



Universidade do Minho
Escola de Psicologia

Ana Rita Silva Nunes

**Do *grit* à autorregulação da aprendizagem:
Promoção de sucesso académico**



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Promoção de sucesso académico**

Tese de Doutoramento
Doutoramento em Psicologia Aplicada

Trabalho efetuado sob a orientação do
Professor Doutor Pedro Sales Luís da Fonseca Rosário

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Do grit à autorregulação da aprendizagem: Promoção de sucesso acadêmico

RESUMO

Paixão e perseverança envolvidos na perseguição de um objetivo de longo-prazo definem o conceito *grit*. Vários estudos têm analisado o papel do *grit* no desempenho dos alunos, atletas, empreendedores e profissionais. Os estudos revelam que as pessoas que tendem a perseverar nos seus objetivos ao longo do tempo, apesar das dificuldades e fracassos, alcançam bons resultados. Contudo, poucos estudos têm explorado os fatores relacionados com a manutenção do interesse e da perseverança durante a perseguição de um objetivo desafiante ou de longo-prazo. Com o objetivo de colmatar essa lacuna na literatura, a presente tese de doutoramento centrou-se em explorar os fatores e condições que contribuem para explicar o *grit*. Foram selecionados dois contextos que apresentam condições favoráveis para investigar o *grit*: o envolvimento num Programa doutoral e o envolvimento no Caminho de Santiago. O Capítulo 1 apresenta um estudo qualitativo (n=30) sobre os fatores relacionados com o progresso dos alunos de doutoramento nos seus estudos, apesar das adversidades. Uma análise temática permitiu identificar quatro temas: clarificação de um propósito para perseverar e completar este ciclo de estudos, consistência nos interesses ao longo do doutoramento, perseverança no esforço para superar as adversidades, e monitorização do progresso. Serão apresentadas implicações para a prática educativa, em particular para os programas de mentoria aplicados no contexto universitário. O capítulo 2 apresenta um estudo qualitativo (n=31) sobre os fatores relacionados com manutenção da paixão e da perseverança dos participantes que perseguem o Caminho de Santiago. Uma análise temática identificou quatro temas: ferramentas para o progresso, ferramentas para desfrutar da experiência, ferramentas para refletir e ferramentas para tornar a vida digna de ser vivida. Com base nesses indicadores, o capítulo 3 apresenta um estudo quantitativo (n= 575) em que foram testados dois preditores do *grit* numa amostra de peregrinos que estava a percorrer o Caminho de Santiago. Um modelo de *path analysis* mostrou que peregrinos autónomos exibiam mais *grit* do que peregrinos menos autónomos. Além disso, os peregrinos que relataram uma atitude positiva face à aprendizagem ao longo da vida exibiram mais *grit* do que os seus pares com atitudes de aprendizagem ao longo da vida menos favoráveis. Estes resultados vão ao encontro do apelo de vários investigadores e também de políticas internacionais que sugerem que os desafios e adversidades são inevitáveis ao longo da vida; contudo, quanto mais autónomas e disponíveis as pessoas estiverem para continuar a aprender ao longo da vida, mais preparadas estarão para se adaptar às mudanças do ambiente e prosseguirem os seus objetivos.

Palavras-chave: grit, esforço, foco, autorregulação, aprendizagem

From grit to self-regulation of learning: Promoting academic success

ABSTRACT

Passion and perseverance towards long-term goals defines the concept of *grit*. Several studies have examined the role of grit in the performance of students, athletes, entrepreneurs, and workers. Studies found that those who tend to persevere in their goals over time, despite difficulties and failures, are likely to achieve successful outcomes. However, few studies have explored factors likely to sustain grit. Aiming to fill this gap in the literature, this doctoral thesis focused on exploring factors and conditions contributing to nurture passion and perseverance towards long-term goals. We have chosen two settings presenting favorable conditions for investigating grit: the pursuit of a doctoral degree and the pursuit of the Way of St. James to achieve the Cathedral of Santiago de Compostela (Spain). Chapter 1 presents a qualitative study about what helps students progress towards PhD completion, despite setbacks and failures. Semi-structured interviews were conducted with 30 PhD students from four scientific fields (humanities, social sciences, life sciences and engineering). Thematic analysis identified four themes: the purposeful pursuit of PhD degree, consistency of interests, perseverance of effort, and progress monitoring. Future research and practical implications for the higher education community, specifically for mentoring programs and PhD programs, were discussed. Chapter 2 presents a qualitative study (n = 31) about the factors that help to sustain passion and perseverance of participants in the Way of St. James to achieve a destination (Santiago de Compostela, Spain). Thematic analysis indicated four key themes to address this research aim: tools for progress, tools to enjoy the journey, tools to look inside oneself, and tools to make one's life worth living. Based on these indicators, chapter 3 presents a quantitative study (n = 575) in which two predictors of grit were tested while participants were completing the Way of St. James. Using path analysis modeling, we found that autonomous pilgrims (i.e., those who tend to report consistency between interests, attitudes and behaviors, and low susceptibility to control) show more perseverance and passion towards their long-term goals than less autonomous pilgrims. Moreover, pilgrims who reported positive lifelong learning attitudes showed more grit behaviors than their counterparts with lower lifelong learning attitudes. These findings are consistent with the alert of many researchers and with policies suggesting that challenges and adversities are unavoidable; however, the more autonomous and open people are to continue learning over lifespan, the more prepared they will be to cope with the changes in the environment and to pursue their meaningful goals.

Keywords: grit, effort, focus, self-regulation, learning

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INTRODUÇÃO

Em 2007, Duckworth e colaboradores introduziram empiricamente o conceito *grit*, descrevendo-o como “*perseverance and passion for long-term goals*” (p.1087). Segundo estes pioneiros, a *consistência no interesse* e a *perseverança no esforço* são as duas dimensões que dão forma ao compromisso com um objetivo desafiante ou de longo-prazo, e podem ser tão relevantes para fomentar jornadas bem-sucedidas como outros fatores anteriormente explorados na literatura (e.g., quociente de inteligência, Duckworth et al., 2007, Duckworth & Quinn, 2009). A consistência está relacionada com a permanência no mesmo objetivo ou área de interesse ao longo do tempo e a perseverança refere-se à persistência na resolução de dificuldades e contratemplos que interferem com a perseguição desse objetivo. À luz da literatura sobre este tópico, quem desenvolve um forte interesse ou paixão por uma atividade e está determinado em alcançar os seus objetivos nesse domínio, apesar das adversidades, é um *gritty* (Duckworth et al., 2007).

Em pouco tempo, este construto despertou a curiosidade do público e da comunidade científica e foram realizados vários estudos para explorar a relação entre o *grit* e o desempenho. A investigação mostra uma relação positiva entre o *grit* e o rendimento académico de alunos no ensino básico, secundário e superior (Alhadabi & Karpinski, 2019; Jiang et al., 2019; Steinmayr et al., 2018; Strayhorn, 2014). Também foram encontrados efeitos positivos relacionados com o sucesso na carreira profissional (Danner et al., 2019), a prática autorregulatória no desporto (Tedesqui & Young, 2017), a adesão e conclusão de programas de treino militar rigoroso (Duckworth & Quinn, 2009), o desempenho de adolescentes em concursos públicos de alta competição (Duckworth et al., 2011), o desenvolvimento de relações conjugais duradouras (Eskreis-Winkler et al., 2014) e o bem-estar subjetivo (Jin & Kim, 2017).

Contudo, foram surgindo controvérsias sobre o poder explicativo de cada uma das dimensões do *grit* nos resultados empíricos apresentados (Credé et al., 2017). Por exemplo, em vários estudos a associação entre a perseverança no esforço e o rendimento escolar revelou-se mais robusta do que a associação entre a consistência no interesse e o rendimento escolar (e.g., Muenks et al., 2018; Steinmayr et al., 2018). Estes resultados levaram alguns investigadores a sugerir que um desempenho bem-sucedido em determinadas tarefas ou domínios depende mais de esforços persistentes para alcançar um objetivo do que de um forte interesse ou paixão por essa tarefa ou domínio (Credé et al., 2017; Muenks et al., 2018). Vários investigadores exploraram esta controvérsia em torno do conceito *grit* e foram desenvolvidas duas teses explicativas.

Primeiro, a consistência no interesse ou a paixão por uma atividade tendem a manifestar um impacto significativo no desempenho quando as pessoas têm uma visão clara dos seus interesses, objetivos e aspirações futuras (Fite et al., 2017; Hill et al., 2016; Tang et al., 2019), e essa clarificação

e consistência de interesses geralmente ocorre ao longo da vida (Duckworth et al., 2007). Deste modo, é compreensível e desejável que indivíduos em fase de exploração de interesses (e.g., alunos do ensino básico, secundário, e primeiros anos do ensino superior) não se encontrem fortemente comprometidos com um objetivo de longo-prazo centrado num domínio muito específico (e.g., Tang et al., 2019). Esta formulação é consistente com resultados de estudos que mostraram que alunos a frequentar pós-graduações no ensino superior relataram uma maior determinação em atingir os seus objetivos de longo-prazo do que alunos a frequentar os primeiros anos do ensino superior (Kannangara et al., 2018).

Segundo, no seguimento de uma análise detalhada da escala de autorrelato que avalia o grit (Duckworth & Quinn, 2009), os investigadores revelaram que a composição dos itens da escala não está em completa congruência com a definição de grit, e acrescentaram que estes itens medem apenas a dimensão da perseverança no esforço (Jachimowicz et al., 2018; Jordan, 2019). Os estudos sugerem que os itens correspondentes à dimensão da consistência no interesse, que em rigor deveriam medir a paixão por um determinado domínio, não parecem capturar o conceito de paixão descrito pela literatura, o que pode contribuir para explicar as relações menos robustas encontradas entre a consistência no interesse e os *outcomes* em estudo (Jachimowicz et al., 2018). Esta formulação é sustentada por dados que combinaram a escala que avalia o grit com uma escala que avalia a paixão pela profissão e que mostraram uma relação positiva entre a perseverança, a paixão e o desempenho profissional (Jachimowicz et al., 2018). Em suma, uma atitude perseverante e consistente ao longo do tempo parece ser determinante em contextos ou atividades desafiantes em que as pessoas estejam envolvidas por iniciativa própria e movidas pelos seus próprios interesses e propósitos (Hill et al., 2016).

Lacunias existentes na literatura e objetivo geral da tese

A literatura sugere que a disposição para perseverar num objetivo de longo-prazo é influenciada por fatores genéticos (Rimfeld et al., 2016). Contudo, a investigação refere que essa disposição não é fixa ou inalterável; pelo contrário, pode ser cultivada por meio de fatores pessoais ou ambientais (Park et al., 2020). Não obstante estes dados encorajadores, a literatura sobre o grit carece de estudos que explorem os fatores ou condições que nutrem a competência de perseverar para atingir um objetivo de longo-prazo. De facto, muitos estudos analisaram a relação entre o grit e vários indicadores de envolvimento escolar, rendimento escolar e profissional, e satisfação com a vida (Alhadabi & Karpinski, 2019; Danner et al., 2019; Jin & Kim, 2017; Wolters & Hussain, 2015), mas poucos estudos se centraram em como se pode cultivar as duas dimensões do grit. Com vista a contribuir para a expansão

desta linha de investigação, a presente tese de doutoramento centrou-se na exploração dos fatores e condições que explicam a perseverança em objetivos importantes e desafiantes.

Condições favoráveis para investigar o grit

Como foi mencionado anteriormente, assumir uma atitude perseverante revela-se mais determinante em contextos ou atividades que provoquem desafio ou em que o progresso na atividade não seja imediato, do que em contextos ou atividades que apresentem um grau de dificuldade baixo (Duckworth et al., 2007; Jachimowicz et al., 2018). Por isso, a seleção de atividades como cenário para explorar os fatores que alicerçam o grit deve ser criteriosa. As atividades devem reunir um conjunto de condições muito específicas, por exemplo: (i) devem ser atividades intimamente relacionadas com os interesses e valores do indivíduo, (ii) a participação nessa atividade deve ter como horizonte a intenção de atingir um objetivo muito concreto, (iii) a atividade deve elicitar esforço e superação de dificuldades e obstáculos e, por fim, (iv) os indivíduos devem estar envolvidos na atividade durante um longo período para que se possa explorar o que os mantém focados nesse empreendimento, apesar das dificuldades (e.g., Alan et al., 2017). A realização de um Doutoramento e o completamento do Caminho de Santiago são duas atividades que, pelas suas características e ambiente envolvente, estão alinhadas com as condições favoráveis para investigar o que ajuda a dar forma ao compromisso com um objetivo desafiante ou de longo prazo.

A literatura sugere que o Doutoramento é um ciclo de estudos complexo e desafiante para muitos alunos (Castelló et al., 2017). Esta formulação é consistente com a taxa de abandono dos alunos deste ciclo de estudos que pode variar entre 30% a 50% em algumas áreas científicas como Ciências Sociais e Humanidades (Ampaw & Jaeger, 2012). Investigar os fatores que nutrem o interesse e a perseverança dos alunos de doutoramento para completar os seus estudos pode contribuir para fortalecer o seu percurso formativo e, conseqüentemente, impulsionar o desenvolvimento das suas carreiras. Por outro lado, o Caminho de Santiago é uma peregrinação muito conhecida e consiste em percorrer a pé ou de bicicleta um longo percurso com destino à Catedral de Santiago de Compostela (Espanha; Portal do Peregrino, 2021). A literatura sugere que o Caminho de Santiago é uma experiência intensa e pautada por diversos desafios de origem física, emocional e social (Oviedo et al., 2014; Nilsson, 2018). Investigar os fatores e condições que nutrem o interesse e a perseverança dos participantes do Caminho de Santiago pode contribuir para aumentar o conhecimento empírico sobre como potenciar a participação nesta atividade que, entre outros aspetos, é conhecida como um estímulo ao autoconhecimento e

desenvolvimento pessoal (Amaro et al., 2018; Nilsson, 2018); dimensões estas importantes para promover trajetórias autônomas e bem-sucedidas (Deci & Ryan, 2000).

Estrutura da tese

A presente tese de doutoramento tem como objetivo explorar os fatores e condições que explicam a competência para persistir num objetivo desafiante ao longo do tempo, quer seja num contexto formal de aprendizagem (Universidade) ou num contexto informal de aprendizagem (Caminho de Santiago). A Teoria da Autodeterminação e a literatura sobre Aprendizagem ao Longo da Vida foram dois quadros teóricos que orientaram o desenvolvimento da presente investigação, pela sua estreita ligação ao grit (e.g., Weisskirch, 2018; Zhao et al., 2018).

Os estudos que compõem esta tese estão organizados em três capítulos.

1. O objetivo do primeiro estudo é o de explorar os fatores individuais e ambientais que contribuem para sustentar a perseverança dos alunos de doutoramento ao longo do seu percurso neste ciclo de estudos. Participaram neste estudo 30 alunos inscritos no Doutoramento de quatro áreas científicas distintas. Foram realizadas entrevistas semiestruturadas aos participantes e os dados foram analisados através de uma análise temática, seguindo um paradigma pós-positivista (capítulo 1).
2. O objetivo do segundo estudo é o de explorar os fatores individuais e ambientais que contribuem para sustentar a perseverança dos participantes ao longo do Caminho de Santiago. Participaram neste estudo 31 peregrinos que, no momento da recolha de dados, estavam a percorrer o Caminho de Santiago. Foram realizadas entrevistas semiestruturadas aos participantes e os dados foram analisados através de uma análise temática, seguindo um paradigma pós-positivista (capítulo 2).
3. Com base nos indicadores encontrados no segundo estudo, o objetivo do terceiro estudo é testar o poder preditivo de duas variáveis - funcionamento autónomo e atitude positiva em relação à aprendizagem ao longo da vida - no aumento da competência para persistir com paixão no Caminho de Santiago. É esperado que participantes com um maior grau de autonomia e de abertura à aprendizagem ao longo da vida manifestem uma maior disposição para perseverar com paixão nos seus objetivos de longo-prazo. Participaram neste estudo 575 participantes. A medida de grit utilizada neste estudo foi composta pela escala de autorrelato que avalia o grit (Grit-S scale, Duckworth & Quinn, 2009) e por uma escala de autorrelato que avalia a paixão por uma atividade (Vallerand et al., 2007). Desta forma, foi composta uma

medida de grit mais aproximada da definição deste conceito, colmatando, assim, uma lacuna existente na investigação deste construto psicológico. Para nosso conhecimento, este estudo foi o primeiro a analisar preditores de grit através de uma medida de grit mais ajustada à definição inicial proposta por Duckworth et al. (2007).

Este trabalho encerra com uma conclusão geral integrando os principais resultados dos três estudos e possíveis implicações práticas.

CAPÍTULO 1

“Easy to start, but hard to finish”: The role of grit in students’ progression through their PhD studies¹

Working to complete a PhD degree is a demanding task for many students (Castelló et al., 2017). This proposition is supported by reports on students’ distress and low engagement on doctoral studies (Vekkaila et al., 2013; Virtanen & Pyhältö, 2017), and by data stressing the high percentage of students who dropout from the PhD programs (e.g., ranging from 30% to 50% in some fields like social sciences; Ampaw & Jaeger, 2012; Mason, 2012). A corpus of research has extensively examined personal, social, and institutional factors associated with low engagement and dropout (Castelló et al., 2017; Laufer & Gorup, 2019; Leijen et al., 2016). However, very few studies considered focusing investigation on factors likely to contribute to PhD students’ success. Particularly, literature lacks studies addressing thoughts, emotions, and behaviors displayed by PhD students while persevering through their doctoral studies despite the hardship. We believe that examining PhD students’ grit may provide relevant insight to this line of inquiry (e.g., Eskreis-Winkler et al., 2016).

Grit, the passionate and effortful pursuit of long-term goals, is associated with high-quality performance (Duckworth et al., 2007). This is especially true in contexts where progress is difficult and dropout is prevalent (Eskreis-Winkler et al., 2016). The present study aims to explore how PhD students sustain grit while completing doctoral studies. Self-determination theory (SDT; Deci & Ryan, 2000) provides a relevant theoretical framework for this study, and findings are expected to help favor students’ efforts to improve their involvement on their PhD journeys and, consequently, strengthen their career development.

Doctoral persistence

Relevant literature reports that helping PhD students embrace a path in academic research is possibly the most demanding activity of doctoral education, largely because students frequently need to adjust their perspective while enrolling in doctoral studies (Brennan, 2019). As Baker and Pifer (2011) alert, students enrolled in PhD studies are asked to change their perspective of being consumers of knowledge to that of producers of innovation. However, this shift is a complex process. Students are required to activate diverse personal and social competences to be successful, such as questioning, reflecting, decision-making, developing autonomy, and building tolerance for uncertainty (Phillips & Pugh, 2010). Literature on doctoral education shows that personal factors (e.g., students’ motivation) and institutional factors (e.g., supervisors support) were found to be associated with students’ positive

¹ Submitted to an international peer review journal

integration and progress in this cycle of studies (Golde, 2005; Litalien & Guay, 2015; Spaulding & Rockinson-Szapkiw, 2012).

Prior research indicates that PhD students' reasons to pursue a doctoral study are manifold, such as good job prospects, encouragement from others (e.g., family, peers, teachers), desire to make a positive difference in the academic field or in society, professional development, or intrinsic interest in research and teaching (Guerin et al., 2015; Stubb et al., 2014; Zhou, 2015). Despite the diversity of reasons for completing a doctoral study, research found that students intrinsically motivated to work for their PhD study achieve more positive outcomes than their extrinsically motivated peers (e.g., less dropout intentions, more positive satisfaction towards doctoral studies, and postdoctoral intentions; Litalien & Guay, 2015; Litalien et al., 2015). Based on SDT (Deci & Ryan, 2000), this result may be due to the fact that the PhD process is a long-term journey unlike ones students have previously experienced; it is less structured and more complex than previous education cycles, and it demands a strong cognitive, emotional and behavioral involvement from students (Litalien & Guay, 2015). This on-task commitment is needed to help students overcome plateaus in progress, setbacks, and failures inherent to this academic activity (Brennan, 2019; Kearns et al., 2008). In contrast, investigating uninteresting research topics, experiencing few progresses in daily work and feeling high levels of emotional distress foster students to drop out from their PhD studies (Devos et al., 2017).

Research has been addressing the relationships between the quality of supervision provided and level of academic integration with students' progress (Brennan, 2019; Hutchings, 2017, Mason et al., 2012). Examples of quality supervision experiences include providing advice and feedback on outputs, monitoring students' progress, and helping combat setbacks and failures (Brennan, 2019; Cotterall, 2011; Posselt, 2018). Moreover, the work of Mantai (2015) emphasizes the importance of facilitating networking between peers and academics (e.g., department peers, experts in the field) to increase students' researcher identity. Positive social experiences may not only contribute to improve PhD students' perceptions of competence in their research work during their doctoral studies (Litalien & Guay, 2015), but relevant literature has reported that such experiences are also related to the completion of their studies as well (Brill et al., 2014; Gardner, 2010). In contrast, PhD students' perceptions of lack of supervisory support, insufficient constructive feedback, isolation from department activities, and difficulties in balancing PhD work with family and social roles were found to be associated with students low engagement on the PhD work (Leijen et al., 2016; Virtanen et al., 2017) and, ultimately, dropout from doctoral programs (Castelló et al., 2017).

Grit: Pursuing long-term goals

Grit may be understood as the combination of perseverance and passion for pursuing long-term goals (Duckworth et al., 2007). It is the ability to maintain effortful actions, towards a passionate goal for long periods (i.e. several months or even years; consistency of interest), even facing setbacks and failures (perseverance of effort; Duckworth et al., 2007). Grit has become very popular among the scientific and practical communities (Lam & Zhou, 2019), despite many studies having found weak relationships between grit and successful outcomes (Credé, 2018; Muenks et al., 2017). For example, several studies have shown that perseverance of effort was associated with various indicators of good performance at school and college (Alhadabi & Karpinski, 2020; Lam & Zhou, 2019; Wolters & Hussain, 2015). Specifically, perseverance was positively associated with self-regulated learning in college (e.g., time and study environment management strategies; Wolters & Hussain, 2015), intrinsic motivation in high school (Karlen et al., 2019), mastery-goals orientation in middle school (Park et al., 2018), goal commitment and school engagement in middle school and junior high school (Tang et al., 2019), and high achievement in compulsory education and college programs (Muenks et al., 2017; Steinmayr et al., 2018). In contrast, pursuing stable interests and goals over time (i.e. consistency of interest) was not found to be positively associated with these outcomes (e.g., Karlen et al., 2019; Muenks et al., 2017; Tang et al., 2019; Wolters & Hussain, 2015). Altogether, these findings indicate that the engagement and good performance of students in compulsory and undergraduate education were positively related with diligence and hard work while completing academic tasks, but not with students' focus on pursuing particular interests (Muenks et al., 2017; Steinmayr et al., 2018; Tang et al., 2019). As an attempt to explain the latter findings, some authors argued that students in the compulsory education and first years of college are expected to be focused on exploring their interests (Tang et al., 2019). In consequence, their efforts are likely to be more focused on achieving short-term goals (e.g., getting good grades on subjects) and gain favorable academic prospects than on pursuing long-term goals (Akos & Kretchmar, 2017; Tang et al., 2019). The grit dimension of consistency of interest tends to contribute to successful outcomes when individuals have clear thoughts on their goals for the future (Fite et al., 2017), which develops after compulsory and undergraduate education (Geraniou, 2010; Tang et al., 2019). The literature indicates individuals with their own initiatives developed are more predisposed to displaying effort and overcoming hardships when compared to individuals who are involved in mandatory activities unrelated to their interests (Hill et al., 2016; Jachimowicz et al., 2018).

Finally, the work of Cross (2014) shows that perseverance and consistency of interest were positively associated with PhD students' current GPA. However, there is limited information about how

students display efforts to sustain perseverance and consistency of interest towards PhD completion, despite personal and contextual hardships. The present study aims to contribute to fulfill this research gap and deepen our knowledge on a successful completion of a doctoral journey.

Theoretical framework

Grit consists of approaching challenging goals, such as completing a PhD study, as a marathon and not as a sprint (Duckworth et al., 2007). Notwithstanding, what moves an individual to continue investigating the same research topic for several years? What factors contribute to students repeating publication attempts, after successive rejections? We believe that SDT framework can help explain how PhD students maintain their involvement in the PhD tasks, even facing several setbacks (e.g., lack of knowledge about statistics, difficulties in scientific writing, isolation from the department) or failing to get an immediate return from their efforts (e.g., an unsuccessful experiment in the lab).

According to the SDT framework (Deci & Ryan, 1985), individuals are naturally growth-oriented with an intrinsic interest in exploring, learning, developing abilities, and achieving challenging goals throughout the lifespan (Deci & Ryan, 2000). Perceptions of competence, autonomy and relatedness likely increase individual's intrinsic motivation (Deci & Ryan, 2000; Niemiec & Ryan, 2009). Intrinsically motivated individuals are more likely to engage in tasks due to their interest, enjoyment and curiosity in the activities, rather than to external rewards, internal and social pressures, and feelings of shame or guilt (i.e., extrinsic motivation; Deci & Ryan, 1985). For example, there is a corpus of data reporting that intrinsically motivated individuals are likely to achieve more positive outcomes than their extrinsically motivated counterparts (e.g., Litalien et al., 2015; Patall et al., 2018). Finally, Deci and Ryan (2000) analyzed the role of environments in boosting intrinsic motivation and concluded that aversive environments can contribute to hinder the psychological needs and intrinsic motivation of individuals. However, supportive environments are likely to promote psychological needs and intrinsic motivation (Deci & Ryan, 2000). As literature indicates (e.g., Geraniou, 2010; Litalien & Guay, 2015), a supportive relationship between supervisor and doctoral student can contribute to fulfill the students' perceptions of competence and encourage them to progress on their work.

The current study

Previous research has shown that many PhD students reported struggling to complete their doctoral studies for personal or social reasons (Castelló et al., 2017; Vekkkaila et al., 2013; Virtanen & Pyhältö, 2017). Notwithstanding, literature lacks studies about what maintains students focused on

completing their PhD studies, even while facing personal or social hardships. This study aims to add to the current literature by further exploring factors contributing to students' grit throughout doctoral studies. Findings are expected to deepen knowledge on the phenomena and hopefully help set college-based programs to assist PhD students on their work and PhD supervisors on their supervisory practice.

Method

Context

In Portugal, like European academic systems, a PhD degree corresponds to the third and final stage of higher education in a specific area of knowledge. This cycle of studies integrates the completion of curricular units aimed to train research skills, and an original monograph or a compilation of research works on the topic (Decree-Law No. 65/2018, August 16). Each student enrolled in a PhD program is assigned up to supervisors with expertise on the topic to guide the research work. Most often, doctoral studies are 6 to 8 semesters long corresponding to 180 or 240 ECTS (European Credit Transfer System). In some fields, such as engineering, PhD students may develop research projects in partnership with companies. The doctoral degree is awarded to those approved by a committee after a public defense of their thesis lasting approximately two hours (Decree-Law No. 65/2018, August 16).

Participants

A total of 30 Portuguese PhD students from four research fields (humanities, social sciences, life sciences, and engineering) agreed to participate in the current study. The reasoning being choosing these fields is twofold: these research fields are diverse and embody the disciplinary spectrum of the academic disciplines, thus allowing the exploration of distinct experiences of a PhD journey and career paths (Golde, 2005).

A snowball sampling technique was used to reach the participants of this study; as often done in qualitative research in the social sciences (Noy, 2008). At the end of each interview, participants were asked to approach colleagues working in the same field to learn their availability to later be contacted by a research assistant. All available students were sent an invitation email with a brief description of the study and the estimated duration of the interview. Students who agreed to participate were contacted to schedule the interview according to their availability.

All participants were enrolled in a doctoral program at the time of the interview, and more than half of the participants were female (63%). Approximately, 7% were first-year doctoral students, 33% second-

year doctoral students, 26% third-year doctoral students, and 20% fourth-year doctoral students. Finally, 10% of the participants were enrolled in the fifth year and 3% of them were enrolled in the sixth year of their doctoral studies. The average age of the participants at the time of the interview was 30 years, ranging from 25 to 43 years.

Of the participants, 70% integrated a research team in their department. The number of investigators in these research groups ranged from seven to 100. Table 1 presents the variance of elements of the research team per field of knowledge. Most of the PhD students (70%) hold a public grant to pursue their doctoral studies, while their counterparts self-funded their PhD. Most of the participants reported professional work experience prior to the beginning of the PhD.

Procedure

Data were collected through semi-structured interviews after the approval of the Ethics Committee for Research in Social and Human Sciences of xxx. The protocol of the interview was grounded on literature about grit and doctoral studies (e.g., Devos et al., 2017; Duckworth et al., 2007) and included open-ended questions to broaden the participants answers. Topics addressed in the semi-structured interview were as follows: reasons for completing doctoral studies; experiences and people contributing to fostering passion towards their career goals; behaviors and emotions displayed while reacting to setbacks and failures during PhD; and strategies used to successfully complete doctoral related tasks.

Interviews were conducted by the first author in a private office at the department of the research team or in a private room of the participant's own department. All locations had favorable lighting and sound conditions for data collection. The researcher introduced the interview by reiterating the topic of the study and discussing procedures related to the interview (e.g., permission to record the audio of the interview; the participant may ask to stop the interview at any time). Finally, participants read and signed an informed consent document. Sociodemographic information was collected before starting the interview (e.g., age, year of PhD program, field of study). During the interviews, whenever necessary, the researcher asked participants to further elaborate on their answers (e.g., "Can you give me an example of this?", "Please, can you elaborate on this topic?"). Altogether, the interviews lasted between 25 and 70 minutes. Trained research assistants transcribed the 30 interviews to text files *verbatim*.

Data Analysis

The text files of the interviews were inserted and analyzed with the help of QSR International's NVivo10 software (Richards, 2005). All data were examined through thematic analysis following Braun

and Clarke (2006). For this study, the criterion used to identify themes was the number of participants who referred to these themes (Bazeley & Jackson 2013). This qualitative approach comprises six phases for data analysis: “familiarizing the data, generating codes, searching for themes, reviewing potential themes, defining themes, and producing the report” (Braun & Clarke, 2006, pp. 60-69). Initially, one researcher read all interview transcripts at least twice. This floating reading allowed for the development of an increased familiarity with the answers to make casual notes related to the research question. Second, following a deductive and inductive approach at a semantic level, codes were independently and iteratively identified (Braun & Clarke, 2006). The deductive approach drew from the work by Duckworth et al. (2007; e.g., perseverance of effort and consistency of interest) and from recent research on grit (e.g., Datu et al., 2018). These papers helped create a codebook for the codification process. This document consists of a detailed list of codes (e.g., “hard work”), including the definition of each code (e.g., “statements of participants about the intensity of effort they usually spent on tasks of their PhD study”) and examples of participants’ speech (e.g., “I think that doing a doctorate requires personal sacrifice, especially for those who want to combine the PhD study with another job, which is my case.” P₁₀). The new codes included in the codebook (e.g., “readiness for learning”) were identified from the participants records (e.g., “I had a paper that was not accepted for publication, but I saw it as an opportunity for increasing my knowledge on my work” P₁₇). The same segment of text could be included in more than one code, provided they were not contradictory to each other (e.g., non-contradictory codes as “persistence” and “readiness for learning”; contradictory codes as “self-centered purposes”, and “self and others-centered purposes”). Then, the researcher reviewed all the content included in each code and grouped them into broader themes and sub-themes (i.e., themes that were included within other themes). The next phase consisted of the revision of homogeneity and heterogeneity within and between the themes and sub-themes, respectively. Afterwards, designations to themes and sub-themes were attributed to reflect the core issue of each of them. In the final step, specific examples from the participants’ reports were used to illustrate themes and sub-themes.

To enhance trustworthiness of the coding process, a second researcher coded 40% of the transcripts independently (10% of interviews per field of study; Lombard et al., 2004). Cohen’s Kappa coefficient showed an inter-rater agreement of 0.90, which is considered very good (Landis & Koch, 1977).

Table 1.

Socio-demographic information about participants

Field of knowledge (N=)	Discipline (N=)	Year (N=)	Sex (N=)	Funding (N=)	Dimension of research team (average)	Previous professional experience (N=)
Humanities (6)	Language (4)	2 nd (1)	Female (5)	Grant (2)	12	Yes (6) No (0)
	Literature (1)	4 th (1)				
	Philosophy (1)	5 th (3)	Male (1)	Self-funded (4)		
		6 th (1)				
Social Sciences (8)	Psychology (5)	2 nd (2)	Female (7)	Grant (6)	12	Yes (8) No (0)
	Economics (1)	3 rd (2)				
	Marketing (2)	4 th (4)				
Life Sciences (8)	Medicine (1)					
	Nutrition (1)	2 nd (3)	Female (3)	Grant (5)	28	Yes (6) No (2)
	Neuroscience (4)	3 rd (4)				
	Physiotherapy (1)	4 th (1)				
	Speech therapy (1)					
Engineering (8)	Biology (1)		Female (4)	Grant (8)	16	Yes (7) No (1)
	Textile (1)	1 st (2)				
	Biomedical (2)	2 nd (4)				
	Mechanical (2)	3 rd (2)				
	Electronic (2)					

Findings

Thematic analysis identified four major themes likely to contribute to the effortful progression of students on doctoral studies: purposeful pursuit of doctoral studies, consistency of interest, perseverance of effort, and monitoring progress (see table 2).

Table 2.

Themes, sub themes, and examples of quotes from the interviews

Themes (<i>n</i> =)	Sub-themes (<i>n</i> =)	Example quote
1. Purposeful pursuit of doctoral studies (<i>n</i> =20)	Self-centered purposes (<i>n</i> =6)	"I would do my research anyway, even if in the end I didn't get a degree" P ₃₀
	Self and others-centered purposes (<i>n</i> =14)	"it is important for me to know that I'm doing something that I like, and even if it is small contribution it is a contribution for people's well-being; in this case improving sleep quality" P ₁₉
2. Consistency of interest (<i>n</i> =30)	Passion (<i>n</i> =25)	"I want to go back to clinical practice after finishing my PhD. That's what motivates me, whether it's paid or not" P ₅
	Goal setting and directed behaviors (<i>n</i> =30)	"I think often about what it takes to earn a postdoctoral fellowship. The responsibility attached.... So, I am oriented towards the development of papers" P ₁₈
	Proactivity (<i>n</i> =22)	"it took a lot of imagination to get the sample needed for my study" P ₅
3. Perseverance of effort (<i>n</i> =30)	Readiness for learning (<i>n</i> =29)	"I'm in the PhD program for learning and improving; not just to get an academic degree" P ₂₅
	Hard work (<i>n</i> =25)	"I don't mind working 160 hours a week" P ₁₀
	Persistence (<i>n</i> =30)	"I don't give up until I find a solution for my problem" P ₃₀
4. Monitoring progress (<i>n</i> =27)	Identification of (un)successful experiences (<i>n</i> =27)	"Publish a paper after successive rejections" P ₁₀
	Feedback from supervisors and peers (<i>n</i> =19)	"I am surrounded by very demanding people, which also makes me work harder" P ₁₄

Theme 1: Purposeful pursuit of PhD completion

More than half of the participants shared two sets of purposes likely to encourage them to complete a PhD study: self-centered purposes and a combination of self- and other-centered purposes.

Self-centered purposes

Some PhD students who reported self-centered purposes were searching for personal benefits after getting the degree. These participants reported seeking social recognition, and better job opportunities than their non-doctorate peers. As a PhD student in life sciences stated, “I hope to be a project manager better-paid than my peers [who do not have a PhD degree] while doing the same job” (P₉). However, many of the participants who mentioned self-centered purposes reported to be pursuing doctoral studies for the intrinsic interest and curiosity they experienced deepening their knowledge and training research skills in this field. As this PhD student in humanities stated:

From graduation to post graduation, I have always chosen to study areas that really interested me. Because I am interested in this topic of language, I think I will have the motivation to overcome the difficulties and get an opportunity as a researcher (P₃₀).

Self- and others-centered purposes

Some PhD students reported that the benefits of holding a PhD degree beyond acquiring deep knowledge on a scientific area; for example, being recognized as an expert on the topic; were not reasons enough to pursue a PhD degree. Several participants reported that their motivation to engage in the PhD work was fueled by self- and other-centered purposes. The combination of intrinsic interests and the will to contribute for social progress through their professional work differentiates the orientation of students with self- and other-centered purposes from that of students moved just by self-centered purposes. PhD students in various fields reported a common desire to develop evidence-based practices and contribute to improve others' health, education and well-being or the effectiveness and productivity of companies.

Some participants reported that previous working experiences (e.g., “my prior experience as a speech therapist with children with intellectual disabilities” P₁₅) and brief work experiences with practitioners or companies throughout doctoral journey (e.g., lectures to teachers in schools; internships in companies) helped them build bridges between their PhD work and the needs of the labor market. Moreover, experiences and interactions with faculty, supervisors, or peers helped students to think critically about “how the world works” (P₁₈) and to “discover and clarify” (P₁₈) personal strengths, interests, and work purposes.

Theme 2: Consistency of interest

PhD students reported three dimensions that helped them maintain focus on completing their PhD studies: passion, goal-directed behaviors, and flexibility.

Passion

Participants reported distinct work interests and career goals (academic, and nonacademic career goals [work in the labor market]) but all shared a commonality: act as a researcher through the doctoral journey. Most PhD students shared a strong interest or passion about their research topic, research tasks, and interaction with society. They reported that designing research projects, solving research-related problems, writing papers, developing networking and interacting with the scientific and practical communities were parts of the journey that they really appreciated. Examples were diverse as follows: “investigating is what I like to do; it is part of what I am, that’s what I work for” (P₁₃); “treat [sick] people is what moves me” (P₂₆); and “design and improve the functioning of accelerometers is my passion” (P₁₆).

Goal setting and directed behaviors

PhD students from all fields explained that they set short and mid-term goals, in order to stay focused on completing doctoral studies. The following quotations of life sciences students illustrate this idea: “it is important to have clear deadlines for every moment. This keeps me focused on the target” (P₂₁). Most PhD students referred to adopting strategies to monetize time and energy dedicated to doctoral work, such as planning tasks for each day; anticipating daily rest stops; developing writing and scientific communication skills; selecting academic projects worth investing time and effort; and being aware of interesting internship and training opportunities to acquire experience in and explore the labor market.

Participants with a passion clearly defined (i.e., working within academia or working outside academia, at the industry, in schools or hospitals) reported a detailed hierarchy of goals. For example, those who aimed to pursue a career at the University reported to be particularly oriented towards the production and publication of scientific papers. PhD students presented examples such as delivering a draft of the paper to the supervisor (i.e. short-term goals), publishing papers in the next two years (i.e. mid-term goals), and achieving a postdoctoral fellowship (i.e. long-term goal). Interestingly, participants pursuing a job in the labor market stressed short- and mid-term goals not directly related with their PhD work, but rather job-oriented. For example, a PhD student working in life sciences who aimed to be a project officer at a European institution after PhD completion shared her plan of action:

In parallel to my PhD, all I do is to set the path to become a project officer in a European institution: I enrolled postgraduate course at evenings to strengthen my knowledge on the topic, I’m taking

French classes on Saturdays and studying to prepare myself for a very difficult entry admission test to get a project officer's job (P₉).

Proactivity

Participants exemplified hardships arousing during the doctoral program, such as “conflicts with the supervisor that ultimately led me to change my thesis supervisor” (P₃₀), “difficulties to collect the research sample” (P₈), “missed deadlines” (P₉) or “papers rejected” (P₂₉). Students stressed these as examples of obstacles that led to deviations from their short and mid-term goals, but they also reported the need to be proactive and adjust the initial plan to continue working on their long-term goals. Participants elaborated on this idea and explained that students doing a PhD should not passively accept their distractions, difficulties, setbacks, or less favorable external conditions; on the contrary, they were expected to anticipate these disruptive influences and set a plan to overcome them. For example, an PhD student in engineering exemplified the flexibility needed in her daily tasks “when the laboratory equipment is down, I have to think... I have to find an alternative approach to do the task using the equipment available in the lab” (P₃).

Theme 3: Perseverance of effort

PhD students reported four dimensions that sustain perseverance of effort in the pursuit of PhD studies: readiness for learning, hard work, and persistence.

Readiness for learning

Most participants reported the desire and need to continuously improve their will, skills, and performance. Reports indicate that they were faced with their own weaknesses in many situations. For example, a PhD student in engineering referred that “at that moment I realized that I was already considered an engineer with a PhD and they [peers and supervisor] were expecting clear answers on topics I'm currently investigating... and I was not ready for that yet” (P₁₄). When addressing these topics, PhD students from all fields of knowledge shared the need to improve their skills throughout doctoral studies, and “that commitment starts with ourselves, and not with anyone else, at least that's how I think” (P₂₂). Students facing hardships with a positive attitude towards continuous learning reported to focus not on the “don'ts”, but rather on what they can still achieve, considering the resources and time available. Participants added that “good learners” (P₂₅) recognize when they need help. Moreover, support from the supervisor and colleagues from the research team were referred as very helpful in a doctoral journey.

Hard work

Many participants stressed that 'just waiting for positive results or good job opportunities in the future' is one of the main premises of failure; on the contrary, they declared to value daily hard work (e.g., "I believe who works [hard] is rewarded", P₁₁). For example, when facing difficulties to meet deadlines or additional workload, PhD students reported extending the number of hours working on the PhD activities. A PhD student in engineering illustrated this idea "there are weeks when I fail to do a lot of tasks I had planned... In those cases what I usually do is make up for these delays by working late on the following week" (P₂₈).

Several participants mentioned that the workload during a doctorate program is likely to compete with other dimensions of personal and social life, such as time for family, friends, or leisure. One participant stated it may even compromise the quality of the work, sharing "when I usually work out of hours, what happens is that tiredness often prevents me from doing a good job" (P₂₈). In order to avoid negative consequences of undue work for their lives, participants reported to set a usual workplace and work schedule to comply with the expectations of the PhD program or of the research lab (e.g., expected work arrival time).

Persistence

While PhD students were revisiting their work experience, they concluded that most jobs or work activities have moments of joy and success, but also of sorrow and failure. However, participants stressed the need to distinguish occasional difficulties from continuous suffering in a job or work task, because "when I face difficult moments in the exercise of a job that gives me pleasure most of the time, I don't think giving up at all" (P₁₃). Participants reported that when they face difficulties and setbacks in their studies or when they anticipate obstacles to find employment in the job market, most of the time they ask themselves: 'what can I do to overcome these hardships?'. Answers to this question direct efforts to actions likely to help them untangle these hardships and continue pursuing their goals. For example, when facing methodological difficulties, participants reported to explore new sources of information, attend advanced training courses, or ask a specialist for help. PhD students shared that, after a paper was rejected, they analyzed the reasons for the rejection, worked on the suggestions made by reviewers, and finally searched for a distinct journal to submit the paper. Other students reported enrollment in advanced courses in English to improve their current performance and increase the opportunities to both interact with other researchers and succeed in the competitive labor market. Students shared that displaying great perseverance helped them maintain their focus on completing their dissertation despite personal or external hardships.

Theme 4: Monitoring progress

Students stressed the need to monitor their progress towards PhD completion, partly because “results of our work take a long time ...” (P₈). When asked to elaborate, participants explained that monitoring the progress consists of collecting information to understand whether they are following or deviating from the set work plan. They reported two ways of monitoring their progress and continuing the pursuit of their goals: one of personal nature (identification of and reflection on the setbacks, and (un)successful experiences) and the other of a social nature (feedback from supervisor or peers).

Identification of and reflection on (un)successful experiences

A great number of PhD students stressed that a long-term journey usually involves unsuccessful and successful experiences. The former were described as efforts invested in executing tasks or academic projects without the expected return. Participants shared some examples of academic failures as follows: shortcomings and criticism on relevant aspects of the research from the supervisor or colleagues in the lab; unsuccessful public presentations; non-compliance with deadlines; high rejection rates of the papers submitted; the need to ask for an extension to allow degree completion and, as a consequence, the postponement of relevant personal projects (e.g., maternity). PhD students recognized that these negative experiences and outputs are likely to affect progress in their PhD journey and future career; however, most participants reported coping with these failures in a forward-looking manner, as “knots that need to be undone” (P₈). A greater number of participants reported striving to identify the nature of their poor performance, because, as one participant researching in humanities explained, “resolutions are only found when you know exactly what you want to solve” (P₃₀). Participants who accurately identified personal and contextual difficulties (e.g., scientific writing and oral skills, methodologies of data analysis, time management, and lack of support from the supervisor) mentioned searching for alternatives and directing efforts to overcome those setbacks.

Attaining successful experiences and achieving success were topics often present in participants' speeches, as this quote from a PhD student in humanities illustrates “I often think about what success is...” (P₇). Successful experiences were defined as completing tasks by overcoming difficulties, setbacks, and failures. PhD students provided examples of successful experiences during their doctoral studies as follows: improvement of scientific writing skills; development of mastery on a topic of research; meeting deadlines; recognition of the quality of their work by others (e.g., supervisors); publication in high impact journals; invitations to participate in research projects related to their research topic; and being the recipient of research awards. Interestingly, the successful events reported by participants were mainly

focused on improving academic skills, performing high-quality work, and participating in research projects.

Feedback from supervisors and peers

Several participants declared holding a positive relationship with their supervisors and respective research team. They elaborated on the impact of this positive relationship, stating it helped them to monitor performance (e.g., “I made a presentation that didn’t go well and my teacher provided me useful feedback that will help me in the future... I need to prepare myself very well”, P₂₅) and succeed in the long- term (“[the supervisor] believes in me and pushes me to move forward”, P₉). Approximately 3% of participants classified their relationship with the supervisor as very poor, 7% of participants classified as poor, 23% of participants as good, 36% of participants as very good, and 30% of participants as excellent.

Discussion

Literature indicates that reasons associated with PhD students’ dropout or low engagement in their doctoral studies are multifold (e.g., lack of student’ s motivation or supervision; Castelló et al., 2017; Gardner, 2009). Moreover, prior research has found that successful paths through PhD studies depend on a complex net of positive relationships involving students, supervisors, and faculty, each performing their role to the best of their ability (Litalien & Guay, 2015; Spaulding & Rockinson-Szapkiw, 2012). Drawing on grit’s theory (Duckworth et al., 2007), the present study analyzed how PhD students sustain grit while completing their doctoral studies. Findings indicate that reasons contributing to the active involvement of students in their studies are as follows: purposeful pursuit of doctoral studies, consistency of interests, perseverance of effort, and progress monitoring.

First, the current study shows that more than half of our participants reported reasons to pursue and complete their PhD studies. This finding is important because as Fuhrmann et al. (2011) stated, PhD students with well-defined reasons to get a PhD degree are likely to set goals for their future work and display strategies to achieve them. For example, Mangematin (2000) found that PhD students in engineering aiming to pursue an academic career maximized their doctoral journey by developing skills related to research and publication, while their counterparts aiming to find employment in the labor market focused important efforts on improving their PhD broader skills and finding networking opportunities. Additionally, current data are consistent with prior literature on SDT showing that reasons sustaining the focus of students on pursuing their PhD studies are either intrinsic or extrinsic to the task (Zhou et al., 2015). What is more, our participants, alike PhD students enrolled in prior studies (Stubb et

al., 2014; Zhou, 2015), mentioned various reasons to be involved in doctoral studies: monetary benefits of completing a PhD degree, improved prospects of employability, intrinsic interests in research, enjoyment of teaching, or even the opportunity to make a difference in the community and promote social progress. Some participants reflected on the relation between reasons to enroll and maintain engagement in the task and successful PhD paths. This finding is relevant because literature has been reporting that students moved by intrinsic motivation show more positive psychological outcomes in their goal pursuit (e.g., less dropout intentions, satisfaction on doctoral studies, postdoctoral intention) than counterparts moved by extrinsic motivation (Litalien et al., 2015).

Second, the current study indicates that the two dimensions of grit (consistency of interest and perseverance of effort) play a significant role in the PhD student's decision to move forward in their studies. This finding is not consistent with previous research that found perseverance of effort, but not consistency of interest, as an explanation for student engagement in their work (e.g., Tang et al., 2019). A possible explanation for this data discrepancy is that previous studies have been predominantly used the Grit-S scale (Duckworth & Quinn, 2009) to measure the ability of individuals to pursue a long-term goal with tenacity (e.g., Alhadabi & Karpinski, 2020; Tang et al., 2019; Wolters et al., 2015). However, as previous works alert, Grit-S scale did not completely capture the dimension of interest or passion (see Jachimowicz et al., 2018). Moreover, qualitative data analysis allows identification of interests or passions reported in the discourse of the participants and presents an expanded picture about the role of intrinsic interests and goal-directed behaviors in the process of pursuing long-term goals (Kannangara et al., 2018). For example, current data indicates that having an interest or passion in a topic empowers students' engagement and proactivity in the academic activities. These findings are consistent previous studies on grit indicating that students interested or passionate about a domain, area, or activity reported broad knowledge of the actions that bring them closer to, as well as distract them from, their long-term goals (Datu et al., 2018; Kannangara et al., 2018).

Current data provide relevant insight on the role of students' perseverance of effort in their progress despite hardships. Data helped show that setbacks, difficulties, and failures are likely to occur in most doctoral journeys, even when students display interest or passion about their research work. However, PhD students displaying perseverance of effort reported the use of various strategies to complete their work tasks, overcome these setbacks and difficulties, and move forward (e.g., set a work schedule, set clear deadlines, explore new sources of information, ask an advisor for help; attend advanced training courses). That is a relevant finding, because previous research shows that students' perceptions of lack of progress in their PhD work (e.g., absence of relevant results, poor record of publications, little

participation in academic meetings) has been found to be associated with students drop out (Castelló et al., 2017; Devos et al., 2017). As Litalien and Guay's (2015) work shows, students' perceptions of lack of progress is likely to undermine their sense of competence in completing their doctoral work with success. In sum, we learned that developing a positive attitude towards learning (e.g., set strategic plans to overcome difficulties) may be very helpful to face challenges in doctoral journeys (Kannangara et al., 2018).

Third, and closely related to the previous point, current study indicates that successful and unsuccessful experiences occurring over the PhD journey may be opportunities for students to generate personal feedback about their learning process to determine what, specifically, if anything, needs to change in their academic behaviors to better complete work. Kearns et al. (2008) show that it is common for PhD students to adopt behaviors that hamper their progress (e.g., over commitment, perfectionism, academic procrastination), often without students even realizing the relationship between these behaviors and their progress or lack thereof. PhD students with training in recognizing inappropriate beliefs and behaviors related to their study and work strategies are likely to feel confident in completing their PhD study with success (Kearns et al., 2008). Literature indicates that individuals directing their efforts to modifiable factors likely to change, show a great tendency to persist towards long-term goals (Eskreis-Winkler et al., 2016). Building on prior work (e.g., Claro et al., 2016; Kannangara et al., 2018), it is expected that students who identify gaps in their knowledge (e.g., regarding qualitative research methodologies, scientific writing skills or communication skills) and set plans addressing these limitations are more likely to grow as researchers and attain long-term goals than counterparts with similar gaps attributing their outputs to intellectual abilities gaps, low socioeconomic status or background limitations.

Additionally, most of our participants were awarded a grant to complete their studies and reported to hold a good relationship with supervisors. These findings are consistent with the work of Patall and colleagues (2018) stressing that students thrive in supportive environment that fosters their passion and perseverance towards long-term goals. In fact, recent research identified the following as important factors to increase the perseverance of PhD students on their work: advisor's support (e.g., helping students to cope with failures as an opportunity for learning and progress; Posselt, 2018); positive collaboration with peers (Devos et al., 2017), and satisfactory financial conditions to pursue research full-time (Litalien & Guay, 2015).

Limitations

This study has some limitations which should be acknowledged while discussing results. First, we explored factors associated with PhD persistence under the lenses of grit (Duckworth et al., 2007) and SDT (Deci & Ryan, 2000). It is possible that other factors associated with PhD persistence may have not been addressed in this study, such as student's usage of coping strategies, time management strategies, problem-solving skills, creativity skills, and assistance from family. Moreover, theoretical perspectives other than grit or SDT might help shed light on those topics (e.g., self-regulated learning framework). Second, PhD students from four different fields have participated in the current research (humanities, social sciences, life sciences, and engineering); however, they do not represent the complete broad spectrum of academic fields in doctoral education. For example, students enrolled in PhD programs in architecture, or arts could share communalities likely to influence the process of PhD persistence (see Golde, 2005). For this reason, qualitative results of the current research should not be generalized. Third, most participants of this study were awarded a grant to fund their doctoral studies. Still, there are many students enrolled in PhD programs that do not hold a grant and have to work on part-time jobs to support their doctoral studies. These non-traditional PhD students may face challenges in their PhD work that may not have been fully addressed in this study.

Finally, data collection was based on student's reports about their progress on doctoral studies. Still, data about performance indicators is lacking (e.g., coursework completion, publication rates, number of presentations in national or international academic conferences, or number of internships done during PhD).

Conclusions

Researchers and PhD supervisors may consider using current findings to design mentoring programs tailored to doctoral students educational needs (e.g., Holley & Caldwell, 2012). First, ad-hoc reports, prior literature and our data suggest that some students have clear ideas about PhD training, but many enroll in a PhD program with poor knowledge of this academic task (Golde & Dore, 2001). Therefore, mentoring programs designed to help PhD students on their doctoral studies may consider exploring students' career path ambitions and develop activities to help them build connections between personal interests, research topics, and future jobs opportunities. This reflection is even more necessary as many PhD students aim to work in the labor market after completing their PhD degree (Gu et al., 2018).

Second, growing as a researcher may be a demanding challenge for many PhD students (Mantai, 2015). Undergraduate students are expected to follow a structured curriculum, attend formal classes, take exams, and get feedback on their performance; but this organized structure to provide instruction on particular topics is not likely to be present in doctoral studies. PhD students are expected to become autonomous researchers by developing the skills and knowledge needed to conduct a research project, and writing, and hopefully publishing, papers (Brennan, 2019). Training on grit and monitoring progress embedded in these mentoring programs may be helpful for PhD students regardless of their field of work. Finally, future studies may analyze the relationships between grit, student' performance in doctoral studies (e.g., completion rate of assignments, number of published papers, participation in national and international conferences), and completion of the PhD degree. Furthermore, it would be interesting to learn potential mediators in the relationship between grit and student' performance throughout the doctoral journey (e.g., supervisor record of publications, number of PhD students in the lab, support from the supervisor perceived by PhD students, PhD students perceptions of peer support, total amount per year a PhD student can request, and experience of practical skills development, i.e. internships in companies).

In conclusion, current data suggest that directors of the PhD programs and the supervisors of the doctoral thesis could consider discussing with PhD students their reasons to enroll and persist on their work. We believe that these discussions would enhance the student's metacognitive reasoning, helping them reflect on their motives to engage on tasks, as well as their ability to strategize how to achieve their goals. Hopefully, these efforts will translate into positive involvement in the PhD work.

Data availability statement

Data available on request due to ethical restrictions.

Conflict of interest

Authors do not have any conflicts of interests to disclose.

References

Akos, P., & Kretchmar, J. (2017). Investigating grit at a non-cognitive predictor of college success. *The Review of Higher Education, 40*(2), 163-186. <https://doi.org/10.1353/rhe.2017.0000>

- Alhadabi, A., & Karpinski, A. C. (2020). Grit, self-efficacy, achievement orientation goals, and academic performance in University students. *International Journal of Adolescence and Youth, 25*(1), 519-535. <https://doi.org/10.1080/02673843.2019.1679202>
- Ampaw, F.D., & Jaeger, A.J. (2012). Completing the three stages of doctoral education: An event history analysis. *Research in Higher Education, 53*, 640–660. <https://doi.org/10.1007/s11162-011-9250-3>
- Baker, V. L., & Pifer, M. J. (2011). The role of relationships in the transition from doctoral student to independent scholar. *Studies in Continuing Education, 33*(1), 5–17. <https://doi.org/10.1007/s10734-017-0218-x>
- Bazeley, P., & Jackson, K. (2013). *Qualitative data analysis with NVivo*. SAGE publications limited.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology, 3*(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Brennan, N. M. (2019). 100 PhD rules of the game to successfully complete a doctoral dissertation. *Accounting, Auditing & Accountability Journal, 32*(1), 364-376. <https://doi.org/10.1108/AAAJ-01-2019-030>
- Brill, J. L., Balcanoff, K. K., Land, D., Gogarty, M., & Turner, F. (2014). Best Practices in Doctoral Retention: Mentoring. *Higher Learning Research Communications, 4*(2), 26-37. <https://doi.org/10.18870/hlrc.v2i2.66>
- Castelló, M., Pardo, M., Sala-Bubaré, A., & Suñe-Soler, N. (2017). Why do students consider dropping out of doctoral degrees? Institutional and personal factors. *Higher Education, 74*(6), 1053-1068. <https://doi.org/10.1007/s10734-016-0106-9>
- Claro, S., Paunesku, D., & Dweck, C. S. (2016). Growth mindset tempers the effects of poverty on academic achievement. *Proceedings of the National Academy of Sciences, 113*(31), 8664-8668. <https://doi.org/10.1073/pnas.1608207113>
- Cotterall, S. (2011). Doctoral pedagogy: What do international PhD students in Australia think about it. *Pertanika Journal of Social Sciences & Humanities, 19*(2), 521-534.
- Credé, M. (2018). What shall we do about grit? A critical review of what we know and what we don't know. *Educational Researcher, 47*(9), 606-611. <https://doi.org/10.3102/0013189X18801322>
- Cross, T. M. (2014). The gritty: grit and non-traditional doctoral student success. *Journal of Educators Online, 11*(3), 1-30.

- Datu, J. A. D., Yuen, M., & Chen, G. (2018). Exploring determination for long-term goals in a collectivist context: A qualitative study. *Current Psychology, 37*(1), 263-271. <https://doi:10.1007/s12144-016-9509-0>
- Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality, 19*(2), 109-134. [https://doi:10.1016/0092-6566\(85\)90023-6](https://doi:10.1016/0092-6566(85)90023-6)
- Deci, E. L., & Ryan, R. M. (2000). The " what" and " why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268. https://doi:10.1207/S15327965PLI1104_01
- Decree-Law No. 65/2018 from August 16, of The Ministry of Science, Technology and Higher Education. *Diário da República: I serie, No 157 (2018)*. Retrieved November 27, 2019 from <https://dre.pt/home/ /dre/116068879/details/maximized>
- Devos, C., Boudrenghien, G., Van der Linden, N., Azzi, A., Frenay, M., Galand, B., & Klein, O. (2017). Doctoral students' experiences leading to completion or attrition: A matter of sense, progress and distress. *European Journal of Psychology of Education, 32*(1), 61-77. <https://doi.org/10.1007/s10212-016-0290-0>
- 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. <https://doi.org/10.1080/00223890802634290>
- 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. <https://doi.org/10.1037/0022-3514.92.6.1087>
- Eskreis-Winkler, L., Gross, J. J., & Duckworth, A. L. (2016). Grit: Sustained self-regulation in the service of superordinate goals. In K. D. Vohs & R. F. Baumeister (Eds.), *Handbook of self-regulation: Research, theory and applications* (3rd ed., pp. 380-395). Guilford Press.
- Fite, R. E., Lindeman, M. I., Rogers, A. P., Voyles, E., & Durik, A. M. (2017). Knowing oneself and long-term goal pursuit: Relations among self-concept clarity, conscientiousness, and grit. *Personality and Individual Differences, 108*, 191-194. <https://doi.org/10.1016/j.paid.2016.12.008>
- Fuhrmann, C. N., Halme, D. G., O'Sullivan, P. S., & Lindstaedt, B. (2011). Improving graduate education to support a branching career pipeline: Recommendations based on a survey of doctoral students in the basic biomedical sciences. *CBE—Life Sciences Education, 10*(3), 239-249. <https://doi.org/10.1187/cbe.11-02-0013>

- Gardner, S. K. (2009). Student and faculty attributions of attrition in high and low-completing doctoral programs in the United States. *Higher Education*, *58*(1), 97-112. <https://doi.org/10.1007/s10734-008-9184-7>
- Gardner, S. K. (2010). Contrasting the socialization experiences of doctoral students in high-and low-completing departments: A qualitative analysis of disciplinary contexts at one institution. *Journal of Higher Education*, *81*(1), 61-81. <https://doi.org/10.1080/00221546.2010.11778970>
- Geraniou, E. (2010). The transitional stages in the PhD degree in mathematics in terms of students' motivation. *Educational Studies in Mathematics*, *73*(3), 281-296. <https://doi.org/10.1007/s10649-009-9205-1>
- Golde, C. M. (2005). The role of the department and discipline in doctoral student attrition: lessons from four departments. *The Journal of Higher Education*, *76*, 669–700. <https://doi.org/10.1353/jhe.2005.0039>
- Golde, C. M., & Dore, T. (2001). *At cross purposes: What the experiences of today's doctoral students reveal about doctoral education*. Pew Charitable
- Gu, J., Levin, J. S., & Luo, Y. (2018). Reproducing “academic successors” or cultivating “versatile experts”: Influences of doctoral training on career expectations of Chinese PhD students. *Higher Education*, *76*(3), 427-447. <https://doi.org/10.1007/s10734-017-0218-x>
- Guerin, C., Jayatilaka, A., & Ranasinghe, D. (2015). Why start a higher degree by research? An exploratory factor analysis of motivations to undertake doctoral studies. *Higher Education Research & Development*, *34*(1), 89-104. <https://doi.org/10.1080/07294360.2014.934663>
- Hill, P. L., Burrow, A. L., & Bronk, K. C. (2016). Persevering with positivity and purpose: An examination of purpose commitment and positive affect as predictors of grit. *Journal of Happiness Studies*, *17*(1), 257-269. <https://doi.org/10.1007/s10902-014-9593-5>
- Holley, K. A., & Caldwell, M. L. (2012). The challenges of designing and implementing a doctoral student mentoring program. *Innovative Higher Education*, *37*(3), 243-253. <https://doi.org/10.1007/s10755-011-9203-y>
- Hutchings, M. (2017). Improving doctoral support through group supervision: analysing face-to-face and technology-mediated strategies for nurturing and sustaining scholarship. *Studies in Higher Education*, *42*(3), 533-550. <https://doi.org/10.1080/03075079.2015.1058352>
- Jachimowicz, J. M., Wihler, A., Bailey, E. R., & Galinsky, A. D. (2018). Why grit requires perseverance and passion to positively predict performance. *Proceedings of the National Academy of Sciences*, *115*(40), 9980-9985. <https://doi.org/10.1073/pnas.1803561115>

- Kannangara, C. S., Allen, R. E., Waugh, G., Nahar, N., Khan, S. Z. N., Rogerson, S., & Carson, J. (2018). All that glitters is not grit: Three studies of grit in university students. *Frontiers in Psychology*, *9*(1539), 1-15. <https://doi.org/10.3389/fpsyg.2018.01539>
- Karlen, Y., Suter, F., Hirt, C., & Merki, K. M. (2019). The role of implicit theories in students' grit, achievement goals, intrinsic and extrinsic motivation, and achievement in the context a long-term challenging task. *Learning and Individual Differences*, *74*, 1-12. <https://doi.org/10.1016/j.lindif.2019.101757>
- Kearns, H., Gardiner, M., & Marshall, K. (2008). Innovation in PhD completion: The hardy shall succeed (and be happy!). *Higher Education Research & Development*, *27*(1), 77-89. <https://doi.org/10.1080/07294360701658781>
- Lam, K. K. L., & Zhou, M. (2019). Examining the relationship between grit and academic achievement within K-12 and higher education: A systematic review. *Psychology in the Schools*, *56*(10), 1654-1686. <https://doi.org/10.1002/pits.22302>
- Landis, J. R., & Koch, G. G. (1977). An application of hierarchical kappa-type statistics in the assessment of majority agreement among multiple observers. *Biometrics*, *33*(2), 363-374. <https://doi.org/10.2307/2529786>
- Laufer, M., & Gorup, M. (2019). The invisible others: Stories of international doctoral student dropout. *Higher Education*, *78*(1), 165-181. <https://doi.org/10.1007/s10734-018-0337-z>
- Leijen, Ä., Lepp, L., & Remmik, M. (2016). Why did I drop out? Former students' recollections about their study process and factors related to leaving the doctoral studies. *Studies in Continuing Education*, *38*(2), 129-144. <https://doi.org/10.1080/0158037X.2015.1055463>
- Litalien, D., & Guay, F. (2015). Dropout intentions in PhD studies: A comprehensive model based on interpersonal relationships and motivational resources. *Contemporary Educational Psychology*, *41*, 218-231. <https://doi.org/10.1016/j.cedpsych.2015.03.004>
- Litalien, D., Guay, F., & Morin, A. J. (2015). Motivation for PhD studies: Scale development and validation. *Learning and Individual Differences*, *41*, 1-13. <https://doi.org/10.1016/j.lindif.2015.05.006>
- Mangematin, V. (2000). PhD job market: Professional trajectories and incentives during the PhD. *Research Policy*, *29*(6), 741-756.
- Mantai, L. (2015). Feeling like a researcher: Experiences of early doctoral students in Australia. *Studies in Higher Education*, *42*(4), 636-650. <https://doi.org/10.1080/03075079.2015.1067603>
- Mason, M. M. (2012). Motivation, satisfaction, and innate psychological needs. *International Journal of Doctoral Studies*, *7*(1), 259-277.

- Muenks, K., Wigfield, A., Yang, J. S., & O'Neal, C. R. (2017). How true is grit? Assessing its relations to high school and college students' personality characteristics, self-regulation, engagement, and achievement. *Journal of Educational Psychology, 109*(5), 599-620. <https://doi.org/10.1037/edu0000153>
- Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory and research in Education, 7*(2), 133-144. <https://doi:10.1177/1477878509104318>
- Noy, C. (2008). Sampling knowledge: The hermeneutics of snowball sampling in qualitative research. *International Journal of Social Research Methodology, 11*(4), 327-344. <https://doi.org/10.1080/13645570701401305>
- Park, D., Yu, A., Baelen, R. N., Tsukayama, E., & Duckworth, A. L. (2018). Fostering grit: Perceived school goal-structure predicts growth in grit and grades. *Contemporary Educational Psychology, 55*, 120-128. <https://doi.org/10.1016/j.cedpsych.2018.09.007>
- Patall, E. A., Steingut, R. R., Vasquez, A. C., Trimble, S. S., Pituch, K. A., & Freeman, J. L. (2018). Daily autonomy supporting or thwarting and students' motivation and engagement in the high school science classroom. *Journal of Educational Psychology, 110*(2), 269-288. <https://doi.org/10.1037/edu0000214>
- Phillips, E., & Pugh, D. (2010). *How to get a PhD: A handbook for students and their supervisors*. McGraw-Hill Education.
- Posselt, J. (2018). Normalizing Struggle: Dimensions of Faculty Support for Doctoral Students and Implications for Persistence and Well-Being. *The Journal of Higher Education, 89*(6), 988-1013. <https://doi.org/10.1080/00221546.2018.1449080>
- Richards, L. (2005). *Handling qualitative data: A practical guide*. Sage.
- Spaulding, L. S., & Rockinson-Szapkiw, A. J. (2012). Hearing their voices: Factors doctoral candidates attribute to their persistence. *International Journal of Doctoral Studies, 7*(1), 199-219.
- Steinmayr, R., Weidinger, A. F., & Wigfield, A. (2018). Does students' grit predict their school achievement above and beyond their personality, motivation, and engagement? *Contemporary Educational Psychology, 53*, 106-122. <https://doi.org/10.1016/j.cedpsych.2018.02.004>
- Stubb, J., Pyhältö, K., & Lonka, K. (2014). Conceptions of research: The doctoral student experience in three domains. *Studies in Higher Education, 39*(2), 251-264.

- Tang, X., Wang, M. T., Guo, J., & Salmela-Aro, K. (2019). Building Grit: The longitudinal pathways between mindset, commitment, grit, and academic outcomes. *Journal of Youth and Adolescence*, *48*(5), 850-863. <https://doi.org/10.1007/s10964-019-00998-0>
- Vekkaila, J., Pyhältö, K., & Lonka, K. (2013). Experiences of disengagement—A study of doctoral students in the behavioral sciences. *International Journal of Doctoral Studies*, *8*, 61-81.
- Virtanen, V., Taina, J., & Pyhältö, K. (2017). What disengages doctoral students in the biological and environmental sciences from their doctoral studies? *Studies in Continuing Education*, *39*(1), 71-86. <https://doi.org/10.1080/0158037X.2016.1250737>
- Wolters, C. A., & Hussain, M. (2015). Investigating grit and its relations with college students' self-regulated learning and academic achievement. *Metacognition and Learning*, *10*(3), 293-311. <https://doi.org/10.1007/s11409-014-9128-9>
- Zhou, J. (2015). International students' motivation to pursue and complete a Ph.D. in the US. *Higher Education*, *69*(5), 719-733. <https://doi.org/10.1007/s10734-014-9802-5>

CAPÍTULO 2

Grit on the Way of St. James: A life-long learning perspective²

The main purpose of education is to train individuals for later life challenges (Zipory, 2018). Lifelong learning policies maintain that individuals are better prepared to face an uncertain future to the extent that they are equipped with abilities likely to help them pursue their goals with tenacity, adapt to new conditions, and cope with stressful events (OECD, 2018). Prior studies and lifelong learning reports indicate a set of core abilities that may foster adaptability in a changing environment: intellectual abilities (e.g., critical thinking), interpersonal and intrapersonal abilities (e.g., communication, cultural awareness, grit), and digital abilities (e.g., media literacy, Dishon & Gilead, 2020; OECD, 2018; Park et al., 2017). Out of this set of abilities, grit has been piquing the public's and scientific communities' interest (Credé et al., 2017). Duckworth et al. (2007) defined grit as the ability to persevere with passion towards long-term goals, despite hardships or lack of progress. Extant research shows a positive relationship between grit and various outcomes over the lifespan, such as school achievement (Tang et al., 2019), job satisfaction (Dugan et al., 2019), well-being (Jin & Kim, 2017), and retention in marriage (Eskreis-Winkler et al., 2014). However, some aspects of grit have been poorly explored. For example, several studies have analyzed the role of grit on achievement (Jiang et al., 2019; Muenks et al., 2018; Steinmayr et al., 2018; Wolters & Hussain, 2015), but further investigation is needed on personal or social related factors likely to strengthen this construct. Aiming to fill this gap, the current study explored what sustains individuals' efforts to overcome challenges and achieve meaningful goals in natural settings to investigate grit. The scenario chosen was the Way of St. James, which is a long pilgrimage requiring participants' perseverance and passion for pursuing their paths and achieve their final goals. Hopefully, findings will help further understand the *process* of pursuing challenging goals and determine how individuals may practice this ability in specific contexts demanding determination, like the Way of St. James (Nilsson, 2018). Lifelong learning research provides a relevant theoretical background for the current study.

Grit

Grit is the combination of passion and perseverance toward long-term goals (Duckworth et al., 2007). Literature is vast, and researchers have focused their work on the relationships between grit and related variables. For example, grit was found to be associated with subjective well-being (Jin & Kim, 2017), the meaning of life (Datu et al., 2018), use of self-regulatory strategies (Wolters et al., 2015), school engagement (Tang et al., 2019), retention on demanding jobs (Eskreis-Winkler et al., 2014),

² Submitted to an international peer review journal

academic achievement (Jiang et al., 2019), and career success (Danner et al., 2019). Irrespective of the research focus, findings show that developing a strong interest or passion drives individuals to commit time and effort in regular and effective practices (Vallerand et al., 2007). For example, experiencing interest or passion for job activities was associated with cognitive engagement (i.e., absorption and attention) and good performance (Ho et al., 2011). These results are consistent with data showing that individuals pursuing passionate goals and working hard to complete their tasks are likely to achieve better outcomes than those displaying less passion and persistence while pursuing goals (Hill et al., 2016; Larkin et al., 2016). However, literature warns that physical or mental fatigue, setbacks, failures, and lack of progress are likely to occur in the process of pursuing long-term goals; therefore, there is a tendency for people to become discouraged or give up on their goals in the presence of demanding experiences (Castelló et al., 2017; Leijen et al., 2016; Yeager & Dweck, 2012). For these reasons, exploring what sustains determination while individuals pursue a challenging goal is a relevant topic in grit literature.

A few studies exploring antecedents of grit have found some personal and social-related factors predicting grit as follows: positive affect and commitment to one's life purpose (Hill et al., 2016) mindfulness, in particular the facets of acting with awareness and non-judgment (Raphiphatthana et al., 2018), growth mindset on intelligence (Park et al., 2020), and mastery-focused school culture (Park et al., 2018). However, the literature lacks studies examining the *process* of pursuing a challenging goal through the analysis of personal and social factors contributing to sustaining grit. Aiming to contribute to this ongoing topic, the current study investigated grit through investigating individuals' reported experiences on grit in a natural setting.

The Way of St. James: A natural setting to investigate grit

Expressions like "*passion*," "*determination*," and "*structured practice*" are often used in biographies of great athletes to describe factors contributing to their success path (e.g., Vallerand et al., 2008). This may help explain why literature suggests that physical activities are an arena to develop life skills (Pierce et al., 2017) and are natural settings to investigate grit (Albert et al., 2021). A physical activity that has been piquing the interest of thousands of people every year is the Way of St. James, a very well-known and old pilgrimage (Pilgrim's Welcome Office, 2021). On foot, bicycle, or horse, many participants pursue a route to reach the Cathedral of Santiago de Compostela (Spain), where the remains of Saint James are buried (Amaro et al., 2018). In fact, official data indicates that in 2019, 347.578 pilgrims from 190 countries completed this journey (Pilgrim's Welcome Office, 2021). Walking the Way of St. James provides unique opportunities that make this setting a natural one to explore how individuals

practice perseverance to achieve a challenging and meaningful goal. The reasons are five-fold: first, walking to Santiago de Compostela is an activity freely chosen, which is likely to reflect the degree to which individuals are interested in and value the activity (Amaro et al., 2018). Second, these participants are moving towards a very well-defined goal (Cathedral of Santiago de Compostela, Spain), which many perceive as a challenging goal (Oviedo et al., 2014). Third, participants are involved full-time in this activity during an extended period (e.g., one week, two weeks; Lois-González & Santos, 2015), which allows exploring the *process* of pursuing a challenging goal over time. Fourth, this is an activity that elicits participants' efforts to overcome numerous and various hardships (e.g., physical fatigue, sleeping in a large dorm room with snoring roommates, walking in the rain over several hours, e.g., Im & Jun, 2015). Finally, previous research suggests that completing the Way of St. James is an experience that encourages self-examination and fosters a sense of lifelong development (Nilsson, 2018; Pedrotti, 2012); this mood may help explore what contributes to fostering the growth of abilities such as persevering with passion to achieve a challenging goal.

Lifelong learning background

Lifelong learning provides a relevant theoretical background for the present study. Lifelong learning is grounded on the assumption that people can fulfill their potential throughout life, particularly those who are open to cultivating new abilities, attitudes, and behaviors from birth to death (Laal & Salamati, 2012; Commission of the European Communities, 2000). Lifelong learning aims to support individuals' personal growth in different cycles of life, reduce economic and social inequalities, promote employability in a competitive and volatile labor market, and foster active citizenship (Commission of the European Communities, 2000). Moreover, international reports suggest examples of abilities or skills that should be cultivated over individuals' lifetimes due to their positive role in individuals' adaptability to changing environments (e.g., determination to pursue challenging goals [grit], self-regulation, teamwork, flexibility to adapt to new circumstances, and respect for distinct cultures; OECD, 2018; World Economic Forum, 2015).

Regardless of the terms used in the literature for lifelong learning skills (e.g., non-cognitive abilities, life skills, character strengths, virtues, social and emotional learning abilities; see, Duckworth & Yeager, 2015; Park et al., 2017), prior studies show that these skills increase prospects of a healthy and successful life, both in early age and later life (Moffitt et al., 2011; Park et al., 2017; Steptoe & Wardle, 2017). For example, the study by Park et al. (2017) with middle school students found that interpersonal abilities like gratitude and social intelligence predicted harmonious peer relationships, while

intrapersonal abilities like academic self-control and grit predicted students' high grades, and intellectual abilities like curiosity and zest predicted class participation. These data are consistent with those of Park and Peterson (2009), which states that formal learning contexts, such as schools, are contexts for developing new skills. Still, to cope with unique and ongoing life challenges, individuals are expected to continue displaying efforts to acquire knowledge and cultivate core skills after finishing their studies (OECD, 2018). This proposition is consistent with data showing that the more life skills an individual has, the greater his or her possibility is of living a healthy and prosperous life (Steptoe & Wardle, 2017; Zaninotto et al., 2016). For example, Steptoe, and Wardle (2017) showed that the accumulation of life skills (e.g., determination, emotional stability, optimism) was associated with economic growth, social and subjective well-being, and physical health in older ages. Finally, literature on lifelong learning education alerts that informal learning contexts, such as family, leisure time, or cultural activities, might be valuable settings for developing life skills useful to healthy trajectories (Fevre et al., 2000).

The present study

Grit is associated with positive outcomes throughout one's lifespan (Eskreis-Winkler et al., 2014; Dugan et al., 2019; Tang et al., 2019); still, further investigation is needed about personal and social-related factors sustaining grit. We believe that the Way of St. James contains the characteristics of a natural setting, useful to investigate grit. Therefore, the current study aims to explore participants' perseverance to achieve challenging and meaningful goal while walking the Way of St. James. Findings are expected to contribute to a deepened understanding of grit processes in a natural setting.

Method

This qualitative study is part of a larger research project about predictors of grit. Data from this independent study were drawn from a unique database and analyzed according to methodologies fit to address the research questions.

Context

The official Way of St. James routes starts in Spain, France, or Portugal. The Portuguese route is approximately 220 km (137 miles). Data was collected in the middle of this journey in hostels for pilgrims at the end of a walking day.

Participants

A total of 31 participants (65% male) aged between 31 and 75 ($M_{age} = 49.38$ years, $SD = 12.8$) completed a semi-structured interview about their experience on the Portuguese Way of St. James. Participants were from 11 different countries, including Portugal, Brazil, Germany, the USA, France, and Italy. About 22.6% of the pilgrims were Portuguese, 22.6% were Brazilian, 16.1% were German, and 13% were from the USA. The interviews were conducted in Portuguese and English by native language researchers in hostels for pilgrims. From the sample, 80.6% completed a higher education degree. Participants had been walking or cycling for an average of 5 days ($SD = 2.9$). The majority (94%) were doing the Way of St. James on foot, and just 6% were on bicycle. About 61% of the participants were doing the Way of St. James alone, while 39% were accompanied or in a group.

Data collection

Data collection took place in the hostels of a city halfway between Porto (Portugal) and Santiago de Compostela (Spain) after the Ethics Committee approval. This option allowed researchers to recruit participants who had been walking the Way of St. James for some days but still had some to walk. For each afternoon over two weeks, a team of researchers invited the pilgrims in two hostels to participate in an interview about their experience on the Way of St. James. Those who agreed to participate filled out an informed consent before being interviewed. The interview was held in an adequate space in the hostel, guaranteeing the confidentiality of data and providing optimal conditions for the interview (e.g., silence). The 4 researcher assistants who conducted the interviews were fluent in more than one language. All were trained in conducting interviews and followed the same interview protocol. The main questions of the protocol were “What reasons motivated you to pursue the Way of St. James?”, “What difficulties have you encountered along the journey?”, “How have you overcome these difficulties?”, “Did you ever consider quitting?”, “Who has helped you with these difficulties?”, “What did you learn from this experience?”, “What strengths about yourself did you identify or explore during the journey?” and “What areas of growth did you identify or explore within yourself during the journey?”. Participants were asked for examples to illustrate their responses whenever necessary. Trained research assistants transcribed the 31 interviews verbatim.

Data analysis

Interviews were analyzed using a hybrid approach of thematic analysis (Fereday & Muir-Cochrane, 2006). The deductive approach drew from the existing literature on grit (e.g., Duckworth et al., 2007)

and lifelong learning (e.g., Park et al., 2017; Park & Peterson, 2009). Authors also followed a data-driven inductive approach to capture the range of idiosyncrasies involved in this experience (see Braun & Clarke, 2006). Interview transcripts were analyzed with the help of QSR NVivo 10 software (Richards, 2005).

Following Braun and Clarke (2006), data analysis was carried out through six phases: familiarization with the entire data, generating initial codes, searching for potential themes, reviewing the themes, defining and labeling themes, and reporting data. First, researchers read and re-read the interview transcripts to gain familiarity with the data set and make casual notes on relevant topics that might help answer the research question. Second, all the transcripts were coded line-by-line at a semantic level. Literature on grit and lifelong learning and development helped authors create a codebook to conduct the coding process. From participants' reports, new codes emerged and were incorporated in the codebook (e.g., "take pleasure from little things," "feel part of a community"). Researchers revised all transcripts whenever a new code emerged to ensure a consistent coding procedure. Every extract of data could be incorporated in more than one code provided they are not contrary to each other. Third, researchers examined all the references included in each code and clustered them into potential themes and sub-themes (i.e., themes that were incorporated within other themes). Fourth, researchers reviewed the internal homogeneity of each theme and external heterogeneity between themes. Fifth, we attributed labels to themes and sub-themes, and selected representative examples to illustrate these themes and sub-themes. Following Bazeley and Jackson (2013), the number of participants who referred each theme and sub-theme indicates the degree of representation of each within the dataset. To enhance the trustworthiness of the coding process, a second researcher coded 20% of the transcripts independently with an inter-rater agreement of 0.85, which is considered very good (Landis & Koch, 1977).

Findings

The current study aims to further explore grit in a natural setting to investigate grit. Thematic analysis suggested four key themes to address this research aim: tools for progress, tools to enjoy the journey, tools to look inside oneself, and tools to make one's life worth living.

Each theme is described below. Table 3 shows the four themes and subthemes, as well as examples of quotations from the interviews.

Table 3.

Themes, sub themes, and examples of quotes from the interviews

Themes (<i>n</i> =)	Sub-themes (<i>n</i> =)	Example quote
Tools for progress (<i>n</i> =31)	Challenge seeking (<i>n</i> =18)	<p>“I want to learn if I can walk ten miles a day.” (P₁₀)</p> <p>“I want to test my physical limits.” (P₁₂)</p> <p>“I’m here for the challenge.” (P₄)</p>
	Use of strategies (<i>n</i> =20)	<p>“I have a plan for this journey, and I will try not to give up before I fulfill that plan.” (P₁)</p> <p>“I’m using foot creams and comfortable shoes.” (P₁₃)</p> <p>“when I’m walking, I don’t think about the end of the road, I always think about the closest place I want to reach in the next few hours.” (P₁₉)</p>
	A flexible approach (<i>n</i> =21)	<p>“I’ve had to think of alternatives to dry the previous day’s clothes while I’m walking.” (P₁₂)</p> <p>“If I’ll need to change my plan and take another day to finish the pilgrimage, there is no problem nor is it a matter of shame.” (P₃₀)</p> <p>“I will not always be the first to reach the goal and everything is fine with that.” (P₂)</p>
	Focus on the task (<i>n</i> =31)	<p>“When I think about the reason for doing this Way, I gain energy to go on.” (P₁)</p> <p>“I like to finish everything that I start. It is only for important reasons like an injury that I would give up.” (P₂₁)</p> <p>“It doesn’t matter to me if I walk fewer miles a day than the others, I will continue at my own pace.” (P₁₇)</p>
Tools to enjoy the journey (<i>n</i> =31)	Satisfaction and further action (<i>n</i> =30)	<p>“The feeling of having gone further than I’ve imagined is great.” (P₁₃)</p> <p>“I’m showing myself that I can do something difficult, and I can overcome obstacles.” (P₂₀)</p> <p>“The more goals I achieve now, the more goals I want to achieve now and further in my life.” (P₁₉)</p>
	Take pleasure from nature and little things (<i>n</i> =25)	<p>“I’ve had fun walking in the nature.” (P₁₄)</p>

		<p>“Being here without high expectations to enjoy what is happening.” (P₁₈)</p> <p>“Taking a shower, drinking a beer and talking to people are the best parts of my day here.” (P₃₀)</p>
	Feel part of a community (n=31)	<p>“There is a spirit of mutual help between the pilgrim community and the local community.” (P₁₁)</p> <p>“You don’t meet people, you encounter people, and it means there’s a little bit more...you have really wanted to share about the experience, about changes in life – it’s very impressive.” (P₁₈)</p> <p>“I think the ones who have helped are the other pilgrims I met along the way. I believe that you never do anything alone in your life. You always have someone’s help.” (P₂₇)</p>
Tools to look inside myself (n=29)	Take perspective (n=25)	<p>“I am looking to know myself better.” (P₁)</p> <p>“I’d like to have some conversations with some people I want to. Yeah, kind of find me on the way. And I want to let the past go way.” (P₆)</p> <p>“I’m thinking about the things we have already done, what I have to change, what I will plan to do in the future.” (P₁₄)</p>
	Rethink the use of a rigid approach (n=29)	<p>“I’m learning here not to rush to say that I don’t like someone.” (P₁₅)</p> <p>“be careful with the pessimistic mindset that makes us believe that we can’t do it.” (P₂₀)</p> <p>“Sometimes I think that it is very difficult to change a bad habit.” (P₁₅)</p>
Tools to make life worth living (n=29)	Develop intrapersonal abilities(n=29)	<p>“I want to change my job to something that I really like.” (P₁₃)</p> <p>“I found a determination in me that I didn’t know existed.” (P₁₄)</p> <p>“I’ll remember that real learning hurts.” (P₁₈)</p>
	Develop interpersonal abilities (n=27)	<p>“I want to be more grateful to God.” (P₂₆)</p> <p>“it’s easier to admire or meet people without a smart phone” (P₁₅)</p> <p>“I’m a very impatient person, I’m not always the most thoughtful person,</p>

Develop intellectual abilities ($n=8$)

and I'm inspired by other people that I see here." (P₁₆)

"I think we're more open to do different activities like this one." (P₁₀)

"I think it will be interesting to compare my experience with those written in the books about the Way of St. James." (P₁₁)

"This experience is stimulating my critical thinking to solve problems." (P₁₂)

Theme 1: Tools for progress ($n=31$)

Several participants indicated that challenge seeking, use of strategies, a flexible approach, focus on the task, and satisfaction and further action were tools that helped them progress towards their final goals (Santiago de Compostela), despite hardships.

Challenge seeking ($n=18$)

What motivates individuals (ages ranging from 31 to 75 years old) to walk for several days in harsh terrain with backpacks towards a distant goal? What motivates them to walk hard and struggle to attain a goal that could be achieved with little physical activity while avoiding unpleasant setbacks (e.g., severe ankle sprain). Many participants, particularly those who were completing the Way of St. James for the first time, reported seeking new challenges and further explained that they felt the need to prove to themselves their ability to complete a very demanding activity successfully. For many participants, achieving the Cathedral of Santiago de Compostela is a "symbol of courage" (P₂₁) and pursuing the path until reaching that milestone was an opportunity to increase self-confidence in their physical and emotional abilities, regardless of age or health condition. For example, a participant with Crohn's disease illustrated this proposition, sharing that, "I did it [walk the Way of St. James] to prove that I can do things in spite of my disease." (P₂₄). For many participants, completing the Way of St. James was a "testing time" (P₁₉) while seeking answers for the question "can I really make it?" (P₁₈).

Use of strategies ($n=19$)

Participants mentioned various strategies used prior to and during the journey to progress towards the final milestone. Providing that "doing the Way isn't like a simple tour outdoors" (P₁₁), to improve their psychical ability, some individuals reported having engaged in an exercise routine prior to starting the walking journey. A participant walking the Way of Saint James illustrated this idea: "we trained for a year to walk with the backpack on our backs, and now we are doing it" (P₃). Participants who completed the Way of St. James stated that more than once that "good planning may prevent the appearance of many

difficulties like injuries in the pilgrimage” (P₂₀). Furthermore, participants said the planning phase included defining how many miles they estimated to walk each day, taking into account their physical strength, and also checking in advance in which hostels they might rest and spend the night. Focusing attention on the nearest stop of the journey (e.g., the next 5 miles or the next hostel) was a strategy shared by several participants. One participant illustrated this idea while sharing his strategy to set short-term milestones to persist in walking toward the goal:

There is a film that has a very funny cue that says: “there is a reason why the Earth is round. We are never to see the end of the road”. So, if we don't look at the end of the road, we don't realize how difficult it is to move forward. It is step by step. I say, this is my strategy to get along. Other people must have other strategies (P₃₁).

To cope with moments of tiredness or mental fatigue, some participants reported to “try to find ways to make it [the walk] easier, and not complain about bad things” (P₁₇). Participants detailed various strategies used along the long walk to facilitate the journey, such as using skincare creams to block the sun or medication for injuries. Participants also described listening to music, talking to people while they were walking, praying, or just thinking about the reasons that motivate them to pursue the Way of St. James.

A flexible approach (n=21)

Participants shared several lived experiences demanding a flexible response (e.g., adjusting plans to new situations, building distinct perspectives about a topic, or exploring alternatives to solve a particular problem). Some participants reported having redefined the initial plan by adding more days to complete the journey when they learned they were not walking as many miles a day as planned. Others shared that when they were unable to walk more on that day, they used the bus or taxi as alternative forms of transport to get to the hostel. To deal with heavy backpacks, some participants reported having left behind goods non-crucial to the journey, such as “creams and hair conditioners” (P₁₂). Finally, to overcome difficulties related to drying wet clothing during the night, participants reported strategically hanging these clothes in their backpacks so they could dry out during the hike. Participants reported that these adaptive reactions helped them overcome obstacles and progress at a sustainable pace; moreover, their strategies allowed them to appreciate the places' beauty and take pleasure from the encounters with other pilgrims.

Focus on the task (n=31)

Most participants reported that they usually woke up at 6:30 AM, and shortly afterward, they were ready to start their journey. Reports stressed that this is a long journey with many adversities. For example, sometimes participants walked in heavy rain; other times they had to move on rough terrain or walk down steep hills or keep walking with difficulty because they were recovering from a minor foot injury. Despite

these challenging circumstances, all participants stated that they were determined to complete the remaining 76 miles and reach Santiago de Compostela. The expressions most used were “the way is made by walking” (P₁₈) and “I’m here to move forward” (P₁). Three factors supporting the will and commitment of participants were as follows: setting realistic expectations on the activity’s degree of difficulty, positive effort beliefs, and displaying agency adjusting strategies whenever needed. Many participants shared that, during this long walk, at some point, they would experience physical pain or mental fatigue. As a participant stated, “In a great adventure such as this, I can’t expect that everything is easy or perfect without any unforeseen” (P₂₉). Strength of will was the element referred to by many pilgrims as the key to overcoming thoughts of giving up and moving forward. This quotation illustrates this idea shared by many participants: “I’ve discovered on the Way [of Saint James] that I have willpower and that if I try a little harder, I will be able to go further than I had ever imagined” (P₁₄).

Interestingly, many participants shared that it was common to find people older than themselves walking this journey without “crying about the pain” (P₆), and those examples served as an inspiration to move forward. Most participants said that the main reason that would make them give up the journey would be a severe physical injury. To prevent this from happening, they reported looking for new alternatives and strategies to progress on the walk without putting their physical health at risk, such as reducing the number of hiking miles per day and traveling light. The use of a flexible approach helped participants look for new alternatives to overcome setbacks or tiredness and progress on their journeys.

Satisfaction and further action (n=30)

Many participants shared that achieving milestones while they were completing the long walk helped them realize that their efforts and endeavors were worth it. As one participant stated, “when we are pursuing a long-term goal, we will not find immediate satisfaction; so, when I arrive at the hostel each day, I feel pleased, happy, and that fuels my energy” (P₁₉). Some pilgrims exemplified that arriving at a hostel, exhausted after a long walk, or continuing to walk in groups despite the small differences and conflicts that occurred, helped them to realize that tardiness, a lack of confidence, bad feelings, tiredness, or other difficulties could be overcome through a well-focused effort. This effort enabled them to progress towards their goal. For many participants, self-confidence to complete the long walk grew as they successfully completed various steps of the journey. A participant who was walking the Way of St. James with another friend said, “I think we both know now that we are strong, that we can really achieve things. I think that our self-confidence is growing with the help of this journey” (P₃). In sum, participants shared those short-term achievements grounded their sense of trust in their physical and mental abilities and helped them to advance on the journey.

Theme 2: Tools to enjoy the journey (n=31)

Several participants reported taking pleasure from nature and little things and feeling part of a community were tools that contributed to fostering interest and enjoyment throughout the long walk.

Take pleasure from nature and little things (n=25)

Many participants reported that this journey allowed them to enjoy close contact with nature by exploring beautiful landscapes (e.g., waterfalls, mountain hikes) and vineyards on the slope of hills, which would not be accessible by car or train. One participant shared that “here you learn [in the Way of St. James] to slow down. Look at nature and just enjoy the moment” (P₇). Walking on unknown paths, getting to know new places and cultures, taking time to talk to local people about wine production or gastronomy were examples of pleasant activities that helped participants enrich their experience. Moreover, participants who had already completed the journey several times mentioned how important it was to “take your time, be in the moment and don’t let some artificial deadlines run your life” (P₁₆). However, several participants mentioned attitudes and behaviors likely to prevent the enjoyment of these moments of pleasure along the walk, such as rushing to arrive at the hostel to guarantee a bed in which to spend the night, or simply rushing to finish another step of the journey. For example, one participant accompanied by their family reported that “they are so focused on completing the walk that we rarely stop along the way to rest or enjoy a river” (P₁₀).

Many participants shared that they had struggled to avoid over-planning all the steps in the journey (e.g., book in advance the hostels to spend the night, program the best places to visit), and to be open to what the experience might reveal in every moment. Several participants reported that their experiences during this journey helped them to feel more confident in unknown territories or situations (e.g., sleeping in a dorm for pilgrims with little comfort and privacy, conversing in a foreign language with unknown pilgrims). These unknown territories and situations can provide opportunities for good experiences and personal insights. The following quotation illustrates the overall idea of taking pleasure from little things:

I’m not concerned with the stamps, I’m not concerned with reaching the Cathedral. I’m busy doing the Way. The Way is to talk to people, to rest and drink a beer, have a good meal, take some pictures, and tomorrow go back to the road and enjoy everything that the Earth gives us (P₃₀).

Feel part of a community (n=31)

One of the hallmarks of this journey is that people from different countries and cultures, each with their own motivations or interests, join on the road to achieve a common, final goal: The Cathedral of Santiago de Compostela.

Many participants highlighted in their reports that the sense of community experienced along the walk and the convivial atmosphere in hostels were likely to help transform a very demanding physical activity into a “very enriching experience” (P₁₈). Participants mentioned a set of aspects that supported this sense of community: empathy with other’s pain or fatigue, simple gestures to help overcome obstacles, hospitality, and genuine dialogue between pilgrims. The following quotation is an example of the sense of belonging found in the hostels:

I felt the people on the road to Santiago [were] very close. Very different, some are cooks, others are tourists, doctors, or..., I don't know, directors of something; but at the same on the journey, they are all pilgrims, and this is absolutely extraordinary, and I like that (P₃₀).

"Why are you doing the Way [of Saint James]?" is the most frequent question participants asked each other. Participants reported that this question serves as a trigger for deep conversations that would be unlikely to occur in their daily lives.

Participants reported that this convivial atmosphere set the ground for deep and long-lasting conversations about personal weaknesses, life challenges, illnesses, complicated grief, changes in their jobs, ambitions, and hopes. As a participant shared, “you learn from them, and they learn from you. So [pause] actually, you help people, and they help you. And it’s really addicting because now I have friends spread all around the world” (P₁₈). Participants reported that the sense of community was also felt outside the hostels. Most participants explained that the Portuguese route had some physically demanding sections, which meant that, among other aspects, not everyone could keep the same pace. However, many stated that generosity and friendship show themselves in these harsh moments. For example, some participants slowed their walking pace to accompany those who were having difficulty moving forward; others started friendly conversations to distract counterparts from their physical pain; while others shared their stick with injured pilgrims who were walking with great difficulty. Participants reported that this unselfish mutual assistance helped them to persist in the journey “I’m walking the Way alone, but I’ve met very kind people who are willing to protect me, welcome me, and help me moving forward through these hard moments” (P₁). The same idea was reported by those completing the journey in groups: “we started the Way together and we want to reach the final line together” (P₁₀).

Theme 3: Tools to look inside myself (n=29)

Several participants reported that the Way of St. James encompassed various moments of introspection, and this inner experience of looking inside themselves increased the meaning and interest in the activity, making them persevere day after day. They indicated two tools likely to have helped them

look inside and expand their knowledge about themselves and the ways they think and behave: taking perspective and rethinking the use of a rigid approach.

Take perspective (n=24)

Several participants declared that “I have a fast pace of life, and I think I live routinely without much time to reflect on myself, on my choices, on who is around me” (P₁). In contrast, walking alone in nature helped participants to pause, reflect on their daily lives, and examine what could be improved or changed in their life circumstances to enhance their well-being.

Some participants shared that the life events they had been through (e.g., cancer disease) or were going through (e.g., complicated grief, pre-retirement challenges, ending of a romantic relationship) evoked deep moments of self-reflection as they searched for new challenges and a purpose of life. For example, the following reports were shared by several participants: “I’m thinking about different ways of approaching life because one can’t live in the past”, “I’m searching for new goals, new conquests”, “I’m analyzing whether I should go on or quit from my current job”. Other participants mentioned that they were completing the Way of St. James to reflect on the ordinary circumstances of their life and examine whether they were in line with their values and aspirations (e.g., “I am being a good father, husband, son ...?”, “How can I take better care of the planet and improve waste management?”). Many participants, regardless of their age, shared the need to monitor the quality of their lifestyle; for example, analyzing whether their daily behaviors matched their priorities for life, whether they are maximizing their talents, or whether they are adapting positively to the changes occurring throughout their lifespan.

Rethink the use of a rigid approach (n=29)

Many participants used expressions similar to this: “our mind is capable of everything, both in making us move forward and weakening us, that is why it is so important to know ourselves very well” (P₃₀). While participants reflected on their experiences on pilgrimage and their life circumstances, they identified patterns of thoughts and behaviors likely to undermine their performance, emotional stability, physical health, spirituality and faith, and relationships with those around them. Participants shared several examples: “I often doubt my abilities to do something” (P₁₇), “I tend to think that my opinion is more correct than that of others” (P₄), “I was always seeking validation from others about what I should or shouldn’t do” (P₂), “I keep focusing myself on the past instead of the future” (P₂₅), “I admit, I am not always the most patient and caring person” (P₁₆), and “In this family, there is shame in talking openly about what each one is feeling” (P₁₀). Some participants stated that these thoughts and behaviors triggered negative emotions like sadness, loneliness, regret, or guilt, and they were willing to overcome it. In being aware of the effects of following a rigid pattern of thoughts and behaviors on the quality of their lives, many

participants expressed the desire to develop a positive mindset about themselves and others and abilities to help them foster good relationships and success.

Theme 4: Tools to make life worth living (*n*=29)

Many participants reported that their lived experiences in the Way of St. James were helping them to clarify how they could make better use of their strengths to bring about positive and adaptive changes in their lives. Moreover, these new insights made the pilgrimage a very meaningful activity for them. Participants indicated having learned three tools likely to help them make life worth living: developing intrapersonal, interpersonal, and intellectual abilities.

Develop intrapersonal abilities (*n*=29)

Participants identified qualities and abilities maximizing their physical performance in the pilgrimage that might also foster their performance in professional and social dimensions of daily life. They mentioned some qualities and abilities which might help them to succeed in the process of pursuing meaningful goals: perseverance (e.g., “difficulties arise everywhere, and we have to face this naturally and value the positive aspects of the journey” [P₂₀]), delay of gratification (e.g., “when we are going up [the mountain], we have to go slowly, step by step, so we have to be patient ... sometimes we want to get there fast, you understand me?” [P₁₄]), adaptability (e.g., “I’ve learned that things do not usually happen as planned ... if I don’t have a bed available for me at the hostel, I need to feel confident dealing with these things and find another option good for me” [P₁₆]), proactivity (e.g., “the better you know yourself, the nicer your life is. I’ve learned to go on my own, and I’m setting my own goals” [P₁₈]), and growth mindset (e.g., “I’ve learned that I don’t need to prove anything to anyone, not even myself, and if I had that wisdom before I wouldn’t be injured now” [P₂]). Some participants went further and said that the participation in the Way of St. James allowed them to reflect on their habitual lifestyle and to become aware of some rigid thoughts likely to prevent strength of will. One participant shared his experience:

The physical pain that I have been experiencing after my injury is helping me to realize many things. I’m walking more slowly than everyone else and I’m feeling embarrassed with that, because I’m very competitive. The Way is helping me to realize that I’ll not always be ahead of others, but that does not mean that I have to give up. I’m learning to deal with it (P₂).

Several participants shared that believing in personal growth as opposed to the idea that “I don’t believe that I can change at this age” (P₁₁) might enhance the disposition for developing strength of will.

Develop interpersonal abilities (n=27)

Several participants drew a parallel between this journey and life. Reports highlighted that a happy and fulfilled life requires setting positive relationships with others, as was happening spontaneously in the journey. A participant who was completing the Way of St. James for the fourth time explained the role of the pilgrimage in his life, illustrating why many pilgrims say that the journey in itself is more important than just reaching the destination:

I'm a very impatient person, I'm not always the most thoughtful person, but I don't want to be that way, and I'm inspired by other people that I met here ... so I practice more being the kind of person I want to be (P₁₆).

Gratitude, kindness, respect, tolerance, honesty, a spirit of cooperation, a good sense of humor, emotional regulation, and having a purpose in life were qualities and abilities reported by participants to strengthen and maintain helpful and enjoyable relationships in their lives. For example, participants stated that cultivating a sense of gratitude (e.g., "a sense of thankfulness for the people we have in our lives and for the material goods that give comfort to our lives", P₂₄) helps people better appreciate the good things that happen every day and be attentive and careful of others ("I hear so many stories of failed relationships that I'm grateful for the relationship that my wife and I've build for so many years, despite the ups and downs" P₁₈). Many participants shared that displaying kindness to others through ordinary acts, such as listening, smiling, helping, contributed to strengthening relationships between people and led to great personal satisfaction (e.g., "strike up a conversation with someone who is apparently not friendly, but later comes to find out that I was going through a difficult grieving process, and we support each other just listening each other" P₂₄). Some participants went further and said that people who they did not know helped them through the pilgrimage, and they would like to do the same. Furthermore, participants stated that "hatred, disinterest, disagreement, and indifference to others" (P₁₄) or the "need to plan everything, to control everything" (P₂₇) are barriers likely to prevent people from developing beneficial relationships and being open to new perspectives and opportunities.

Enrollment in the Way of St. James was helping participants believe that it is worth endeavoring to be useful to others, especially because "I think that I will reach the Cathedral, and in the end, what is left from this? Plus, I think that the pilgrimage is a metaphor for life" (P₁).

Develop intellectual abilities (n=8)

Some participants shared strengths of mind that help them to think more broadly: curiosity (e.g., "I wanted to experience a way of spending holidays other than at a hotel or resting on a beach" [P₁₀]), love of learning (e.g., "I think about the meaning of life, about how we can have a cleaner Earth, how we

can save water... I am a person who likes to set questions and look for answers” [P₂₀]), divergent thinking to solve problems (e.g., “I am learning to be a more resourceful person than I was before” [P₁₂]), and intellectual humility (e.g., “I have some gaps related to religion and I would like to fill them” [P₃₀]). Participants said that these strengths of mind help them “consider points of view other than mine” (P₁₈) and look deeper to find new insights and strategies to approach core issues of their lives.

Discussion

Findings of this study showed that tools for progress, tools to enjoy the journey, tools to look inside oneself, and tools for make life worth living helped explain what sustains an individual’s perseverance of effort toward overcoming a challenge and achieving meaningful goal in a natural setting to investigate grit.

Theme 1: Tools for progress (challenge seeking, use of strategies, a flexible approach, focus on the task, and satisfaction and further action)

One of the components of grit is the perseverance of effort. This component describes efforts to work hard to pursue a long-term or challenging goal while avoiding being discouraged by setbacks (Duckworth et al., 2007). Data in the Theme 1 are aligned with previous studies and exemplify actual mechanisms or conditions (i.e., challenge seeking, use of strategies, a flexible approach, focus on the task, and satisfaction and further action) that might support an individual’s commitment toward a challenging goal, despite hardships (Locke & Latham, 2006; Lunenburg, 2011). The main idea of theme 1 is that the pursuit of a challenging or long-term goal (e.g., walk 220 km to the Cathedral of Santiago de Compostela) demands people to *break down* the long-term goal into short- and medium-term goals. These specific goals must be challenging but attainable, considering each person’s abilities and available resources, and measurable, allowing people to get information about their performance (Lunenburg, 2011). Research suggests that these actionable steps sustain an individual’s motivation in the process of pursuing a challenging or long-term goal (Duckworth & Gross, 2014; Latham, 2011; Locke & Latham, 2006). For example, participants who set specific goals (e.g., walking 25 km today) were able to monitor their progress and evaluate their performance through detailed information (e.g., “today I was only able to walk 20 km instead of the expected 25 km”). This detailed information, which may be understood as progress feedback (Hattie & Timperly, 2007), helps individuals update their strategies or adjust their goals given ongoing data (e.g., changing the expected number of miles to complete the next day, given the body’s fragile condition at that point in the long walk). In fact, research suggests that using a flexible

approach is crucial to pursue long-term goals because it allows individuals to identify situational demands and select strategies likely to help them adapt positively to a dynamic environment (e.g., Coyne et al., 2020). Throughout this process, improvement and progress lead to satisfaction and increased motivation to achieve a goal (Park & Peterson, 2009).

In addition to the mastery needed to move efficiently towards a goal, research suggests that coping with adversity and lack of progress is a core skill to maintain perseverance toward a long-term goal (Duckworth et al., 2007). Current data suggest that, in times of hardship, focus on a task may be sustained by positive effort beliefs (“if I try a little harder, I will be able to go further than I had ever imagined” [P₁₄]), proactivity in adopting new strategies, and seeking help from others. The latter are core characteristics of a growth mindset regarding one’s abilities (Dweck, 2006; Yeager & Dweck, 2012). In fact, previous research found a close relationship between a growth mindset and grit (Park et al., 2020; Zhao et al., 2018). For example, individuals with a growth mindset regarding their abilities (e.g., intelligence, athletic ability) are likely to perceive difficulties in completing tasks or failures as outcomes possible to be overcome through efficacious efforts (Dweck, 2013). This perspective leads them not to give up until reaching their goals (Biddle et al., 2003; Dweck, 2006). In contrast, individuals with a fixed mindset regarding their abilities tend to perceive difficulties or personal failures as evidence of their lack of ability to succeed (Dweck, 2013). This understanding leads them to avoid situations of pressure or difficulty, partly because they believe displaying effort is useless to progress and because they do not want to expose their weaknesses (Blackwell et al., 2007; Burnette et al., 2013). In sum, although expressions such as “work hard”, “do your best”, or “try to improve” are commonly used to encourage people to progress towards difficult goals (Park & Peterson, 2009), the literature on goal setting and task performance suggests that these incentives are not useful to help people approach a task efficiently, improve their skills, and move forward (Locke & Latham, 2006). Conversely, cultivating abilities related to goal setting (e.g., set strategies, use a flexible approach) and the growth mindset might be a more advantageous approach to the process of pursuing a challenging goal (Duckworth & Gross, 2014; Dweck, 2013; Latham, 2011).

Theme 2: Tools to enjoy the journey (take pleasure from nature and little things, feel part of a community)

All participants mentioned being focused on moving forward and reaching the final goal, Santiago de Compostela. Still, they shared that the overall experience would be lacking if abridged to checking off the various places visited. Participants reported two factors that added value to this journey: taking

pleasure from nature and little things and feeling part of a community. Participants shared that these aspects enforced this journey as a passionate and worthwhile endeavor. This is consistent with literature stating that grit is not just about strenuous efforts over long periods of time to achieve a self-set goal; rather, grit involves the combination of passion and effort displayed over long periods to achieve a meaningful goal (Duckworth et al., 2007). The main idea of theme 2 is that enjoyment and interest in an activity can be nurtured by perceptions of novelty (e.g., visiting new cities, seeing new landscapes, experiencing new cuisine), vivacity (e.g., meeting new people, listening to inspiring life stories), and challenge (e.g., communicating with people of different nationalities, finding an available hostel to spend each night, finding alternatives to dry clothes that did not dry completely during the night, or finding alternatives to heal body aches and injuries associated with walking). Novelty and daily challenges ground individuals' interest in an activity, and interest is likely to help individuals display persistent efforts (Silvia, 2008). In fact, research shows that when people are engaged in an activity that they enjoy, value, and make efforts to pursue (i.e., a passionate activity), they tend to experience positive effects and flow during task involvement (Ho et al., 2011; Vallerand et al., 2003). These efforts translate to good performance (Bonneville-Roussy et al., 2011; Vallerand et al., 2007).

However, the literature suggests that individuals maintain interest in a new and complex activity to the extent they feel able to stand up to the challenge and to the extent they experience progress resulting from their efforts (Csikszentmihalyi, 2014). In contrast, people who perceive discrepancies between novelty, activity-related complexity, and their skills tend to experience a decreased interest in the activity (Silvia, 2008). Perhaps, for this reason, the results of this study suggest that feeling part of a community enhances individuals' feelings of enjoyment and meaning in the process of achieving a challenging goal. Some participants shared feeling confident that they would complete this challenging goal, partly because they knew they would find the help they needed from other pilgrims to overcome any arising difficulties. This finding is consistent with literature reporting that when people feel accepted and appreciated as they are and are helped to overcome difficulties in harsh times, they tend to exhibit high interest and effort to achieve a long-term goal (Datu et al., 2017).

These data are important and merit researchers' attention because prior studies have highlighted the role of perseverance of effort rather than the role of consistent interest (passion) in the process of pursuing a long-term goal (Credé et al., 2017, Muenks et al., 2018). Literature explained that the low predictive power of consistent interest, in some studies, was related to the lack of sensitivity of the instruments used (e.g., Grit-S scale, Duckworth & Quinn, 2009) in capturing the passion's dimensions (Jachimowicz et al., 2018; Jordan, 2019). Moreover, as current data indicate, the role of grit seems to

be more fundamental when individuals are involved in freely chosen activities (Jachimowicz et al., 2018). In sum, grit is not just “walking” for a long time towards a goal with little interest, value, or meaning; grit is about displaying a strong interest or passion while maintaining a commitment to a task despite experiencing setbacks (Duckworth et al., 2007; Jachimowicz et al., 2018).

Theme 3: Tools to look inside myself (take perspective, rethink the use of a rigid approach)

Participants shared that a long walk, like the Way of St. James, provides many opportunities for self-reflection about their lived experiences on the journey (e.g., lessons learned from deep conversations with other pilgrims) and on their daily life. Previous research had shown that the pilgrimage to Santiago de Compostela provided useful time and opportunities for people to look inside themselves and take a full picture of their lives in the present moment (Im & Jun, 2015; Nilsson, 2018). Still, the present study adds literature providing processual data on how looking inside themselves might help individuals practice grittiness. The main idea of theme 3, which is in line with previous literature, is that taking perspective and examining reality from different sides – not just from the past– helps people let go of negative emotions and rigid thoughts while helping them gain a broader view of their life and the environment around them (Shapiro et al., 2006). This may be a useful mental exercise for people who are experiencing stressful events (e.g., complicated grief, unemployment, job dissatisfaction, transition to retirement) to encourage them to pay attention to the present moment and seek new activities or opportunities on which to focus their strengths and help them to clarify their life purpose in the present circumstances (e.g., Iani et al., 2017). In addition, literature found that those focused on the present moment are likely to make choices and engage in activities congruent with their interests, goals, and purposes (Ralph et al., 2017) and avoid thoughts or endeavors departing from their long-term commitments. These efforts contribute to enhanced grit (Raphiphatthana et al., 2018). It seems that taking perspective helps people reflect on their interests, priorities, and purposes and explore whether they are acting congruently to meet their needs and achieve their long-term goals (e.g., “I think I'm going to change jobs because I'm not doing what I like” P₁₃). Furthermore, current data suggest that looking inside oneself also allows one to identify ways of thinking, feeling, and acting that negatively affect determination to pursue important and challenging goals and well-being.

In fact, the literature suggests that, despite individual strengths and potential to achieve positive outcomes over a lifetime (Park & Peterson, 2009), purposeful use of strengths such as grit is related to one's judgments (Raphiphatthana et al., 2018) and mindset (Park et al., 2020; Zhao et al., 2018). For example, mindsets influence how individuals interpret tiredness, challenging situations, and unsuccessful

experiences and determine whether they will move to overcome hardships (those believing that challenging goals can be achieved) or whether, in the presence of hardships, they will be discouraged and give up on their goals (those believing that they are not able to achieve challenging goals; Mrazek et al., 2018). Dweck (2013) alerted that individuals do not have a totally fixed mindset or a full growth mindset about their personal characteristics; individuals share a mix of both beliefs about themselves, others, and society. In sum, taking perspective and becoming aware of one's beliefs and judgments about oneself over a lifetime, and trying to set growth mindset beliefs (e.g., "I will do it", "It was just an unsuccessful event, I will do better next time") rather than fixed ones (e.g., "I can't change it", "I can't improve it", "I can't do it") is expected to help enhance grit (e.g., Park et al., 2020).

Theme 4: Tools to make live worth living

While participants were completing the Way of St. James, they disclosed a few insights and lessons learned about what makes life good for themselves as well as for others. Specifically, they indicated abilities likely to favor the attainment of self-set goals, but also abilities enhancing positive affect and meaningful relationships with others, and qualities associated with curiosity and reasoned thinking. Participants reported that these abilities or strengths of character helped them progress towards the final milestone of their journey and might help enrich their daily lives. These findings illustrate an aspect that has been highlighted in the literature on positive psychology over decades (e.g., Ryff, 1995). The main idea of theme 4 is that a fulfilled and worthwhile life is not just about being efficient and thriving towards self-set goals. A fulfilled and worthwhile life also includes aspects such as self-acceptance, maintaining harmonious and meaningful relationships, being grateful, finding a purpose for life within the current circumstances, approaching contents with deep knowledge, and believing that personal potential can grow at all stages of life (Ryff, 1995). What is more, this ongoing growth is expected to develop over a lifetime (e.g., Park et al., 2004; Ryff, 1995).

To convert this ideal into reality, to display optimal psychological functioning and good performance, research reports that people need to develop and practice several strengths of character (Park & Peterson, 2009). For example, Forest et al. (2012) found that the use of various strengths of character was associated with harmonious passion and well-being at work. In sum, current findings suggest that the pilgrimage to Santiago de Compostela allowed people to identify and use some character strengths (e.g., determination, gratitude, kindness), and discover and practice other abilities that they need to improve over their lifetimes. As current data indicate, consistent with research on the field of

character strengths, being good and doing good should be everyone's life goals; both individuals and society would benefit from it (Park & Peterson, 2009).

Limitations and future studies

This study has some limitations that should be acknowledged. First, we choose the data collection spot to find participants who were halfway to Santiago de Compostela with experience on this task. Still, unfortunately, we did not have access to information on those who reached the end of this journey. Nevertheless, to reduce this limitation, we collected information from participants expressing the intention to reach Santiago de Compostela, the final milestone of the current research. This is in line with research on planned behavior, showing that intention to achieve a goal was strongly related to displaying efforts to achieve a goal (Sheeran, 2002).

Second, the results of this study cannot be generalized to other pilgrim populations or general populations (e.g., students, adults). This study focused on understanding what explained the passion and perseverance of effort from those completing the Portuguese Way of St. James through their perspective and lived experiences. So, caution is needed when using findings from current research to explain the grit of individuals who are pursuing challenging goals in other settings or domains of interest. Future studies may investigate whether the themes reported by this study's participants are related to grit in a larger sample of pilgrims and whether the themes described in this study's specific context are likely to predict grit in other fields (e.g., sports, work). Finally, current findings stress the role played by the dimension of passion on grit; therefore, in line with the definition of grit (Jordan, 2019) and to capture individuals' passion for the activity in focus, future studies may consider adding passion-related items to instruments assessing grit (e.g., Grit-S scale, Duckworth & Quinn, 2009).

Conceptual and practical implications

This study addresses some conceptual and practical implications. While most studies of grit investigated the relationship between this construct and achievement in different fields (e.g., academic, sports, work, family), the current study has explored the *process* of pursuing a challenging goal in a natural setting to investigate grit and adds new insight to the limited literature on grit's antecedents. Findings of this study indicate various bodies of knowledge contributing to what moves individuals to pursue a challenging goal, such as motivation and goal setting (Locke & Latham, 2006; Lunenburg, 2011), passion (Vallerand et al., 2007), mindfulness and implicit theories (Li et al., 2018; Park et al., 2020), and character strengths and wellness (Park et al., 2004; Ryff, 1995). Future studies may consider

articulating these bodies of knowledge while investigating the process of grit. Finally, the present study's findings may be a support to candidates that walk the Way of St. James or individuals in need of displaying grit to attain their goals. Current data is expected to provide clues on thoughts, feelings, and behaviors likely to help individuals persevere with passion towards meaningful goals. Moreover, findings may also guide the practice of professionals who organize and accompany pilgrims to Santiago de Compostela. Data points out themes that they may consider while helping pilgrims persevere with passion throughout the journey, and improve personal growth (Oviedo, 2014; Pedrotti, 2012).

Finally, and importantly, exploring what sustains grit in a natural setting identified various factors contributing to sustaining individuals' interest and perseverance in achieving a challenging goal. These data help to further our knowledge on the grit processes. Additionally, data helps us learn that active involvement in a long-term activity, likely to challenge the individual on many fronts (e.g., physical, emotional, or relational), sets the groundwork for relevant insights on the inner self and on how to make one's own life worth living.

References

- Albert, E., Petrie, T. A., & Moore, E. W. G. (2021). The relationship of motivational climates, mindsets, and goal orientations to grit in male adolescent soccer players. *International Journal of Sport and Exercise Psychology, 19*(2), 265-278. <https://doi.org/10.1080/1612197X.2019.1655775>
- Amaro, S., Antunes, A., & Henriques, C. (2018). A closer look at Santiago de Compostela's pilgrims through the lens of motivations. *Tourism Management, 64*, 271-280. <https://doi.org/10.1016/j.tourman.2017.09.007>
- Bazeley, P., & Jackson, K. (2013). *Qualitative data analysis with NVivo*. SAGE publications limited.
- Biddle, S. J., Wang, C. J., Chatzisarantis, N. L., & Spray, C. M. (2003). Motivation for physical activity in young people: Entity and incremental beliefs about athletic ability. *Journal of Sports Science, 21*(12), 973-989. <https://doi.org/10.1080/02640410310001641377>
- Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development, 78*(1), 246-263. <https://doi.org/10.1111/j.1467-8624.2007.00995.x>
- Bonneville-Roussy, A., Lavigne, G. L., & Vallerand, R. J. (2011). When passion leads to excellence: The case of musicians. *Psychology of Music, 39*(1), 123-138. <https://doi.org/10.1177/0305735609352441>

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi:10.1191/1478088706qp063oa>
- Burnette, J. L., O'Boyle, E. H., VanEpps, E. M., Pollack, J. M., & Finkel, E. J. (2013). Mind-sets matter: A meta-analytic review of implicit theories and self-regulation. *Psychological Bulletin*, 139(3), 655-701. <https://doi.org/10.1037/a0029531>
- Castelló, M., Pardo, M., Sala-Bubaré, A., & Suñe-Soler, N. (2017). Why do students consider dropping out of doctoral degrees? Institutional and personal factors. *Higher Education*, 74(6), 1053-1068. <https://doi.org/10.1007/s10734-016-0106-9>
- Commission of the European Communities. (2000). *A memorandum on lifelong learning*. Brussels: CEE.
- Coyne, L. W., Gould, E. R., Grimaldi, M., Wilson, K. G., Baffuto, G., & Biglan, A. (2020). First things first: Parent psychological flexibility and self-compassion during COVID-19. *Behavior Analysis in Practice*, 1-7. <https://doi.org/10.1007/s40617-020-00435-w>
- 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. <https://doi.org/10.1037/pspp0000102>
- Csikszentmihalyi, M. (2014). Toward a psychology of optimal experience. In *Flow and the foundations of positive psychology* (pp. 209-226). Springer, Dordrecht.
- Danner, D., Lechner, C. M., & Rammstedt, B. (2019). A cross-national perspective on the associations of grit with career success. *Compare: A Journal of Comparative and International Education*, 50(2), 1-18. <https://doi.org/10.1080/03057925.2019.1617110>
- Datu, J. A. D. (2017). Sense of relatedness is linked to higher grit in a collectivist setting. *Personality and Individual Differences*, 105, 135-138. <https://doi.org/10.1016/j.paid.2016.09.039>
- Datu, J. A. D., King, R. B., Valdez, J. P. M., & Eala, M. S. M. (2018). Grit is associated with lower depression via meaning in life among Filipino high school students. *Youth & Society*, 51(6), 865-876. <https://doi.org/10.1177/0044118X18760402>
- Dishon, G., & Gilead, T. (2020). Adaptability and its discontents: 21st-century skills and the preparation for an unpredictable future. *British Journal of Educational Studies*, 1-22. <https://doi.org/10.1080/00071005.2020.1829545>
- 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. <https://doi.org/10.1080/00223890802634290>

- Duckworth, A. L., & Yeager, D. S. (2015). Measurement matters: Assessing personal qualities other than cognitive ability for educational purposes. *Educational Researcher*, 44(4), 237-251. <https://doi.org/10.3102/0013189X15584327>
- 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. <https://doi.org/10.1037/0022-3514.92.6.1087>
- 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. <https://doi.org/10.1177/0963721414541462>
- Dugan, R., Hochstein, B., Rouziou, M., & Britton, B. (2019). Gritting their teeth to close the sale: the positive effect of salesperson grit on job satisfaction and performance. *Journal of Personal Selling & Sales Management*, 39(1), 81-101. <https://doi.org/10.1080/08853134.2018.1489726>
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York: Random House.
- Dweck, C. S. (2013). *Self-theories: Their role in motivation, personality, and development*. Psychology press.
- Eskreis-Winkler, L., Duckworth, A. L., Shulman, E. P., & Beal, S. (2014). The grit effect: Predicting retention in the military, the workplace, school and marriage. *Frontiers in Psychology*, 5, 1-12. <https://doi.org/10.3389/fpsyg.2014.00036>
- Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, 5, 1-11. <https://doi.org/10.1177/160940690600500107>
- Fevre, R., Gorard, S., & Rees, G. (2000). Necessary and unnecessary learning: The acquisition of knowledge and 'skills' in and outside employments in South Wales in the 20th century. In F. Coffield (Ed.), *The necessity of informal learning* (pp. 64-81). Great Britain: The Policy Press.
- Forest, J., Mageau, G. A., Crevier-Braud, L., Bergeron, É., Dubreuil, P., & Lavigne, G. L. (2012). Harmonious passion as an explanation of the relation between signature strengths' use and well-being at work: Test of an intervention program. *Human Relations*, 65(9), 1233-1252. <https://doi.org/10.1177/0018726711433134>
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81-112. <https://doi.org/10.3102/003465430298487>

- Hill, P. L., Burrow, A. L., & Bronk, K. C. (2016). Persevering with positivity and purpose: An examination of purpose commitment and positive affect as predictors of grit. *Journal of Happiness Studies*, *17*(1), 257-269. <https://doi.org/10.1007/s10902-014-9593-5>
- Ho, V. T., Wong, S. S., & Lee, C. H. (2011). A tale of passion: Linking job passion and cognitive engagement to employee work performance. *Journal of Management Studies*, *48*(1), 26-47. <https://doi.org/10.1111/j.1467-6486.2009.00878.x>
- Iani, L., Lauriola, M., Cafaro, V., & Didonna, F. (2017). Dimensions of mindfulness and their relations with psychological well-being and neuroticism. *Mindfulness*, *8*(3), 664-676. <https://doi.org/10.1007/s12671-016-0645-2>
- Im, K. M., & Jun, J. (2015). The meaning of learning on the Camino de Santiago Pilgrimage. *Australian Journal of Adult Learning*, *55*(2), 329-349.
- Jachimowicz, J. M., Wihler, A., Bailey, E. R., & Galinsky, A. D. (2018). Why grit requires perseverance and passion to positively predict performance. *Proceedings of the National Academy of Sciences*, *115*(40), 9980-9985. <https://doi.org/10.1073/pnas.1803561115>
- Jiang, W., Xiao, Z., Liu, Y., Guo, K., Jiang, J., & Du, X. (2019). Reciprocal relations between grit and academic achievement: A longitudinal study. *Learning and Individual Differences*, *71*, 13-22. <https://doi.org/10.1016/j.lindif.2019.02.004>
- Jin, B., & Kim, J. (2017). Grit, basic needs satisfaction, and subjective well-being. *Journal of Individual Differences*, *38*(1), 29-35. <https://doi.org/10.1027/1614-0001/a000219>
- Jordan, S., Ferris, G., Hochwarter, W., & Wright, T. (2019). Toward a work motivation conceptualization of grit in organizations. *Group & Organization Management*, *44*(2), 320-360. <https://doi.org/10.1177/1059601119834093>
- Laal, M., & Salamati, P. (2012). Lifelong learning; why do we need it?. *Procedia-Social and Behavioral Sciences*, *31*, 399-403. <https://doi.org/10.1016/j.sbspro.2011.12.073>
- Landis, J. R., & Koch, G. G. (1977). An application of hierarchical kappa-type statistics in the assessment of majority agreement among multiple observers. *Biometrics*, *33*(2), 363-374. <https://doi.org/10.2307/2529786>
- Larkin, P., O'Connor, D., & Williams, A. M. (2016). Does grit influence sport-specific engagement and perceptual-cognitive expertise in elite youth soccer?. *Journal of Applied Sport Psychology*, *28*(2), 129-138. <https://doi.org/10.1080/10413200.2015.1085922>

- Latham, G. P., Ganegoda, D. B., & Locke, E. A. (2011). Goal-setting: A state theory, but related to traits. In T. Chamorro-Premuzic, S. von Stumm, & A. Furnham (Eds.), *The Wiley-Blackwell handbook of individual differences* (pp. 579–587). Wiley Blackwell.
- Leijen, Ä., Lepp, L., & Remmik, M. (2016). Why did I drop out? Former students' recollections about their study process and factors related to leaving the doctoral studies. *Studies in Continuing Education, 38*(2), 129-144. <https://doi.org/10.1080/0158037X.2015.1055463>
- Li, J., Lin, L., Zhao, Y., Chen, J., & Wang, S. (2018). Grittier Chinese adolescents are happier: The mediating role of mindfulness. *Personality and Individual Differences, 131*, 232-237. <https://doi.org/10.1016/j.paid.2018.05.007>
- Locke, E. A., & Latham, G. P. (2006). New directions in goal-setting theory. *Current Directions in Psychological Science, 15*(5), 265-268. <https://doi.org/10.1111/j.1467-8721.2006.00449.x>
- Lois-González, R. C., & Santos, X. M. (2015). Tourists and pilgrims on their way to Santiago. Motives, Caminos and final destinations. *Journal of Tourism and Cultural Change, 13*(2), 149-164. <https://doi.org/10.1080/14766825.2014.918985>
- Lunenburg, F. C. (2011). Goal-setting theory of motivation. *International journal of management, business, and administration, 15*(1), 1-6.
- Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H., ... & Caspi, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the national Academy of Sciences, 108*(7), 2693-2698. <https://doi.org/10.1073/pnas.1010076108>
- Mrazek, A. J., Ihm, E. D., Molden, D. C., Mrazek, M. D., Zedelius, C. M., & Schooler, J. W. (2018). Expanding minds: Growth mindsets of self-regulation and the influences on effort and perseverance. *Journal of Experimental Social Psychology, 79*, 164-180. <https://doi.org/10.1016/j.jesp.2018.07.003>
- Muenks, K., Yang, J. S., & Wigfield, A. (2018). Associations between grit, motivation, and achievement in high school students. *Motivation Science, 4*(2), 158–176. <https://doi.org/10.1037/mot0000076>
- Nilsson, M. (2018). Wanderers in the shadow of the sacred myth: Pilgrims in the 21st century. *Social & Cultural Geography, 19*(1), 21-38. <https://doi.org/10.1080/14649365.2016.1249398>
- OECD (2018). Concept note: skill for 2030. *OECD Future of Education and Skills 2030*. Paris: OECD.
- Oviedo, L., de Courcier, S., & Farias, M. (2014). Rise of pilgrims on the Camino to Santiago: Sign of change or religious revival? *Review of Religious Research, 56*(3), 433-442. <http://dx.doi.org/10.1007/s13644-013-0131-4>

- Park, D., Tsukayama, E., Goodwin, G. P., Patrick, S., & Duckworth, A. L. (2017). A tripartite taxonomy of character: Evidence for intrapersonal, interpersonal, and intellectual competencies in children. *Contemporary Educational Psychology, 48*, 16-27. <https://doi.org/10.1016/j.cedpsych.2016.08.001>
- Park, D., Tsukayama, E., Yu, A., & Duckworth, A. L. (2020). The development of grit and growth mindset during adolescence. *Journal of Experimental Child Psychology, 198*, 1-11. <https://doi.org/10.1016/j.jecp.2020.104889>
- Park, D., Yu, A., Baelen, R. N., Tsukayama, E., & Duckworth, A. L. (2018). Fostering grit: Perceived school goal-structure predicts growth in grit and grades. *Contemporary Educational Psychology, 55*, 120-128. <https://doi.org/10.1016/j.cedpsych.2018.09.007>
- Park, N., & Peterson, C. (2009). Character strengths: Research and practice. *Journal of College and Character, 10*(4), 1-10. <https://doi.org/10.2202/1940-1639.1042>
- Park, N., Peterson, C., & Seligman, M. E. (2004). Strengths of character and well-being. *Journal of social and Clinical Psychology, 23*(5), 603-619. <https://doi.org/10.1521/jscp.23.5.603.50748>
- Pedrotti, F. (2012) 'Concept design – An innovative approach to learning: The case of Saint James' Way as a playground for meaningful learning experiences'. *Journal of Tourism Consumption and Practice, 4*(2), 25-40.
- Pierce, S., Gould, D., & Camiré, M. (2017). Definition and model of life skills transfer. *International Review of Sport and Exercise Psychology, 10*(1), 186-211. <https://doi.org/10.1080/1750984X.2016.1199727>
- Pilgrim's Welcome Office. (2021). *The Pilgrimage to Santiago de Compostela*. <https://oficinadelperegrino.com/en/statistics/>
- Ralph, B. C., Wammes, J. D., Barr, N., & Smilek, D. (2017). Wandering minds and wavering goals: Examining the relation between mind wandering and grit in everyday life and the classroom. *Canadian Journal of Experimental Psychology, 71*(2), 120-132. <https://doi.org/10.1037/cep0000116>
- Raphiphatthana, B., Jose, P., & Salmon, K. (2018). Does dispositional mindfulness predict the development of grit?. *Journal of Individual Differences, 39*(2), 76-87. <https://doi.org/10.1027/1614-0001/a000252>
- Richards, L. (2005). *Handling qualitative data: A practical guide*. London: Sage.
- Ryff, C. D. (1995). Psychological well-being in adult life. *Current directions in psychological science, 4*(4), 99-104. <https://doi.org/10.1111/1467-8721.ep10772395>

- Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology, 62*(3), 373-386. <https://doi.org/10.1002/jclp.20237>
- Sheeran, P. (2002). Intention—behavior relations: a conceptual and empirical review. *European Review of Social Psychology, 12*(1), 1-36. <https://doi.org/10.1080/14792772143000003>
- Silvia, P. J. (2008). Interest—The curious emotion. *Current directions in psychological science, 17*(1), 57-60. <https://doi.org/10.1111/j.1467-8721.2008.00548.x>
- Steinmayr, R., Heyder, A., Naumburg, C., Michels, J., & Wirthwein, L. (2018). School-related and individual predictors of subjective well-being and academic achievement. *Frontiers in Psychology, 9*, 1-16. <https://doi.org/10.3389/fpsyg.2018.02631>
- Steptoe, A., & Wardle, J. (2017). Life skills, wealth, health, and wellbeing in later life. *Proceedings of the National Academy of Sciences, 114*(17), 4354-4359. <https://doi.org/10.1073/pnas.1616011114>
- Tang, X., Wang, M. T., Guo, J., & Salmela-Aro, K. (2019). Building Grit: The longitudinal pathways between mindset, commitment, grit, and academic outcomes. *Journal of Youth and Adolescence, 48*(5), 850-863. <https://doi.org/10.1007/s10964-019-00998-0>
- Vallerand, R. J., Blanchard, C., Mageau, G. A., Koestner, R., Ratelle, C. F., Le 'onard, M., et al. (2003). Les passions de l'âme: On obsessive and harmonious passion. *Journal of Personality and Social Psychology, 85*, 756–767. <https://doi.org/10.1037/0022-3514.85.4.756>
- Vallerand, R. J., Mageau, G. A., Elliot, A. J., Dumais, A., Demers, M.-A., & Rousseau, F. L. (2008). Passion and performance attainment in sport. *Psychology of Sport and Exercise, 9*, 373–392. <https://doi.org/10.1016/j.psychsport.2007.05.003>
- Vallerand, R. J., Salvy, S. J., Mageau, G. A., Elliot, A. J., Denis, P. L., Grouzet, F. M., & Blanchard, C. (2007). On the role of passion in performance. *Journal of Personality, 75*(3), 505-534. <https://doi.org/10.1111/j.1467-6494.2007.00447.x>
- Wolters, C. A., & Hussain, M. (2015). Investigating grit and its relations with college students' self-regulated learning and academic achievement. *Metacognition and Learning, 10*(3), 293-311. <https://doi.org/10.1007/s11409-014-9128-9>
- World Economic Forum (2015). *New vision for education: Unlocking the potential of technology*. Geneva, Switzerland: World Economic Forum.
- Yeager, D. S., & Dweck, C. S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist, 47*(4), 302-314. <https://doi.org/10.1080/00461520.2012.722805>

- Zaninotto, P., Wardle, J., & Steptoe, A. (2016). Sustained enjoyment of life and mortality at older ages: Analysis of the English Longitudinal Study of Ageing. *BMJ*, 1-8.
<https://doi.org/10.1136/bmj.i6267>
- Zhao, Y., Niu, G., Hou, H., Zeng, G., Xu, L., Peng, K., & Yu, F. (2018). From growth mindset to grit in Chinese schools: The mediating roles of learning motivations. *Frontiers in Psychology*, 9, 1-7.
<https://doi.org/10.3389/fpsyg.2018.02007>
- Zipory, O. (2018). "One Day is a Whole World": On the role of the present in Education between plan and play. *Philosophy of Education Archive*, 278-286.

CAPÍTULO 3

It is not just finish line, it is a journey that matters: What contributes to maintain grit in a challenging activity?³

From childhood to old age, individuals set, pursue, and achieve goals in multiple areas of their life (Heckhausen et al., 2019). Extant literature indicates that challenging goals are more motivating for individuals than those easy to attain (Locke & Latham, 2006), but there is limited information on what helps individuals maintain focus on long-term goals, despite setbacks and failures; in sum research on what helps explain grit behaviors is limited. Grit may be defined as the combination of perseverance and passion towards a specific goal over time (Duckworth et al., 2007). The current study aims to deepen our understanding of the grit process using a large sample of pilgrims walking the Way of St. James. The latter describes popular and very old pilgrimage routes converging to the shrine of the Apostol St. James in the Cathedral of Santiago de Compostela. The current study analyzes the extent to which autonomy and lifelong learning attitudes explain the perseverance and passion of pilgrims while walking the Way of St. James. Participants enrolled in this research had already reached the halfway point of the Way of St. James as they were progressing towards the *pilgrimage* site. We believe this scenario is suited to explore what maintains pilgrims in this endeavor. Three bodies of literature informed the present study: (i) theoretical framework of self-determination theory (SDT; Deci & Ryan, 1985, 2000) and its relationship with grit, (ii) previous studies about grit and the Way of St. James, and (iii) previous literature on potential predictors of grit. Findings of this study is expected to help deepen researchers and educators knowledge on how foster perseverance in life meaningful goals like pursuing the Way of St. James.

Theoretical framework

One conceptual framework that bears direct relevance to the present study is the self-determination theory (SDT; Deci & Ryan, 2000). The core of SDT distinguishes two types of motivation as opposite ends of a spectrum: autonomous motivation and controlled motivation. An individual involved in an activity of interest, enjoyment, and purpose is moved by an autonomous motivation (Deci & Ryan, 2000). In contrast, an individual involved in an activity due to external rewards, avoidance of punishment, or internal pressures such as meeting the expectations of oneself or others, is moved by a controlled motivation (Deci & Ryan, 2000). Literature indicates that people moved by autonomous motivation are more likely to be effective at achieving positive outcomes like problem solving, well-being, and high-performance than those moved by controlled motivation (Chatzisarantis et al., 2019; Patall et al., 2018). This interplay

³ Submitted to an international peer review journal

between autonomous and controlled motivation is related to the theory of grit and its two dimensions (i.e., effort and focus while individuals pursue a passionate goal). Prior studies indicate that individuals pursuing hard and challenging goals over time are likely to embrace adverse conditions, and keep engaged without external rewards (Duckworth et al., 2007). What is more, extant findings show that goal-related interest, enjoyment, and commitment may contribute to maintain persistence and passion during goal pursuit, despite suboptimal external conditions (Locke & Latham, 2006; Ryan & Deci, 2000; Tang et al., 2019).

Grit and the Way of St. James

Grit may be defined as perseverance and passion towards a specific goal over time, and is known as an influential factor in achieving successful outcomes (Duckworth et al., 2007). Two dimensions comprise grit as follows: the effort directed to that goal, despite difficulties and failures – *perseverance of effort*, and the ability to maintain focus on one's passionate goal over time – *consistency of interest* (Duckworth et al., 2007). Grit has been arousing great interest within the scientific community and among educational practitioners; however, literature has not been supporting consistently the predictive power of grit on success-related outcomes (Credé, 2018). This may be due to the fact that the two dimensions of grit have been presenting distinct results regarding the same variables (Credé et al., 2017; Credé, 2018; Tang et al., 2019; Wolters & Hussain, 2015). For example, previous studies run in different settings found that persistence of effort was positively associated with high school achievement (Jiang et al., 2019; Steinmayr et al., 2018), the use of self-regulated strategies in university (Wolters & Hussain, 2015), school engagement in middle and high school (Tang et al., 2019), and the use of deliberate training in sport (Tedesqui & Young, 2017); but consistency of interest did not show positive relationships with these variables.

Researchers analyzed these non-expected results and found that the measure used (i.e. Grit-S scale) is not consistent with the definition of this variable, which may help explain the low predictive validity of grit (Jachimowicz et al., 2018; Jordan et al., 2019). The dimension that differentiates grit from constructs related with goal-directed behavior is that of passion; however, passion is not fully addressed in the items of the Grit-S scale (Jachimowicz et al., 2019; Jordan et al., 2019). What is more, Jachimowicz et al. (2018) analyzed this controversy by exploring whether a combination of grit (using the Grit-S scale) and passion attainment predicted job performance. Authors found that employees displaying more grit and passion in their work showed better job performance than counterparts displaying less grit and passion. This finding is consistent with prior research showing that postgraduate students with clearly

academic interests reported higher grit scores than those of first year university students (Kannangara et al., 2018). Globally, these findings are consistent with data showing that individuals passionate about their domain of performance are more persistent in pursuing those goals, despite hardships, than individuals involved in mandatory or exploratory activities (Jachimowicz et al., 2018). However, as Credé (2018) alerts, it is worth question and investigates whether being fixed and persistent in the same goal despite consecutive hardships is beneficial to achieve successful outcomes. This proposition opened a new avenue in grit research. In fact, while many studies have explored outcomes in various domains that may be explained by grit (e.g., school, job, and sports performance; Jachimowicz et al., 2018; Steinmayr et al., 2018; Tedesqui & Young, 2017), a few studies have analyzed what sustains grit.

The current study aims to contribute to literature by exploring what sustains perseverance and passion while pursuing a difficult goal under challenging conditions. To improve our understanding on the predictors of grit, the characteristics of the task should be considered. The task is expected to demand individuals' persistence and commitment to achieve a self-set goal difficult to attain, and passion to pursuit it. To experience passion, individuals need to value and enjoy the activity and allocate the adequate amount of time and energy to it (Vallerand et al., 2007). A long pilgrimage, such as the Way of St. James, presents internal and contextual challenges being a natural setting to investigate predictors of perseverance and passion over time towards a meaningful goal; simply put, grit. Irrespective of the nature of the pilgrims motivations (e.g., religious, spiritual, cultural or physical; Amaro et al., 2018), the urge "to follow and to pursue" a goal (Dupront, 1967, p. 108) is ingrained in the identity of pilgrim.

The Way of St. James is a popular pilgrimage recognized worldwide and it consists of travelling to the Cathedral of Santiago de Compostela on foot, horseback or bicycle for several days, weeks or months (Lois-González & Santos, 2015). Each pilgrim walking the Way of St. James holds a pilgrim's credential, a passport, which is stamped for each completed step (e.g., stamped at churches, mail offices), and allows access to pilgrim hostels along the journey (Lois-González & Santos, 2015). Despite the diversity of pilgrims and of reasons to walk the way, each "way" is unique because provides pilgrims unique experiences (e.g., need to overcome physical difficulties, persist day after day on the task, adapt to the lifestyle schedule of pilgrims from different nationalities, or adjust the traveling plan due to weather condition, Cazoux, 2011; Nilsson, 2018). All considered, this study aims to further understand the perseverance and passion of individuals while pursuing a self-set and difficult goal to achieve.

Potential predictors of grit

Autonomous functioning

Ryan and Deci (2000) defined autonomy as regulation of the behavior by the self rather than by external contingencies or internal pressures. It is worth noting that autonomous individuals, when compared with controlled individuals, perceive their behavior as more consistent with their interests, values, feelings, and goals (Ryan & Deci, 2000, 2006). Those moved by autonomous motivation usually display the effort needed to pursue their interests for long periods of time (Sheldon & Houser-Marko, 2001). In fact, research indicates that autonomous motivation was associated with goal progress (Koestner et al., 2008).

The path to autonomy demands a continuous reflective process regarding one's own experiences, needs, expectations, and resilience when facing external and internal pressures, likely to influence individual's initiative and choice (Ryan & Deci, 2006; Weinstein et al., 2012). For example, research shows that autonomous undergraduate students who reported to have satisfied their needs for competence, relatedness and autonomy, accepted more easily their positive and negative qualities and experiences and showed more positive affect and life satisfaction than controlled motivated students (e.g., Weinstein et al., 2012). Of the few studies existing about grit and autonomy, it is known that perseverance and passion towards long-term goals displayed by young adults was associated with satisfaction of their needs for autonomy and competence (Jin & Kim, 2017).

Lifelong learning attitudes

Worldwide, individuals are encouraged to master learning to learn competencies, take responsibility for their own development and respond to new circumstances and emerging challenges (Knapper & Cropley, 2000). Literature defines these attitudes as lifelong learning (Hojat et al., 2006). Lifelong learning describes individual's proactivity in their learning process throughout the lifespan, recognizing their learning needs and the responsibility to find ways to improve knowledge and performance (Commission of the European Communities, 2000; Hojat et al., 2006). This set of attitudes is likely to translate into high engagement with behaviors such as reading, writing, and critical thinking (Wielkiewicz & Meuwissen, 2014). For example, Parisi and colleagues (2019) found recently that lifelong learning attitudes foster individuals autonomous functioning allowing them to examine situations with high mental flexibility, select adequate strategies to overcome challenges, and transfer learning by applying the knowledge acquired in one context to a related one.

Research examining the relationships between grit and lifelong learning attitudes is scarce. Weisskirch (2018) addressed this topic and found that undergraduate student's positive attitudes towards

lifelong learning predicted their perseverance of effort but not their consistency of interest. Despite promising, literature on this topic is limited. Moreover, there is a need to further explore whether a lifelong learning positive attitude predicts grit (while including the passionate domain).

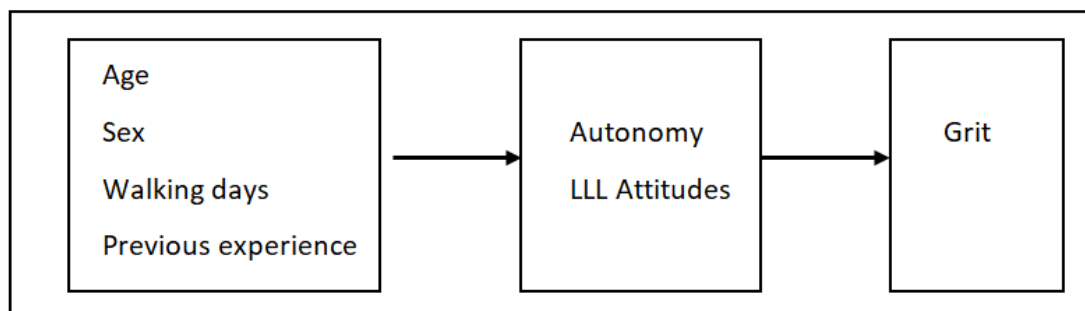
The present study

Pilgrims are likely to walk many kilometers a day for several days to reach the destination (Pilgrim's Welcome Office, 2020), and the experience of overcoming difficulties and setbacks while maintaining focus to achieve self-set goals is shared by all (Cazaux, 2011). The present study aims to address several gaps in grit literature: first, grit was assessed with a measure including the passion dimension. We believe this measure is more consistent with the grit construct and may help overcome some previous limitations regarding grit measure; second, we extended studies that explore predictors of grit using a sample of pilgrims that were progressing to achieve a goal; third, following suggestions from previous studies (e.g., Cormier et al., 2019), we analyzed grit as a domain-specific construct (i.e. focused on the Way of St. James).

Figure 1 shows our research model hypothesizing that grit is directly explained by the degree of autonomy and lifelong learning attitudes, and indirectly by variables such as age, sex, number of walking days or previous experience on the Way of St. James.

Figure 1.

Graphical representation of mediation model



Method

Participants

Five hundred and seventy-five pilgrims walking the Way of St. James participated in this study. All participants started the Way of St. James in Portugal. Three hundred and eleven pilgrims were female, age mean of 42.82 (14 – 81 years old; $SD = 16.24$), and they were from 41 nationalities.

Measures

Questionnaires were available in English, Portuguese and Spanish, and participants could choose their preferred language. All the measures were translated from English to Portuguese and Spanish by native researchers knowledgeable on grit research. Finally, these items were back translated by English-Portuguese or English-Spanish teachers blind to the original version of the instrument. The original and the translated versions of the items were compared, and the discrepancies found in both versions (Portuguese and Spanish) were resolved through consensus among the research team.

Demographics. Participants indicated their sex, age, nationality, academic qualifications, place where and date when they had started the Way of St. James (i.e. walking days), and the number of times they had already completed the Way of St. James (i.e. previous experience in the Way).

Grit. The Grit-S scale (Duckworth & Quinn, 2009) was used to measure grit. This scale is comprised by 8 items that evaluate the two dimensions of grit: consistency of interest and perseverance of effort. An example of an item from the dimension of consistency of interest is “I often set a goal but later choose to pursue a different one” (reversed-coded), and an example of an item from the dimension of perseverance of effort is “Setbacks don’t discourage me”. The items were presented on a 5-point Likert scale, ranging from (1) strongly disagree to (5) strongly agree. The appropriateness of factor analysis was supported by Bartlett’s test of sphericity, which provides an indicator of the strength of the relationships among variables. Bartlett’s test of sphericity $\chi^2(28) = 844,096$, $p < .001$, indicated that correlation structure is adequate for factor analyses. Moreover, we conducted the Kaiser-Meyer-Olkin (KMO = .788) and found that the sampling was adequate for the analysis (Pallant, 2007). To explore the factorial structure of the Grit-S scale, the eight items of the instrument were subjected to an exploratory factor analysis with varimax rotation. The maximum likelihood factor analysis with a cut-off point of .50 and the Kaiser’s criterion of eigenvalues greater than 1 yielded a two-factor solution as the best fit for the data accounting for 53,8% of the variance. The first dimension (consistency of interest) accounted for 28,97% and the second (perseverance of effort) for 24,84% of the variance. The alpha of Cronbach were .71 and .70, respectively.

Passion. The harmonious passion subscale of Vallerand et al. (2007) was used to assess participants’ passion toward the experience of performing a pilgrimage along the Way of St. James. This subscale is comprised by 7 items such as “The new things that I discover with this activity allow me to appreciate it even more”. The items were presented on a 5-point Likert scale, ranging from (1) strongly disagree to (5) strongly agree. Bartlett’s test of sphericity $\chi^2(21) = 1007,377$, $p < .001$ indicated that correlation structure is adequate for factor analyses. Moreover, we conducted the Kaiser-Meyer-Olkin

(KMO = .840) and found that the sampling was adequate for the analysis (Pallant, 2007). To explore the factorial structure of the harmonious passion subscale, the seven items of the instrument were subjected to an exploratory factor analysis with varimax rotation. The maximum likelihood factor analysis with a cut-off point of .50 and the Kaiser's criterion of eigenvalues greater than 1 yielded a one-factor solution as the best fit for the data, accounting for 45.24% of the variance. The alpha of Cronbach was .75.

Index of Autonomous Functioning. Participants completed the Index of Autonomous Functioning scale (Weinstein et al., 2012) to measure individuals' experience as congruent with their thoughts, feelings, values and interests. This scale includes three subscales (15 items): authorship/self-congruence, interest-taking, and susceptibility to control. Sample items of the three subscales include "My decisions represent my most important values and feelings" (authorship/congruence subscale); "I often reflect on why I react the way I do" (interest-taking); and "I do things in order to avoid feeling badly about myself" (susceptibility to control subscale). The items were presented on a 5-point Likert scale, ranging from (1) not at all true to (5) completely true. Bartlett's test of sphericity $\chi^2(105) = 1878,720$, $p < .001$, indicated that correlation structure is adequate for factor analyses. Moreover we conducted the Kaiser-Meyer-Olkin (KMO = .819) and found that the sampling was adequate for the analysis (Pallant, 2007). To explore the factorial structure of the Index of Autonomous Functioning scale, the 15 items of the instrument were subjected to an exploratory factor analysis with varimax rotation. The maximum likelihood factor analysis with a cut-off point of .50 and the Kaiser's criterion of eigenvalues greater than 1 yielded a three-factor solution as the best fit for the data accounting for 50,8% of the variance. The first dimension (interest-taking) accounted for 19,62%, the second (authorship/self-congruence) for 16,42%, and the third (susceptibility to control) for 14,81% of the variance. The alphas of Cronbach were .80, .74 and .70, respectively.

Lifelong learning attitudes. The Wielkiewicz and Meuwissen (2014) scale was used to assess perceived behaviors and attitudes positively related with curiosity, learning, and critical thinking. This scale includes 16 items, for example "I like to analyze problems and issues in depth". The items were presented on a 5-point Likert scale, ranging from (1) never to (5) always. Bartlett's test of sphericity $\chi^2(120) = 2514,504$, $p < .001$ indicated that correlation structure is adequate for factor analyses. Moreover, we conducted the Kaiser-Meyer-Olkin (KMO = .893) and found that the sampling was adequate for the analysis (Pallant, 2007). To explore the factorial structure of the *Lifelong learning attitudes*, the 15 items of the instrument were subjected to an exploratory factor analysis with varimax rotation. The maximum likelihood factor analysis with a cut-off point of .50 and the Kaiser's criterion of eigenvalues greater than

1 yielded a one-factor solution as the best fit for the data, accounting for 33.71% of the variance. Alpha of Cronbach was .86.

Procedure

Data collection was developed after the approval of the Ethics Committee for Research in Social and Human Sciences of Universidade do Minho. Consistent with the aims of this research, we targeted pilgrims who already had the opportunity to experience difficulties along the way and continued their course. For this reason, participants were contacted after walked halfway to Santiago de Compostela. According to the portal of the pilgrim (Pilgrim's Welcome Office, 2018), the place where most pilgrims start the Way in Portugal is in the city of Porto (230 km to Santiago de Compostela). Acknowledging this data, researchers decided to collect data from hostels in Paredes de Coura, which is halfway between Porto (Portugal) and Santiago de Compostela (Spain).

Prior to data collection, researchers met with two hostel officials to request permission to apply the questionnaires in these places. During data collection, a team of researchers waited for pilgrims in shared areas of the hostel (e.g., living room, kitchen and garden) and invited them to enroll in the study. Pilgrims who agreed to participate filled in an informed consent consistent with the declaration of Helsinki and answered the questionnaire in a room with adequate conditions. Data collection was mostly held in two hostels from May to September.

Statistical Analysis

Analysis were conducted with the statistical package SPSS 24. Data were analyzed in two steps. Firstly, the descriptive statistics and the correlations between the variables were run to decide the analytics best fit to approach our goals. We followed Finney and DiStefano (2006) criteria of statistical normality, which stablish ± 2 and ± 7 as the limits for skewness and kurtosis. Then, using AMOS 22.0 (Arbuckle, 2013), we tested a path analysis to analyze the role of the variables in predicting grit. The model was evaluated taking the most commonly used statistical measures and indexes as criteria: in addition to chi-square (χ^2) and its associated probability (p), we also used information provided by the GFI, CFI and the RMSEA. The model shows a good fit when GFI and AGFI $\geq .90$, CFI $\geq .95$, and RMSEA $\leq .05$. Subsequently using the PROCESS tool for SPSS 22 (Hayes, 2013), we analyzed the potential moderator role of the following variables: age, gender, previous experience, and walking days on the effect of autonomy and lifelong learning attitudes on grit. Cohen's d was used to calculate the effect size of the relationships included in the model. The criteria used to judge the effect size was as follows: no effect (d

< 0.09), small ($d = 0.10$ to 0.49), medium ($d = 0.50$ to 0.79), and large ($d \geq 0.80$). No significant amount of missing data was found; so, the missing values were treated through the multiple imputation procedure.

Results

Preliminary Analysis

Table 4 presents descriptive statistics and Pearson correlations (analysis was calculated with Spearman). Data from the Bartlett sphericity test show that the variables used in the model are interrelated ($\chi^2(21) = 456.64$; $p < .0001$), which is an important condition to run multivariate analysis. Data analysis show univariate (see skewness and kurtosis on Table 4) and multivariate normality (kurtosis = 1.161, $t = 1.239$, $p > .05$). Therefore, the robust maximum likelihood method has been used to fit the model.

Table 4.

Descriptive statistics and Pearson correlations (n = 575)

	Age	Gender	Previous Experience	Walking Days	Autonomy	LLL Attitudes	Grit
Age	–						
Gender	.087*	–					
Previous Experience	.254**	.032	–				
Walking Days	.139**	-.066	.081	–			
Autonomy	.142**	-.111**	.115**	.083*	–		
LLL Attitudes	-.021	-.052	.014	.077	.500**	–	
Grit	.223**	-.058	.124**	.081	.493**	.379**	–
<i>M</i>	42.53	0.46	1.91	4.88	4.98	5.70	5.53
<i>SD</i>	16.24	0.50	0.76	1.72	0.59	0.79	0.63
skewness	0.15	0.17	0.15	0.07	0.17	-1.01	-0.24
kurtosis	-1.23	-1.98	-1.24	-0.21	0.34	1.93	0.13

Note: Age (14=min., 81=max.); Gender (0=girls, 1=boys); Previous experience (1=no experience, 2=one or two experiences, 3=three or more experiences); Walking days (1=one-day walking, 2=two days walking, ..., 7=seven days walking, 8=more than seven days walking); Autonomy, LLL Lifelong learning attitudes, and Grit (1=min., 7=max.). * $p < .05$; ** $p < .01$

Data from the correlation matrix shows that i) individuals with more age, more autonomy and lifelong learning attitudes, are likely to display higher grit; ii) women show more autonomy, but no gender differences related to grit were found; iii) autonomy, the variable more related with grit, is closely associated to lifelong learning attitudes and previous experience. Finally, (iv) contrary to what might be expected, lifelong learning attitudes is not related with the variables used (i.e., age, gender, previous experience, and walking days), except for autonomy and grit.

Predictors of Grit

The initial model (see Figure 1) did not fit: $\chi^2(5) = 193.92$; $p < .0001$; GFI = .92; AGFI = .56; CFI = .57; RMSEA = .257. A close inspection to residuals and modification indexes indicated the need to include direct effects as follows: the effect of autonomy on lifelong learning attitudes and the effect of age on grit. Both effects were included in the model, and the model with these modifications fit the data: $\chi^2(3) = 1.35$; $p < .717$; GFI = .99; AGFI = .99; CFI = 1.000; RMSEA = .001. Table 5 presents information on the relationships between the variables used to fit the path model, their size, direction and statistical significance.

Table 5.

Results of the path model fit (direct effects)

	SC	se	t	p	d
Outcome: Autonomy					
Age	.123	.002	2.879	.004	0.242
Gender	-.114	.049	-2.765	.006	0.232
Walking days	.054	.014	1.294	.196	–
Previous experience	.084	.033	1.976	.048	0.166
Outcome: Lifelong Learning Attitudes					
Age	-.096	.002	-2.537	.011	0.213
Gender	.017	.057	0.466	.641	–
Walking days	.051	.017	1.389	.165	–
Previous experience	-.025	.039	-0.680	.497	–
Autonomy	.514	.049	14.012	<.0001	1.442

Outcome: Grit					
Age	.175	.001	4.924	<.0001	0.420
Autonomy	.368	.044	8.956	<.0001	0.806
LLL Attitudes	.199	.033	4.881	<.0001	0.416

Note: SC (Standardized coefficients)

Data from this path analysis indicate that the general hypothesis grounding the model should be accepted: grit is directly explained by autonomy and lifelong learning attitudes; and indirectly by variables such as age, gender, walking days, and previous experience. All considered, the explained variance of grit was 29.6% ($R^2 = .296$), from which autonomy and lifelong learning attitudes explain directly 23.6%. Age, gender, walking days, and previous experience explain 6% of grit explained variance (mainly indirect).

In general, data indicates that grit is strongly associated with pilgrims autonomy (high effect size of $d = 0.806$) while the association with lifelong learning attitudes and age is moderate (respectively $d = 0.416$ and $d = 0.420$). The initial design for the model did not include the relation between autonomy and lifelong learning attitudes, but the final version incorporated this relation as suggested by the modification index. Results were very positive with a high effect size ($d = 1.442$). Finally, the positive and significant relationships between age, gender, previous experience and autonomy could lead to consider the mediational role of autonomy in the relationship between the former and grit. However, the effect size is small ($d < .20$), which prevents this proposition.

Complementary analysis

After finding that the indirect effect of age, gender, walking days, and previous experience on grit is low; a complementary analysis was run to examine whether these variables could be moderating the effect of autonomy and lifelong learning attitudes on grit. Results show that walking days was moderating the effect of autonomy on grit ($b = -.0435$; $p < .05$; $d = 0.1638$), but not the effect of lifelong learning attitudes on grit. Moreover, the effect size of autonomy on grit varies in magnitude conditioned by the number of walking days. In detail, the effect size of autonomy on grit increases more in magnitude for 4 or 5 walking days ($d = 1.3689$) than for 1 or 2 walking days ($d = 0.7653$) or more than 8 walking days ($d = 0.9943$).

Discussion

A path analysis was run to examine whether grit is directly explained by the degree of autonomy and lifelong learning attitudes, and indirectly by variables such as age, gender, number of walking days or previous experience on the Way of St. James. The model fit the data well and findings are likely to deep researchers and practitioners understanding of grit. This study adds previous literature on grit either methodologically or theoretically.

First, we approached grit with a novel measure comprised by perseverance (Grit-S scale, Duckworth & Quinn, 2009) and harmonious passion (Vallerand et al., 2007), that we believe better represents the definition of grit introduced by Duckworth et al. (2007): “perseverance and passion for long-term goals” (p. 1087). Moreover, recent studies found that the Grit-S scale does not properly capture the passion component of the construct (Jachimowicz et al., 2019; Jordan et al., 2019). Literature shows that passion or a strong interest experienced in a task or activity is like a “catalyst” (Vallerand et al., 2007, p.387) that impels individuals to expend the necessary effort to complete complex tasks or activities and overcome obstacles to achieve a goal (Mueller et al., 2017). However, not all the passions play a positive role on individual’s well-being (Kim et al., 2019). For example, an obsessive passion on a task may have negative effects on the individual’s personal adjustment (e.g., cognitive rumination) and may lead to short-sighted decisions (Vallerand et al., 2008). On the contrary, a harmonious passion is related to positive affect during and after an activity, and it is associated with a flexible persistence (Rip et al., 2006; Vallerand et al., 2003). Research reports that individuals who engage in an activity with a harmonious passion are willing to ponder on other factors equally important for them (e.g., family, work, social-related aspects) while they consider the strength of their involvement in an activity (Rip et al., 2006). Drawing on literature showing that harmonious passion is associated to a flexible persistence and well-being indicators (Forest et al., 2012; Vallerand et al., 2003), we used a measure of grit comprising data from the Grit-S scale and the harmonious passion scale. Current findings despite preliminary are very promising and stress the relevance of including a passion measure while measuring grit.

Second, we tested two predictors of grit in a pilgrimage setting (i.e. autonomous functioning and lifelong learning attitudes). This option contributed to extending prior research about what explains pilgrims’ sustained effort and harmonious passion while they pursue long-term goals. Path analysis modeling shows that autonomy functioning predicts pilgrim’s perseverance and harmonious passion for long-term goals. This result could be explained by the fact that more autonomous pilgrims acting on their own pace and pursuing their motivations are more likely to engage in goal pursuit and work harder to

achieve goals than less autonomous pilgrims (i.e., those perceiving behavior as a result of external control or introjected pressures; see Deci & Ryan, 2000). Current finding is consistent with the work by Koestner et al. (2008) showing that autonomous motivation is more associated to goal progress than controlled motivation. Additionally, and consistent with Weinstein and colleagues (2012), we believe that autonomous pilgrims may display grit behaviors because they are likely to value the support of other pilgrims in times of hardship. These behaviors may occur because they are more predisposed to accept their weaknesses and strengths than less autonomous individuals. Extant literature indicates that when people are aware of their strengths and weaknesses, they become more predisposed to collaborate with others, particularly when they all share the same goal (Weinstein et al., 2012). Despite the body of knowledge on the pilgrimage to Santiago de Compostela is limited, available data indicates that the process of collaboration between pilgrims - who share the same destination - can be an opportunity to learn and grow as people (Cazaux, 2011; Slavin, 2003). Pilgrims journals report that they try to take the best advantage of the strengths of each one while they try to reach Santiago de Compostela (Cazaux, 2011). For example, pilgrims seldom encourage each other with songs, slowing down their rhythm to accompany another pilgrim, and by revisiting relevant milestones already achieved. However, they all agree that pilgrims should develop autonomous behaviors, for example, carrying their backpack and walk at their own pace (Mendel, 2010).

Third, present study found that many participants were completing the Way of St. James at least for the second time, and a few had completed this pilgrimage more than five times. Moreover, data indicated that the number of walking days was moderating the effect of autonomy on grit. Data show that few days as well as many days walking on pilgrimage has less impact on the effect size of autonomy on grit than 4 or 5 days walking. The former could be indicating that pilgrims need time to develop autonomy while coping with hardships of the Way of St. James or are using more days than average to complete similar distances which may indicate low autonomy. Both (1-2 or more than 8 days walking) seems to be affecting the relationship between autonomy and grit. This finding is consistent with the study by Jin and Kim (2017) reporting that the sense of autonomy is positively related to perseverance on attaining self-set goals.

Fourth, present data add literature by stressing the relationship between autonomy functioning and lifelong learning. An old saying of Way of St. James goes that for pilgrims it is not just finishing line, it is the journey that matters. Current data indicating that autonomous pilgrims (i.e., individuals who were completing the pilgrimage mainly for intrinsic interest; rather than for introjected or social pressures, Deci & Ryan, 2000) show more positive attitudes for lifelong learning than less autonomous pilgrims are

consistent with this old saying. Autonomous pilgrims may have felt compelled to respond effectively to the new circumstances and challenges and struggle to attain their goals (Nilsson, 2018). Moreover, data show that pilgrims displaying a positive attitude towards lifelong learning show more perseverance and passion in long-term goals. These findings are consistent with previous literature stating that persisting on a goal increases in the extent that individuals are more oriented to mastery than to performance (Gardner, 2006). In fact, individuals guided by mastery goals tend to be focused on developing skills and new knowledge, and usually engage in tasks and activities with greater depth and interest than individuals guided by performance goals (Darnon et al., 2007).

Implications

This study suggests some considerations for two groups of stakeholders of the Way of St. James: pilgrims, and people or organizations providing professional services to pilgrims. Findings stress two psychological processes likely to help individuals progress to Santiago de Compostela, even facing setbacks: autonomy functioning and positive attitudes towards learning. Those working in the service of pilgrims (e.g., tour organizers, guides in the Way of St. James, hostel owners) may consider the need to acknowledge differences in pilgrims degree of autonomy, and organize activities tailored to their needs (e.g., support for people with low ability to make choices on their own). Moreover, organizers could consider promoting pilgrims positive attitudes towards learning; for example, by encouraging pilgrims to look to challenges as opportunities to learn, and reflect on their achievements (e.g., get to the hostel after several hours walking under the rain; pack the backpack to travel light).

Limitations and future research

This study has some methodological and theoretical limitations. Despite our model fits well, a high percentage of variability was not explained by the current path analysis modeling. Future studies could consider adding variables likely to increment the explanatory variance of our model. For example, pilgrims' reasons to go on pilgrimage, value attributed to go on a pilgrimage, self-efficacy beliefs, and usage of self-regulatory strategies. Findings would help further understand autonomous functioning, lifelong learning attitudes and pilgrims' grit. Second, results of our study should not be generalized to all routes of the Way of St. James, neither to similar pilgrimages. Each pilgrimage route is unique such each path is unique. However, we suggest that future studies address what may explain the grit behavior of pilgrims who complete a very long route like the French Way (approximately 770 km). The extension of the way and the nature and amount of hardships could help further understand the grit experience. Third, although

our questionnaires were available in three languages (English, Portuguese and Spanish), we did not have German or Italian versions available. Pilgrims from those countries used the google translator to answer the questionnaires; still, due to the number of pilgrims from those countries future studies should consider translating the questionnaires into these languages. Finally, a measure of grit that is closer to the definition of the construct is an important achievement and adds grit literature. Future research could consider analyzing the relationship of grit with successful outcomes through a similar measure.

References

- Amaro, S., Antunes, A., & Henriques, C. (2018). A closer look at Santiago de Compostela's pilgrims through the lens of motivations. *Tourism Management, 64*, 271-280. <https://doi.org/10.1016/j.tourman.2017.09.007>
- Arbuckle, J. L. (2013). *Amos 22.0 User's Guide*. Amos Development Corporation.
- Cazaux, F. (2011) To be a pilgrim: A contested identity on Saint James' Way. *Tourism, 59*(3), 353-367.
- Chatzisarantis, N. L., Ada, E. N., Ahmadi, M., Caltabiano, N., Wang, D., Thøgersen-Ntoumani, C., & Hagger, M. S. (2019). Differential effects of perceptions of equal, favourable and unfavourable autonomy support on educational and well-being outcomes. *Contemporary Educational Psychology, 58*, 33-43. <https://doi.org/10.1016/j.cedpsych.2019.02.002>
- Commission of the European Communities. (2000). *A memorandum on lifelong learning*. <http://hdl.voced.edu.au/10707/151503>
- Cormier, D. L., Dunn, J. G., & Dunn, J. C. (2019). Examining the domain specificity of grit. *Personality and Individual Differences, 139*, 349-354. <https://doi.org/10.1016/j.paid.2018.11.026>
- Credé, M. (2018). What shall we do about grit? A critical review of what we know and what we don't know. *Educational Researcher, 47*(9), 606-611. <https://doi.org/10.3102/0013189X18801322>
- 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. <https://doi.org/10.1037/pspp0000102>
- Darnon, C., Butera, F., & Harackiewicz, J. M. (2007). Achievement goals in social interactions: Learning with mastery vs. performance goals. *Motivation and Emotion, 31*(1), 61-70. <https://doi.org/10.1007/s11031-006-9049-2>

- Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality, 19*(2), 109-134. [https://doi.org/10.1016/0092-6566\(85\)90023-6](https://doi.org/10.1016/0092-6566(85)90023-6)
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01
- 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. <https://doi.org/10.1080/00223890802634290>
- 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. <https://doi.org/10.1037/0022-3514.92.6.1087>
- Dupront, A. (1967). Tourisme et pèlerinage. *Communications, 10*(1), 97-121. <https://doi.org/10.3406/comm.1967.1145>
- Finney, S. J., & DiStefano, C. (2006). Non-normal and categorical data in structural equation modeling. In G. R. Hancock & R. O. Mueller (Eds.), *Structural equation modeling. A second course* (pp. 269-314). Information Age Publishing.
- Forest, J., Mageau, G. A., Crevier-Braud, L., Bergeron, É., Dubreuil, P., & Lavigne, G. L. (2012). Harmonious passion as an explanation of the relation between signature strengths' use and well-being at work: Test of an intervention program. *Human Relations, 65*(9), 1233-1252. <https://doi.org/10.1177/0018726711433134>
- Gardner, E. A. (2006). Instruction in mastery goal orientation: Developing problem solving and persistence for clinical settings. *Journal of Nursing Education, 45*(9), 343-347. <https://doi.org/10.3928/01484834-20060901-03>
- Hayes, A. F. (2013). *Introduction to mediation, moderation and conditional process analysis. A regression-based approach*. Guilford Press.
- Heckhausen, J., Wrosch, C., & Schulz, R. (2019). Agency and motivation in adulthood and old age. *Annual Review of Psychology, 70*, 191-217. <https://doi.org/10.1146/annurev-psych-010418-103043>
- Hojat, M., Veloski, J., Nasca, T. J., Erdmann, J. B., & Gonnella, J. S. (2006). Assessing physicians' orientation toward lifelong learning. *Journal of General Internal Medicine, 21*(9), 931-936. <https://doi.org/10.1007/BF02743140>

- Jachimowicz, J. M., Wihler, A., Bailey, E. R., & Galinsky, A. D. (2018). Why grit requires perseverance and passion to positively predict performance. *Proceedings of the National Academy of Sciences*, *115*(40), 9980-9985. <https://doi.org/10.1073/pnas.1803561115>
- Jachimowicz, J. M., Wihler, A., Bailey, E. R., & Galinsky, A. D. (2019). Reply to Guo et al. and Credé: Grit-S scale measures only perseverance, not passion, and its supposed subfactors are merely artifactors. *Proceedings of the National Academy of Sciences*, *116*(10), 3942-3944. <https://doi.org/10.1073/pnas.1821668116>
- Jiang, W., Xiao, Z., Liu, Y., Guo, K., Jiang, J., & Du, X. (2019). Reciprocal relations between grit and academic achievement: A longitudinal study. *Learning and Individual Differences*, *71*, 13-22. <https://doi.org/10.1016/j.lindif.2019.02.004>
- Jin, B., & Kim, J. (2017). Grit, basic needs satisfaction, and subjective well-being. *Journal of Individual Differences*, *38*(1), 29-35. <https://doi.org/10.1027/1614-0001/a000219>
- Jordan, S., Ferris, G., Hochwarter, W., & Wright, T. (2019). Toward a work motivation conceptualization of grit in organizations. *Group & Organization Management*, *44*(2), 320-360. <https://doi.org/10.1177/1059601119834093>
- Kannangara, C. S., Allen, R. E., Waugh, G., Nahar, N., Khan, S. Z. N., Rogerson, S., & Carson, J. (2018). All that glitters is not grit: Three studies of grit in university students. *Frontiers in Psychology*, *9*(1539), 1-15. <https://doi.org/10.3389/fpsyg.2018.01539>
- Kim, J. Y., Campbell, T. H., Shepherd, S., & Kay, A. C. (2019). Understanding contemporary forms of exploitation: Attributions of passion serve to legitimize the poor treatment of workers. *Journal of Personality and Social Psychology*, *118*(1), 121-148. <https://doi.org/10.1037/pspi0000190>
- Knapper, C., & Cropley, A. J. (2000). *Lifelong learning in higher education*. Psychology Press.
- Koestner, R., Otis, N., Powers, T. A., Pelletier, L., & Gagnon, H. (2008). Autonomous motivation, controlled motivation, and goal progress. *Journal of Personality*, *76*(5), 1201-1230. <https://doi.org/10.1111/j.1467-6494.2008.00519.x>
- Locke, E. A., & Latham, G. P. (2006). New directions in goal-setting theory. *Current Directions in Psychological Science*, *15*(5), 265-268. <https://doi.org/10.1111/j.1467-8721.2006.00449.x>
- Lois-González, R. C., & Santos, X. M. (2015). Tourists and pilgrims on their way to Santiago. Motives, Caminos and final destinations. *Journal of Tourism and Cultural Change*, *13*(2), 149-164. <https://doi.org/10.1080/14766825.2014.918985>
- Mendel, T. (2014). Foot-pilgrims and backpackers. Contemporary ways of travelling. *Scripta Instituti Donneriani Aboensis*, *22*, 288-315.

- Mueller, B. A., Wolfe, M. T., & Syed, I. (2017). Passion and grit: An exploration of the pathways leading to venture success. *Journal of Business Venturing, 32*(3), 260-279. <https://doi.org/10.1016/j.jbusvent.2017.02.001>
- Nilsson, M. (2018). Wanderers in the shadow of the sacred myth: Pilgrims in the 21st century. *Social & Cultural Geography, 19*(1), 21-38. <https://doi.org/10.1080/14649365.2016.1249398>
- Pallant, J. (2007). *SPSS Survival Manual*. Crows West, New South Wales.
- Parisi, G. I., Kemker, R., Part, J. L., Kanan, C., & Wermter, S. (2019). Continual lifelong learning with neural networks: A review. *Neural Networks, 113*, 54-71. <https://doi.org/10.1016/j.neunet.2019.01.012>
- Patall, E. A., Steingut, R. R., Vasquez, A. C., Trimble, S. S., Pituch, K. A., & Freeman, J. L. (2018). Daily autonomy supporting or thwarting and students' motivation and engagement in the high school science classroom. *Journal of Educational Psychology, 110*(2), 269-288. <https://doi.org/10.1037/edu0000214>
- Pilgrim's Welcome Office. (2018). *The Pilgrimage to Santiago de Compostela*. <https://oficinadelperegrino.com/en/statistics/>
- Pilgrim's Welcome Office. (2020). *The Pilgrimage to Santiago de Compostela*. <https://oficinadelperegrino.com/en/statistics/>
- Rip, B., Fortin, S., & Vallerand, R. J. (2006). The relationship between passion and injury in dance students. *Journal of Dance Medicine & Science, 10*, 14-20.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68-78.
- Ryan, R. M., & Deci, E. L. (2006). Self-regulation and the problem of human autonomy: Does psychology need choice, self-determination, and will? *Journal of Personality, 74*(6), 1557-1586. <https://doi.org/10.1111/j.1467-6494.2006.00420.x>
- Sheldon, K. M., & Hauser-Marko, I. (2001). Self-concordance, goal-attainment and the pursuit of happiness: Can there be a reward spiral? *Journal of Personality and Social Psychology, 80*(1), 152-165. <https://doi.org/10.1111/j.1467-6494.2008.00519.x>
- Slavin, S. (2003). Walking as spiritual practice: The pilgrimage to Santiago de Compostela. *Body & Society, 9*(3), 1-18. <https://doi.org/10.1177/1357034X030093001>
- Steinmayr, R., Weidinger, A. F., & Wigfield, A. (2018). Does students' grit predict their school achievement above and beyond their personality, motivation, and engagement? *Contemporary Educational Psychology, 53*, 106-122. <https://doi.org/10.1016/j.cedpsych.2018.02.004>

- Tang, X., Wang, M. T., Guo, J., & Salmela-Aro, K. (2019). Building Grit: The longitudinal pathways between mindset, commitment, grit, and academic outcomes. *Journal of Youth and Adolescence*, 1-14. <https://doi.org/10.1007/s10964-019-00998-0>
- Tedesqui, R. A., & Young, B. W. (2017). Investigating grit variables and their relations with practice and skill groups in developing sport experts. *High Ability Studies*, 28(2), 167-180. <https://doi.org/10.1080/13598139.2017.1340262>
- Vallerand, R. J., Blanchard, C., Mageau, G. A., Koestner, R., Ratelle, C. F., Le ´onard, M., et al. (2003). Les passions de l'âme: On obsessive and harmonious passion. *Journal of Personality and Social Psychology*, 85, 756–767. <https://doi.org/10.1037/0022-3514.85.4.756>
- Vallerand, R. J., Mageau, G. A., Elliot, A. J., Dumais, A., Demers, M.-A., & Rousseau, F. L. (2008). Passion and performance attainment in sport. *Psychology of Sport and Exercise*, 9, 373–392. <https://doi.org/10.1016/j.psychsport.2007.05.003>
- Vallerand, R. J., Salvy, S. J., Mageau, G. A., Elliot, A. J., Denis, P. L., Grouzet, F. M., & Blanchard, C. (2007). On the role of passion in performance. *Journal of Personality*, 75(3), 505-534. <https://doi.org/10.1111/j.1467-6494.2007.00447.x>
- Weinstein, N., Przybylski, A. K., & Ryan, R. M. (2012). The index of autonomous functioning: Development of a scale of human autonomy. *Journal of Research in Personality*, 46(4), 397-413. <https://doi.org/10.1016/j.jrp.2012.03.007>
- Weisskirch, R. S. (2018). Grit, self-esteem, learning strategies and attitudes and estimated and achieved course grades among college students. *Current Psychology*, 37(1), 21-27. <https://doi.org/10.1007/s12144-016-9485-4>
- Wielkiewicz, R. M., & Meuwissen, A. S. (2014). A lifelong learning scale for research and evaluation of teaching and curricular effectiveness. *Teaching of Psychology*, 41(3), 220-227. <https://doi.org/10.1177/0098628314537971>
- Wolters, C. A., & Hussain, M. (2015). Investigating grit and its relations with college students' self-regulated learning and academic achievement. *Metacognition and Learning*, 10(3), 293-311. <https://doi.org/10.1007/s11409-014-9128-9>

CONCLUSÃO

As características implícitas a um objetivo de longo-prazo (e.g., complexidade, atraso da gratificação, ocorrência de dificuldades e possíveis fracassos, propensão à fadiga) provocam vários desafios a quem os persegue (Duckworth, 2016). À luz da literatura sobre o *grit*, o objetivo deste trabalho foi o de explorar os fatores pessoais e ambientais que contribuem para manter o compromisso com objetivos de longo prazo perseguidos num contexto formal (Universidade; programa de doutoramento) e informal de aprendizagem (Caminho de Santiago); aspetos pouco explorados na literatura sobre o *grit*.

O *estudo 1* revelou um conjunto de fatores que contribuem para o compromisso dos alunos de doutoramento ao longo do seu percurso formativo na academia. Através de uma análise temática (Braun & Clarke, 2006), foram identificados quatro fatores que, segundo os participantes, sustentam o seu interesse e envolvimento no doutoramento: clarificação de um propósito para perseverar e completar este ciclo de estudos, consistência nos interesses ao longo do doutoramento, perseverança no esforço para superar as adversidades, e monitorização do progresso para obter feedback sobre a performance. Embora exploratórios, estes resultados contribuem para o mapeamento de *vias* que podem ajudar os alunos de doutoramento a manter o interesse e a progredir nos seus estudos. De facto, completar um doutoramento é uma tarefa considerada complexa e desafiante para muitos alunos, o que é consistente com os números alarmantes de alunos em vários países que desistem do doutoramento ou que atrasam a sua conclusão (Ampaw & Jaeger, 2021; Mason, 2012). Como forma de combater este fenómeno, vários estudos dirigiram o foco de atenção para os motivos associados ao abandono neste ciclo de estudos. Foram mapeados vários motivos (e.g., perceção de baixo suporte por parte do orientador, isolamento, perceção de baixa eficácia para realizar as tarefas relacionados com o projeto de investigação, desinteresse pelo tema de investigação) que ajudaram a identificar os problemas existentes neste ciclo do Ensino Superior (Castelló et al., 2017; Laufer & Gorup, 2019; Leijen et al., 2016). Contudo, e não questionando o mérito destas investigações, o principal contributo do estudo 1 foi o de ter explorado o que *mantém* os alunos de doutoramento envolvidos nos seus estudos, e não o que os motiva a desistir dos estudos. Tal como tem vindo a ser sugerido por alguns autores (e.g., Gabi & Sharpe, 2021), identificar e potenciar as competências e as estratégias reportadas pelos alunos que persistem no doutoramento pode ser um antídoto para combater os problemas que ocorrem neste ciclo de estudos.

Não deixa de ser relevante mencionar que uma experiência académica bem-sucedida no doutoramento procede do envolvimento comprometido e responsável do aluno, mas também do suporte de toda a comunidade educativa envolvente (e.g., orientador, colegas, diretores de curso; Gardner, 2009). De acordo a teoria da autodeterminação (Deci & Ryan, 2000), as condições providenciadas pelo meio ambiente podem nutrir ou prejudicar a perceção de autonomia, competência e sentido de pertença

dos alunos de doutoramento e, conseqüentemente, a sua motivação intrínseca para se envolverem nos estudos (Litalien & Guay, 2015). Por isso, o progresso de um aluno de doutoramento nos estudos e o desenvolvimento de aspirações profissionais futuras resulta da combinação de várias *vontades* e *esforços* (Gardner, 2009; Gu et al., 2018).

O *estudo 2* revelou um conjunto de fatores que contribuem para sustentar o interesse e a perseverança dos participantes do Caminho de Santiago ao longo da experiência. Através de uma análise temática (Braun & Clarke, 2006), foram identificadas quatro *ferramentas psicológicas* (tools) que fortalecem o interesse e persistência dos participantes na perseguição do objetivo final: *tools for progress, tools to enjoy the journey, tools to look inside myself, and tools to make one's life worth living*⁴. Estes resultados apresentam algumas semelhanças com os resultados do estudo 1. Podemos concluir que, seja em contexto académico ou não académico, o progresso face a um objetivo desafiante parece ser facilitado na medida em que os indivíduos estejam dotados de competências que lhes permitam planear, selecionar estratégias adequadas às suas necessidades, e adotar respostas flexíveis face aos obstáculos sustentando percepções de eficácia face aos atrasos ou desvios ao previamente planeado, sem perder de vista os objetivos traçados (Duckworth & Gross, 2014). A percepção de competência (e.g., “é difícil, mas estou a conseguir”), autonomia (“estou a tomar as minhas próprias decisões, estou a andar ao meu ritmo e não ao ritmo dos outros”) e sentido de pertença (“as pessoas estão atentas às minhas necessidades e ajudam-me quando preciso”) geram satisfação e aumentam a disposição para continuar a perseguir o objetivo, apesar das dificuldades (Jin & Kim, 2017). Além disso, os resultados do estudo 2 sugerem que o sentido, significado e interesse associados à atividade de peregrinação (e.g., refletir sobre a minha vida, aperfeiçoar as minhas qualidades), e não só o prazer experienciado durante a atividade, contribuem para os indivíduos se manterem envolvidos na perseguição de um objetivo desafiante (e.g., Von Culin et al., 2014). Essa motivação intrínseca à atividade facilita que as pessoas se mantenham envolvidas numa atividade por iniciativa própria, mesmo quando não há recompensa ou satisfação imediata, condições que geralmente ocorrem durante a perseguição de um objetivo desafiante ou de longo-prazo (Karlen et al., 2019). Desmistificar a noção comumente aceite de que o envolvimento em atividades apaixonantes envolve na maior parte do tempo a sensação de prazer e satisfação, e não é esperado que se experiencie fadiga ou adversidades, pode contribuir para aumentar o compromisso com objetivos de longo-prazo (O’Keefe et al., 2018; Park et al., 2020).

Os resultados do estudo 2 também tornaram possível compreender que a participação numa atividade desafiante como o Caminho de Santiago pode despertar insights sobre condições que

⁴ A escrita dos termos em inglês informa melhor o significado atribuído aos termos

potenciam ou afetam um funcionamento psicológico saudável. Segundo os participantes do estudo, para manter um funcionamento autónomo (e.g., tomar decisões por iniciativa própria e alinhadas com os interesses e valores, sem ceder a pressões provocadas pelo ambiente ou pelo próprio) é necessário potenciar e aperfeiçoar qualidades e competências ao longo da vida. Estes resultados são sustentados e, encorajados, pela literatura (Laal & Salamati, 2012). Os investigadores explicam que ao longo da vida, nos diferentes contextos e circunstâncias de cada pessoa, vão sucedendo eventos e experiências que podem toldar as perspetivas futuras, provocando desvios ou desencorajando a movimentação para os objetivos individuais de longo-prazo (Duckworth, 2016). Por isso, torna-se fundamental que os indivíduos estejam em permanente atualização de conhecimentos, atitudes e competências (e.g., interpessoais, intrapessoais, intelectuais) que lhes permitam lidar de forma positiva com os desafios, adversidades e novas oportunidades dos tempos atuais e futuros (Blalock et al., 2015; Dunlap, 2003; OECD, 2018; Park & Peterson, 2009). De facto, o *estudo 3* revelou que um funcionamento autónomo está relacionado com uma atitude positiva de aprendizagem ao longo da vida. Estas duas dimensões (autonomia e aprendizagem ao longo da vida) estão relacionadas com a disposição para persistir em objetivos desafiantes como, neste caso, concluir o Caminho de Santiago. Estes resultados vão ao encontro do apelo de vários investigadores e políticas internacionais que sugerem que os desafios e adversidades são inevitáveis ao longo da vida; contudo, quanto mais autónomas e disponíveis estiverem as pessoas para continuar a aprender ao longo da vida, mais preparadas estarão para se adaptarem às mudanças do ambiente e prosseguirem os seus objetivos (Dishon & Gilead, 2020, OECD, 2018).

Limitações e perspetivas para estudos futuros

Este trabalho de investigação apresenta algumas limitações que devem ser mencionadas. Os estudos que compõem esta tese identificaram dimensões que estão relacionadas com a manutenção do interesse/paixão e da persistência dos alunos de doutoramento e dos participantes do Caminho de Santiago nos seus objetivos de longo-prazo, não sendo possível estabelecer relações causais entre essas dimensões e o grit. Seria interessante estudos futuros com um design longitudinal analisarem a relação causal existente entre as dimensões pessoais e ambientais encontradas neste trabalho no grit dos alunos de doutoramento e dos participantes do Caminho de Santiago.

Implicações para a prática

Este trabalho propõe algumas implicações práticas dirigidas ao contexto universitário e ao contexto de peregrinação do Caminho de Santiago. Em relação ao contexto universitário, é comum as

universidades oferecerem aos alunos a oportunidade de participarem em Programas de Mentoria (Holley & Caldwell, 2012). Estes programas visam ser um apoio à integração dos alunos num novo ciclo de estudos, e um estímulo ao desenvolvimento de competências fundamentais para o progresso nos estudos e um suporte na transição para o mercado de trabalho. Os resultados do estudo 1 podem servir de suporte para a planificação de algumas sessões destes Programas de Mentoria dirigidos aos alunos de doutoramento, na medida em que informam os mentores de algumas dimensões cognitivas, emocionais e comportamentais relacionadas com a persistência no doutoramento. Estimular e orientar a reflexão em torno das questões que exemplificamos de seguida pode ser um meio de apoiar os alunos de doutoramento a clarificar propósitos e interesses, estabelecer objetivos concretos e direcionar comportamentos para atingir esses objetivos. Estes comportamentos proativos no desenvolvimento das suas carreiras (sejam elas dentro ou fora da academia) correspondem a dimensões relacionadas com o grit (Duckworth & Gross; 2014; Hill et al., 2016). “Por que razão estou inscrito num programa de doutoramento?”, “Quais são as minhas aspirações futuras?”, “Como me vejo daqui a 4 anos?”, “O que mais me entusiasma na minha área de investigação?”, “Como é que eu gostaria de criar impacto positivo na sociedade?”, “Que competências serão importantes para o meu futuro profissional?”, “Como posso desenvolver essas competências durante o doutoramento?”, “Em que projetos e atividades posso participar?”, “Em que projetos ou atividades não me devo envolver para não me desviar dos meus interesses e objetivos?”, “Que outras alternativas posso encontrar para superar esta dificuldade relacionada com o meu projeto de investigação?”. A investigação sugere que instigar o desenvolvimento de competências de metacognição ajuda os alunos a assumir responsabilidade e controlo sobre as suas ações e a aprofundar a aprendizagem (Dunlap, 2003).

Por outro lado, profissionais que acompanham os peregrinos de Santiago ao longo da experiência de peregrinação poderiam incluir no seu plano de acompanhamento atividades que estimulem reflexão sobre as várias dimensões que foram identificadas no estudo 2 e 3 (e.g., valor do esforço, flexibilidade perante obstáculos, sentir-se parte de uma comunidade, tomar perspetiva, importância de desenvolver ou potenciar várias qualidades) e que estão relacionadas com a manutenção do interesse e persistência nesta atividade. A investigação sugere que as pessoas assimilam melhor nova informação após experiências pessoais bem-sucedidas do que após experiências pessoais malsucedidas (Eskreis-Winkler & Fishbach, 2019). Por isso, tirar benefício das experiências de progresso na caminhada, bem-estar e harmonia com outras pessoas pode ser uma forma de potenciar novas aprendizagens relacionadas com o autoconhecimento e desenvolvimento pessoal dos participantes.

REFERÊNCIAS

- Alan, S., Boneva, T., & Ertac, S. (2019). Ever failed, try again, succeed better: Results from a randomized educational intervention on grit. *The Quarterly Journal of Economics*, *134*(3), 1121-1162. <https://doi.org/10.1093/qje/qjz006>
- Alhadabi, A., & Karpinski, A. C. (2020). Grit, self-efficacy, achievement orientation goals, and academic performance in University students. *International Journal of Adolescence and Youth*, *25*(1), 519-535. <https://doi.org/10.1080/02673843.2019.1679202>
- Amaro, S., Antunes, A., & Henriques, C. (2018). A closer look at Santiago de Compostela's pilgrims through the lens of motivations. *Tourism Management*, *64*, 271-280. <https://doi.org/10.1016/j.tourman.2017.09.007>
- Ampaw, F.D., & Jaeger, A.J. (2012). Completing the three stages of doctoral education: An event history analysis. *Research in Higher Education*, *53*, 640–660. <https://doi.org/10.1007/s11162-011-9250-3>
- Blalock, D. V., Young, K. C., & Kleiman, E. M. (2015). Stability amidst turmoil: Grit buffers the effects of negative life events on suicidal ideation. *Psychiatry Research*, *228*(3), 781-784. <https://doi.org/10.1016/j.psychres.2015.04.041>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Castelló, M., Pardo, M., Sala-Bubaré, A., & Suñe-Soler, N. (2017). Why do students consider dropping out of doctoral degrees? Institutional and personal factors. *Higher Education*, *74*(6), 1053-1068. <https://doi.org/10.1007/s10734-016-0106-9>
- 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. <https://doi.org/10.1037/pspp0000102>
- Danner, D., Lechner, C. M., & Rammstedt, B. (2019). A cross-national perspective on the associations of grit with career success. *Compare: A Journal of Comparative and International Education*, *50*(2), 1-18. <https://doi.org/10.1080/03057925.2019.1617110>
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01
- Dishon, G., & Gilead, T. (2020). Adaptability and its discontents: 21st-century skills and the preparation for an unpredictable future. *British Journal of Educational Studies*, 1-22. <https://doi.org/10.1080/00071005.2020.1829545>

- Duckworth, A. (2016). *Grit: The power of passion and perseverance*. Scribner.
- 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. <https://doi.org/10.1080/00223890802634290>
- Duckworth, A. L., Kirby, T. A., Tsukayama, E., Berstein, H., & Ericsson, K. A. (2011). Deliberate practice spells success: Why grittier competitors triumph at the National Spelling Bee. *Social Psychological and Personality Science, 2*(2), 174-181. <https://doi.org/10.1177/1948550610385872>
- 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. <https://doi.org/10.1037/0022-3514.92.6.1087>
- 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. <https://doi.org/10.1177/0963721414541462>
- Dunlap, J. C., & Grabinger, S. (2003). Preparing students for lifelong learning: A review of instructional features and teaching methodologies. *Performance Improvement Quarterly, 16*(2), 6-25. <https://doi.org/10.1111/j.1937-8327.2003.tb00276.x>
- Eskreis-Winkler, L., & Fishbach, A. (2019). Not learning from failure—The greatest failure of all. *Psychological Science, 30*(12), 1733-1744. <https://doi.org/10.1177/0956797619881133>
- Eskreis-Winkler, L., Duckworth, A. L., Shulman, E. P., & Beal, S. (2014). The grit effect: Predicting retention in the military, the workplace, school and marriage. *Frontiers in Psychology, 5*, 1-12. <https://doi.org/10.3389/fpsyg.2014.00036>
- Fite, R. E., Lindeman, M. I., Rogers, A. P., Voyles, E., & Durik, A. M. (2017). Knowing oneself and long-term goal pursuit: Relations among self-concept clarity, conscientiousness, and grit. *Personality and Individual Differences, 108*, 191-194. <https://doi.org/10.1016/j.paid.2016.12.008>
- Gabi, J., & Sharpe, S. (2021). Against the odds: an investigation into student persistence in UK higher education. *Studies in Higher Education, 46*(2), 198-214. <https://doi.org/10.1080/03075079.2019.1626364>
- Gardner, S. K. (2009). Student and faculty attributions of attrition in high and low-completing doctoral programs in the United States. *Higher Education, 58*(1), 97-112. <https://doi.org/10.1007/s10734-008-9184-7>

- Gu, J., Levin, J. S., & Luo, Y. (2018). Reproducing “academic successors” or cultivating “versatile experts”: Influences of doctoral training on career expectations of Chinese PhD students. *Higher Education, 76*(3), 427-447. doi:10.1007/s10734-017-0218-x
- Hill, P. L., Burrow, A. L., & Bronk, K. C. (2016). Persevering with positivity and purpose: An examination of purpose commitment and positive affect as predictors of grit. *Journal of Happiness Studies, 17*(1), 257-269. <https://doi.org/10.1007/s10902-014-9593-5>
- Holley, K. A., & Caldwell, M. L. (2012). The challenges of designing and implementing a doctoral student mentoring program. *Innovative Higher Education, 37*(3), 243-253. <https://doi.org/10.1007/s10755-011-9203-y>
- Jachimowicz, J. M., Wihler, A., Bailey, E. R., & Galinsky, A. D. (2018). Why grit requires perseverance and passion to positively predict performance. *Proceedings of the National Academy of Sciences, 115*(40), 9980-9985. <https://doi.org/10.1073/pnas.1803561115>
- Jiang, W., Xiao, Z., Liu, Y., Guo, K., Jiang, J., & Du, X. (2019). Reciprocal relations between grit and academic achievement: A longitudinal study. *Learning and Individual Differences, 71*, 13-22. <https://doi.org/10.1016/j.lindif.2019.02.004>
- Jin, B., & Kim, J. (2017). Grit, basic needs satisfaction, and subjective well-being. *Journal of Individual Differences, 38*(1), 29-35. <https://doi.org/10.1027/1614-0001/a000219>
- Jordan, S., Ferris, G., Hochwarter, W., & Wright, T. (2019). Toward a work motivation conceptualization of grit in organizations. *Group & Organization Management, 44*(2), 320-360. <https://doi.org/10.1177/1059601119834093>
- Kannangara, C. S., Allen, R. E., Waugh, G., Nahar, N., Khan, S. Z. N., Rogerson, S., & Carson, J. (2018). All that glitters is not grit: Three studies of grit in university students. *Frontiers in Psychology, 9*, 1-15. <https://doi.org/10.3389/fpsyg.2018.01539>
- Karlen, Y., Suter, F., Hirt, C., & Merki, K. M. (2019). The role of implicit theories in students' grit, achievement goals, intrinsic and extrinsic motivation, and achievement in the context of a long-term challenging task. *Learning and Individual Differences, 74*, 1-12. <https://doi.org/10.1016/j.lindif.2019.101757>
- Laal, M., & Salamati, P. (2012). Lifelong learning; why do we need it?. *Procedia-Social and Behavioral Sciences, 31*, 399-403. <https://doi.org/10.1016/j.sbspro.2011.12.073>
- Laufer, M., & Gorup, M. (2019). The invisible others: Stories of international doctoral student dropout. *Higher Education, 78*(1), 165-181. <https://doi.org/10.1007/s10734-018-0337-z>

- Leijen, Ä., Lepp, L., & Remmik, M. (2016). Why did I drop out? Former students' recollections about their study process and factors related to leaving the doctoral studies. *Studies in Continuing Education, 38*(2), 129-144. <https://doi.org/10.1080/0158037X.2015.1055463>
- Litalien, D., & Guay, F. (2015). Dropout intentions in PhD studies: A comprehensive model based on interpersonal relationships and motivational resources. *Contemporary Educational Psychology, 41*, 218-231. <https://doi.org/10.1016/j.cedpsych.2015.03.004>
- Mason, M. M. (2012). Motivation, satisfaction, and innate psychological needs. *International Journal of Doctoral Studies, 7*(1), 259-277.
- Muenks, K., Yang, J. S., & Wigfield, A. (2018). Associations between grit, motivation, and achievement in high school students. *Motivation Science, 4*(2), 158-176. <https://doi.org/10.1037/mot0000076>
- Nilsson, M. (2018). Wanderers in the shadow of the sacred myth: Pilgrims in the 21st century. *Social & Cultural Geography, 19*(1), 21-38. <https://doi.org/10.1080/14649365.2016.1249398>
- O'Keefe, P. A., Dweck, C. S., & Walton, G. M. (2018). Implicit theories of interest: Finding your passion or developing it?. *Psychological Science, 29*(10), 1653-1664. <https://doi.org/10.1177/0956797618780643>
- OECD (2018). Concept note: skill for 2030. *OECD Future of Education and Skills 2030*. Paris: OECD.
- Oviedo, L., de Courcier, S., & Farias, M. (2014). Rise of pilgrims on the Camino to Santiago: Sign of change or religious revival? *Review of Religious Research, 56*(3), 433-442. <http://dx.doi.org/10.1007/s13644-013-0131-4>
- Park, D., Tsukayama, E., Yu, A., & Duckworth, A. L. (2020). The development of grit and growth mindset during adolescence. *Journal of Experimental Child Psychology, 198*, 1-11. <https://doi.org/10.1016/j.jecp.2020.104889>
- Park, D., Tsukayama, E., Yu, A., & Duckworth, A. L. (2020). The development of grit and growth mindset during adolescence. *Journal of Experimental Child Psychology, 198*, 1-11. <https://doi.org/10.1016/j.jecp.2020.104889>
- Park, N., & Peterson, C. (2009). Character strengths: Research and practice. *Journal of College and Character, 10*(4), 1-10. <https://doi.org/10.2202/1940-1639.1042>
- Pilgrim's Welcome Office. (2021). *The Pilgrimage to Santiago de Compostela*. <https://oficinadelperegrino.com/en/statistics/>
- Rimfeld, K., Kovas, Y., Dale, P. S., & Plomin, R. (2016). True grit and genetics: Predicting academic achievement from personality. *Journal of Personality and Social Psychology, 111*(5), 780-789. <http://dx.doi.org/10.1037/pspp0000089>

- Steinmayr, R., Weidinger, A. F., & Wigfield, A. (2018). Does students' grit predict their school achievement above and beyond their personality, motivation, and engagement? *Contemporary Educational Psychology, 53*, 106-122. <https://doi.org/10.1016/j.cedpsych.2018.02.004>
- Strayhorn, T. L. (2014). What role does grit play in the academic success of black male collegians at predominantly white institutions?. *Journal of African American Studies, 18*(1), 1-10. <https://doi.org/10.1007/s12111-012-9243-0>
- Tang, X., Wang, M. T., Guo, J., & Salmela-Aro, K. (2019). Building Grit: The longitudinal pathways between mindset, commitment, grit, and academic outcomes. *Journal of Youth and Adolescence, 48*(5), 850-863. <https://doi.org/10.1007/s10964-019-00998-0>
- Tedesqui, R. A., & Young, B. W. (2017). Investigating grit variables and their relations with practice and skill groups in developing sport experts. *High Ability Studies, 28*(2), 167-180. <https://doi.org/10.1080/13598139.2017.1340262>
- Von Culin, K. R., Tsukayama, E., & Duckworth, A. L. (2014). Unpacking grit: Motivational correlates of perseverance and passion for long-term goals. *The Journal of Positive Psychology, 9*(4), 306-312. <https://doi.org/10.1080/17439760.2014.898320>
- Weisskirch, R. S. (2018). Grit, self-esteem, learning strategies and attitudes and estimated and achieved course grades among college students. *Current Psychology, 37*(1), 21-27. <https://doi.org/10.1007/s12144-016-9485-4>
- Wolters, C. A., & Hussain, M. (2015). Investigating grit and its relations with college students' self-regulated learning and academic achievement. *Metacognition and Learning, 10*(3), 293-311. <https://doi.org/10.1007/s11409-014-9128-9>
- Zhao, Y., Niu, G., Hou, H., Zeng, G., Xu, L., Peng, K., & Yu, F. (2018). From growth mindset to grit in Chinese schools: The mediating roles of learning motivations. *Frontiers in Psychology, 9*, 1-7. <https://doi.org/10.3389/fpsyg.2018.02007>