1476.

Ellis, R. (2004). *The study of second language acquisition.* Oxford University Press.

Ericsson K. A., & Charness N. (1994). Expert performance: Its structure and acquisition. *American Psychologist*, *49*, 725-747.

Feng, L., & Papi, M. (2020). Persistence in language learning: The role of grit and future self-guides. *Learning and Individual Differences*, *81*, 101904.

Gardner, R. C. & Lambert, W. E. (1972). Motivational variables in second language acquisition. In R.C. Gardner & W. Lambert (Eds.), *Attitudes and motivation in second language learning*. Newbury House.

Griffiths, C., & Soruç, A. (2020). *Individual differences in language learning: A complex systems theory perspective.* Palgrave Macmillan.

Keegan, K. (2017). Identifying and building grit in language learners. *English Teaching Forum*, *55*(3), 2-9.

Khajavy, G. H., MacIntyre, P. M., & Hariri, J. (2021). A closer look at grit and language mindset as predictors of foreign language achievement. *Studies in Second Language Acquisition*, *43*(2), 379-402.

Kormos, J., & Csizer, K. (2014). The interaction of motivation, self-regulatory strategies, and autonomous learning behavior in different learner groups. *TESOL Quarterly*, *48*, 275-299.

Lake, J. (2013). Positive L2 self: Linking positive psychology with L2 motivation. In M. T. Apple, D. Da Silva, & T. Fellner (Eds..), *Language learning motivation in Japan* (pp. 225-244). Multilingual Matters.

Lam, K. K. L., & Zhou, M. (2022). Grit and academic achievement: A comparative cross-cultural meta-analysis. *Journal of Educational Psychology*, *114*, 597-621.

Li, C., Dewaele, J.-M., & Hu, Y. (2023). Foreign language learning boredom: Conceptualization and measurement. *Applied Linguistics Review*, *14*(2), 223-249.

Lou, N. M., & Noels, K. A. (2017). Measuring language mindsets and modeling their relations with goal orientations and emotional and behavioral responses in failure situations. *Modern Language Journal*, *101*(1), 214-243.

McCrae, R. R., & Costa, P. T. (2003). *Personality in adulthood: A five-factor theory perspective*. Guilford Press.

Melendy, G. A. (2008). Motivating writers: The power of choice. *Asian EFL Journal*, *10*(3), 187-198.

Mike, A., Harris, K., Roberts, B. W., & Jackson, J. J. (2015). Conscientiousness. In J. D. Wright (Ed.), *International encyclopedia of the social & behavioral sciences* (2nd ed., pp. 658-665). Oxford University Press.

Moskovsky, C., Assulaimani, T., Racheva, S., & Harkins, J. (2016). The L2 motivational self system and L2 achievement: A study of Saudi EFL learners. *Modern Language Journal*, *100*, 641-654.

Muir, C. (2021). Motivation. In T. Gregersen & S. Mercer (Eds.), *The Routledge handbook of the psychology of second language learning and teaching* (pp. 124-136). Routledge.

Noels, K. A., Lou, N. M., Vargas Lascano, D. I., Chaffee, K. E., Dincer, A., Zhang, Y. S. D., & Zhang, X. (2020). Self-determination and motivated behavior in language learning. In M. Lamb, K. Csizér, A. Henry, & S. Ryan (Eds.). *The Palgrave handbook of motivation for language learning* (pp. 95-115). Palgrave Macmillan.

Ortega, L. (2009). *Understanding second language acquisition.* Routledge.

Oxford, R. L. (1996). *Language learning motivation: Pathways to the new century*. University of Hawaii.

Oxford, R. L. (2017). *Teaching and researching language learning strategies: Self-regulation in context*. Routledge.

Papi, M., & Hiver, P. (2020). Language Learning motivation as a complex dynamic system: A global perspective of truth, control, and value. *Modern Language Journal*, *104*, 209-232.

Pawlak, M. (2017). Overview of learner individual differences and their mediating effects on the process and outcome of interaction. In L. Gurzynski-Weiss (Ed.), *Expanding individual difference research in the interaction approach: Investigating learners, instructors, and other interlocutors* (pp. 19-40). John Benjamins.

Pawlak, M. (2020). Individual differences and good language teachers. In C. Griffiths & T. Tajeddin (Eds.), *Grammar and good language teachers* (pp. 121-132). Cambridge University Press.

Pawlak, M., Csizér, K., Kruk, M., & Zawodniak, J. (2022). Investigating grit in second language learning: The role of individual difference factors and background variables. *Language Teaching Research*. https://doi.org/10.1177/13621688221105775

Pawlak, M., & Kruk, M. (2022). *Individual differences in computer assisted language learning research*. Routledge.

Pawlak, M., Zarrinabadi, N., & Kruk, M. (2022). Positive and negative emotions, L2 grit and perceived competence as predictors of L2 motivated behaviour. *Journal of Multilingual and Multicultural Development*. https://doi.org/10.1080/01434632.2022.2091579

Pawlak, M., Zawodniak, J., & Kruk, M. (2021). Znaczenie determinacji w nauce języka angielskiego jako obcego na poziomie zaawansowanym [The role of grit in learning English as a foreign language at an advanced level]. *Neofilolog*, *56*(1), 9-22.

Pervin, L. A., & John, O. P. (2001). *Personality: Theory and research*. John Wiley & Sons.

Piechurska-Kuciel, E. (2020). *The big five in SLA*. Springer.

Plonsky, L., & Oswald, F. L. (2014). How Big Is "Big"? Interpreting effect sizes in L2 research. *Language Learning*, *64*(4), 878-912.

Roberts, Y. (2009). *Grit: The skills for success and how they are grown*. The Young Foundation.

Robertson-Kraft, C., & Duckworth, A. L. (2014). True grit: Trait-level perseverance and passion for long-term goals predicts effectiveness and retention among novice teachers. *Teachers College Record*, *116*(3), 1-27.

Solhi, M., Derakhshan, A., & Ünsal, B. (2023). Associations between EFL students' L2 grit, boredom coping strategies, and emotion regulation strategies: a structural equation modeling approach. *Journal of Multilingual and Multicultural Development*. https://doi.org/10.1080/01434632.2023.2175834

Sudina, E., & Plonsky, L. (2021). Language learning grit, achievement, and anxiety among L2 and L3 learners in Russia. *ITL – International Journal of Applied Linguistics*, *172*(2), 161-198.

Taguchi, T., Magid, M., & Papi, M. (2009). The L2 motivational self system among Japanese, Chinese and Iranian learners of English: A comparative study. In Z. Dörnyei & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 66-97). Multilingual Matters.

Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, *72*(2), 271-322.

Teimouri, Y., Plonsky, L., & Tabandeh, F. (2022). L2 grit: Passion and perseverance for second-language learning. *Language Teaching Research*, *26*(5), 893-918.

Tyumeneva, Y., Kardanova, E., & Kuzmina, J. (2019). Grit: Two related but independent constructs instead of one: Evidence from item response theory. *European Journal of Psychological Assessment*, *35*(4), 469-478.

Usher, E. L., Li, C. R., Butz, A. R., & Rojas, J. P. (2019). Perseverant grit and self-efficacy: Are both essential for children's academic success? *Journal of Educational Psychology*, *111*(5), 877-902.

Zawodniak, J., Pawlak, M., & Kruk, M. (2021). The role of grit among Polish EFL majors: A comparative study of 1st-, 2nd-, and 3rd-year university students. *Journal for the Psychology of Language Learning*, *3*(2), 118-132.