

RESEARCH PAPER

Perseverance of Effort Moderates the Relationship between Psychological Distress and Life Satisfaction

Micah Boerma¹, James Neill¹ and Patricia Brown¹

Corresponding author

Micah Boerma, Centre for Applied Psychology,
Building 12, Allawoona Street, Bruce, ACT, 2601,
Australia
E-mail: u3107333@uni.canberra.edu.au
Telephone: +61 419 333 266

Affiliations

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ACT, 2601, Australia

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Abstract

Background: Grit is a positive psychological trait that is theorised to consist of passion and perseverance towards long-term goals. Early grit research examined its relationship with academic achievement.

However, grit may be beneficial in other life domains such as mental health and life satisfaction. The grit facet of perseverance of effort has been found to be related to mental health, however the nature of this relationship remains unclear.

Aims: The aim of this study was to examine the association between perseverance of effort, mental health, and life satisfaction. **Methods:** Adult participants (N = 153) from community and university samples completed an online survey that measured perseverance of effort, life satisfaction, psychological wellbeing, and psychological distress.

Results: Results showed that perseverance of effort significantly moderated the relationship between psychological distress and life satisfaction. Follow-up analyses revealed that, when perseverance was low, there was a significant negative relationship between psychological distress and life satisfaction. However, when perseverance was average or above average, there was no significant relationship between distress and satisfaction.

Discussion: These findings suggest that perseverant effort appeared to buffer the effect of psychological distress on life satisfaction. Further, this study provides seminal findings on the moderating influence of perseverant effort on psychological distress and life satisfaction. **Conclusions:** Grit, in the form of perseverance, warrants further attention as a modifiable factor which can help to promote important life outcomes. Recommendations for future research are also discussed.

Keywords: mental health, grit, perseverance, psychological distress, life satisfaction, psychological wellbeing

Abstract

Contexte: Grit est un trait psychologique positif qui est théorisé comme étant de la passion et de la persévérance envers des objectifs à long terme. Les premières recherches sur le vif ont examiné sa relation avec la réussite scolaire. Cependant, le courage peut être bénéfique dans d'autres domaines de la vie tels que la santé mentale et la satisfaction de vivre. On a constaté que le côté brutal de la persévérance dans l'effort était lié à la santé mentale, mais la nature de cette relation reste incertaine.

Objectifs: Le but de cette étude était d'examiner l'association entre la persévérance de l'effort, la santé mentale et la satisfaction de vivre. **Méthodes:** Les participants adultes (N = 153) provenant d'échantillons communautaires et universitaires ont répondu à une enquête en ligne qui mesurait la persévérance dans l'effort, la satisfaction de vivre, le bien-être psychologique et la détresse psychologique.

Résultats: Les résultats ont montré que la persévérance de l'effort modère significativement la relation entre la détresse psychologique et la satisfaction de vivre. Des analyses de suivi ont révélé que, lorsque la persévérance était faible, il y avait une relation négative significative entre la détresse psychologique et la satisfaction à l'égard de la vie. Cependant, lorsque la persévérance était moyenne ou supérieure à la moyenne, il n'y avait pas de relation significative entre la détresse et la satisfaction.

Discussion: Ces résultats suggèrent que l'effort persévérant semble atténuer l'effet de la détresse psychologique sur la satisfaction à l'égard de la vie. De plus, cette étude fournit des conclusions fondamentales sur l'influence modératrice de l'effort persévérant sur la détresse psychologique et la satisfaction à l'égard de la vie. **Conclusions:** Le courage, sous forme de persévérance, mérite une attention supplémentaire en tant que facteur modifiable qui peut aider à promouvoir des résultats importants dans la vie. Des recommandations pour de futures recherches sont également discutées.

Mots clés: santé mentale, courage, persévérance, détresse psychologique, satisfaction à l'égard de la vie, bien-être psychologique

Mental health disorders are one of the largest contributors (7%) to the global burden of disease (Collins et al., 2011; Rehm & Shield, 2019; WHO, 2008). Mental illness (including depression, anxiety, addiction, and schizophrenia) collectively surpasses medical diseases such as cancer, stroke, and cardiovascular disease (WHO, 2008). Depression alone is the third largest contributor to global burden of disease (Collins et al., 2011), the leading cause of mental health related disease (Herrman et al., 2019), and markedly contributes to social isolation and suicide attempts around the world (WHO, 2016). Moreover, research has consistently found that psychological distress is associated with reduced life satisfaction (Bellis et al., 2012; Beutel, Gaesmer, Wiltink, Marian, & Brahler, 2010). Life satisfaction, an individual's overall cognitive evaluation of their quality of life, is related to a plethora of physical, psychological, and occupational outcomes (Pavot & Diener, 2008).

National and international strategic initiatives have been implemented to combat the burden of psychiatric disorders (Saxena, Funk, & Chisholm, 2013). Nonetheless, barriers remain towards achieving these initiatives, such as the lack of comprehensive research examining psychological factors that contribute towards individual health and wellbeing (WHO, 2017).

Grit is a positive psychological trait that relates to a range of academic, lifestyle, and emotional outcomes (Credé, Tynan, & Harms, 2017; Duckworth, Peterson, Matthews, & Kelly, 2007; Singh & Jha, 2008). However, there is a dearth of research about the relationships between grit, mental health, and indicators of wellbeing, such as life satisfaction, a gap which this study seeks to address.

GRIT

Positive psychological traits, often referred to as non-cognitive traits, are psychological processes that do not involve maintained intellectual effort (e.g., reasoning, concentration), such as motivation, optimism, and personality traits. Grit is a positive psychological trait defined as "passion and perseverance for long-term goals" (Duckworth et al., 2007, p. 1087). Two facets of grit have been proposed: consistency of interest and perseverance of effort (Duckworth & Quinn, 2009). Consistency of interest (passion) is characterised by a capacity to maintain long-term interest in a goal, while perseverance of effort (perseverance) is characterised by an individual's persistence through obstacles and

setbacks towards achieving their goal (Duckworth et al., 2007; Duckworth & Quinn, 2009). Passion and perseverance are proposed to be interrelated factors that load onto a higher-order grit construct (Duckworth et al., 2007; Duckworth & Quinn, 2009).

Research on grit has predominantly examined its relationship with achievement-based outcomes (Akos & Kretchmar, 2017; Credé et al., 2017; MacCann & Roberts, 2010). Meta-analytic findings have suggested that grit is a modest overall predictor of achievement (Credé et al., 2017), with perseverance markedly more associated with a range of outcomes than passion. As such, researchers have argued that grit may be merely a relabeled alternative to the Big Five personality trait of conscientiousness which is characterised by dependability, vigilance, carefulness, and high self-discipline (Credé et al., 2017; MacCann & Roberts, 2010; Poropat, 2009). Further research has found perseverance to be related to achievement outcomes above what can be accounted for by conscientiousness (Boerma & Neill, *in press*; Duckworth et al., 2007; Strayhorn, 2014). This research has also identified that perseverance is a consistently superior predictor of achievement, in contrast to negligible associations with passion (Akos & Kretchmar, 2017; Credé et al., 2017; Wolters & Hussain, 2015).

GRIT AND MENTAL HEALTH

Grit research has focused on its relationship with achievement, with little research examining grit's relations with other life outcomes (Laird, Krause, Funes, & Lavretsky, 2019; Zhang, Mu, Tong, & Wu, 2018). However, personality and trait-based characteristics are related to a wide range of psychiatric disorders (Klein, Kotov, & Bufferd, 2011; Kotov, Gamez, Schmidt, & Watson, 2010). For example, a meta-analysis of 175 studies found a strong negative association between conscientiousness and psychiatric conditions such as anxiety, depression, and stress (Kotov et al., 2010). This is consistent with other meta-analytic research which has found a negative correlation between conscientiousness and psychological distress (Malouff, Thorsteinsson, & Schutte, 2005), suggesting that grit could be a protective factor for mental health issues.

As an emergent character trait in psychological literature, it has been argued that grit is theoretically distinct from conscientiousness (Duckworth et al., 2007; Duckworth & Quinn, 2009). Although conceptually similar, having a high level of conscientiousness does not necessarily translate to accomplishment of long-standing goals or pursuits (Duckworth et al., 2007). Passion and persistence in pursuing goals is the

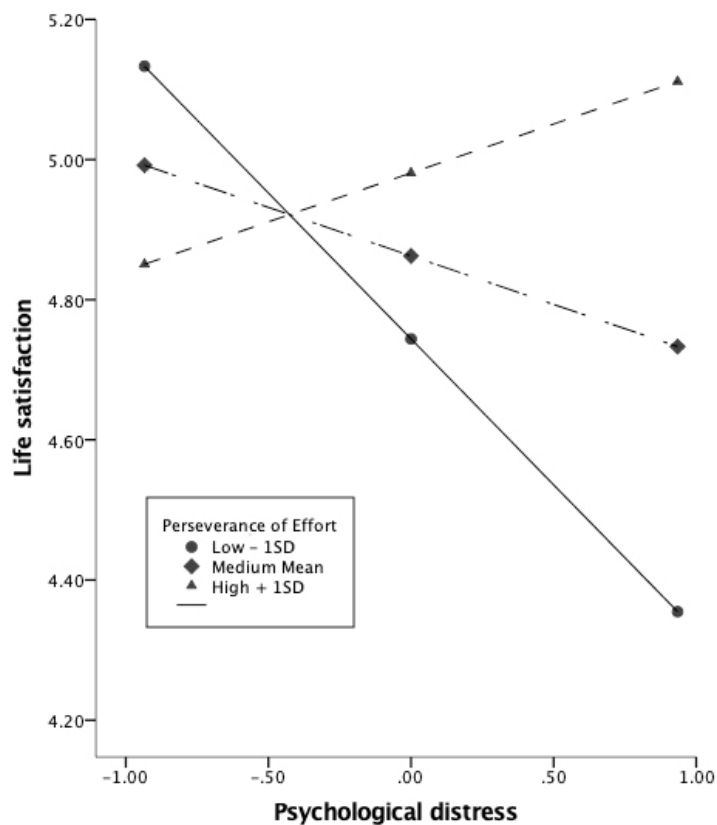


Figure 1: Line graph showing the moderating effect of perseverance on the relationship between psychological distress and life satisfaction

distinguishing feature of individuals with high grit (Duckworth & Gross, 2014). Although the distinctiveness of grit from conscientiousness is debated, studies examining conscientiousness and mental health may be indicative of possible relations between grit and mental health.

In its broadest sense, mental health consists of two components: psychological distress and psychological wellbeing (Greenspoon & Saklofske, 2001; Veit & Ware, 1983; Westerhof & Keyes, 2009). The mere absence of mental “illness” does not guarantee the presence of mental “wellness” (Westerhof & Keyes, 2009). There is a growing view that “mental health” should be considered a complete “state of being”; as not only the absence of illness, but also the presence of positive wellbeing (Keyes, 2003). For example, primary-aged students with high psychological wellbeing and lower psychological distress were more academically successful and had more positive emotional and social functioning (Greenspoon & Saklofske, 2001; Suldo & Schaffer, 2008). Interestingly, positive indicators of mental

health are more strongly associated with life satisfaction than psychological distress (Guney, Kalafat, & Boysan, 2010; Pavot & Diener, 2008).

There is only a small body of research about relations between grit and mental health. An online survey of 455 South Korean adults found that grit was negatively related to depressive symptoms ($b = -.14$), but not to psychological wellbeing (Jin & Kim, 2017). Similarly, Zhang et al. (2018) found that perseverance was negatively related to depressive symptoms ($r = -.15$), but not significantly related to symptoms of anxiety or stress in a sample of 468 Chinese university students. Another study, based on a sample of 254 Indian undergraduate students, found that grit was significantly related to positive affect ($r = .44$) and life satisfaction ($r = .32$), and negatively related to negative affect ($r = -.14$; Singh & Jha, 2008). Notably, both Jin and Kim (2017) and Singh and Jha (2008) only examined higher-order grit and thus did not consider unique variance explained by perseverance and passion.

In a fourth study, based on an international online sample of 7,617 adult participants, Disabato, Goodman, and Kashdan (2019) found that perseverance had significant positive associations with psychological wellbeing ($r = .32$) and life satisfaction ($r = .20$) and a negative relationship with depression ($r = -.19$), whereas passion was not associated with psychological wellbeing ($r = .02$) or life satisfaction ($r = -.02$). Further, Howard (2020) found that perseverance was negatively related to psychological distress ($b = -.27$) in a sample of 250 American university students, while passion was not related ($b = -.17$). These results align with other research that has consistently found perseverance to be more strongly associated with wellbeing measures than passion (Akos & Kretchmar, 2017; Credé et al., 2017). Overall, this research is supportive of the grit facet of perseverance being positively associated with indicators of mental health.

However, there is also evidence of perseverance being associated with adverse behaviours and psychological distress. Perseverance was related to more frequent suicide attempts in a sample of 604 American undergraduate students who had at least one past suicide attempt (Anestis & Selby, 2015). On the other hand, a study of 934 ethnically diverse United States military personnel found that grit was negatively associated with suicidal ideation ($r = -.24$) and sense of hopelessness ($r = -.35$; Pennings, Law, Green, & Anestis, 2015). Current suicidal ideation and sense of hopelessness statistically decreased with higher reported perseverance (Pennings et al., 2015). Further work by Kleiman, Adams, Kashdan, and Riskind (2013) found that grit and gratitude reduced the risk of suicidal ideation by enhancing participant meaning in life. This suggests that perseverance could be a protective factor that moderates the relationship between psychological distress and life satisfaction.

Research has consistently found depression, anxiety, and other psychopathological symptoms to be negatively related to life satisfaction (Lombardo, Jones, Wang, Shen, & Goldner, 2018; Pavot & Diener, 1993, 2009; Rissanen et al., 2013; Strine et al., 2009). Much less is known about how perseverance might influence the relationship between mental health and life satisfaction. Khan and Khan (2017) examined 100 Pakistani professionals' life satisfaction, happiness, and grit. There were significant correlations between grit and happiness ($r = .48$) and grit and life satisfaction ($r = .55$). These results illustrate the need to examine whether perseverance may moderate the relationship between mental health and life satisfaction.

Overall, there is some evidence of positive associations between grit and psychological wellbeing (Jin & Kim, 2017; Khan & Khan, 2017; Singh & Jha, 2008). However, the relationship between grit and psychological distress is less clear. Perseverance appears to be significantly more associated with psychological distress than passion (Disabato, Goodman, & Kashdan, 2019; Howard, 2020; Zhang et al., 2018). Finally, past research suggests the potential utility of examining perseverance as a moderator of the relationship between mental health and life satisfaction.

THE CURRENT STUDY

The aim of the current study was to investigate the grit facet of perseverance as a moderator of the relationship between mental health (psychological wellbeing and psychological distress) and life satisfaction. Consistent with previous research (Disabato, Goodman, & Kashdan, 2019; Howard, 2020; Zhang et al., 2018), it was hypothesised that perseverance and psychological wellbeing will be positively correlated with life satisfaction, while psychological distress will be negatively correlated with life satisfaction. Secondly, although previous research is equivocal (Boerma & Neill, in press; Credé et al., 2017; Duckworth et al., 2007), it was hypothesised that perseverance would remain positively correlated with life satisfaction after controlling for conscientiousness. Finally, to address the noted research gap (Jin & Kim, 2017; Khan & Khan, 2017), it was hypothesised that perseverance would moderate the relationship between psychological distress and life satisfaction, such that perseverance would buffer the influence of psychological distress on individual life satisfaction.

METHOD

Participants

The sample consisted of 153 participants from university student and community convenience samples. The students were first year psychology students undertaking coursework at the University of Canberra, a mid-sized Australian public university ($n = 39$; 26%), while the community participants were obtained from Australian online social forum communities ($n = 114$; 74%). There were 114 female (74%) and 39 (26%) male participants. The mean age was 33.2 years ($SD = 14.2$, Range = 18 - 67 years).

Table 1 : Descriptive Statistics and Correlations Between Predictors and Life Satisfaction (N = 153)

Variable	M (SD)	Skewness	1	2	3	4	5
1. Life satisfaction	4.79 (1.32)	-0.72		.38**	.44**	-.52**	.66**
2. Conscientiousness	3.82 (0.68)	-0.43			.69**	-.27**	.33**
3. Perseverance of effort	3.69 (0.69)	-0.25				-.30**	.43**
4. Psychological distress	2.68 (0.94)	0.64					-.62**
5. Psychological wellbeing	3.76 (0.85)	-0.13					

** $p < .01$

Measures

A 50-item online survey was used to examine grit, conscientiousness, life satisfaction, and mental health.

Demographic profile. Three items captured participants' gender, age, and how they found out about the survey.

Grit. The 12-item Grit Scale (Duckworth et al., 2007) was used. The Grit Scale is comprised of two factors: perseverance of effort and consistency of interest. The Grit Scale perseverance of effort items (e.g., 6 positively worded items, e.g., "I finish whatever I begin" and "Setbacks don't discourage me") were rated using a five-point Likert scale (1 = *not like me at all* to 5 = *very much like me*) and averaged to create a composite score for perseverance. Duckworth et al. (2007) reported similar internal consistency for perseverance ($\alpha = .78$) to the current study ($\alpha = .79$).

Conscientiousness. Conscientiousness was measured using nine items from the Big Five Inventory (John & Srivastava, 1999). The items included positively and negatively worded statements such as "Makes plans and follows through with them" and "Tends to be lazy" that were self-rated on five-point Likert scales (1 = *disagree strongly* to 5 = *agree strongly*). Composite scores were created by recoding negatively worded items and averaging items into a single score, with higher scores indicating a higher level of conscientiousness. Previous research has found suitable reliability ($\alpha = .82$) in university populations (Benet-Martínez & John, 1998) which is comparable to the current study ($\alpha = .83$).

Satisfaction with Life Scale. The Satisfaction with Life Scale is a widely used five-item self-report measure (Diener, Emmons, Larsen, & Griffin, 1985). Participants rated positively worded statements such as "I am satisfied with life" and "In most

ways, my life is close to ideal" on seven-point Likert scales (1 = *disagree strongly* to 7 = *agree strongly*). Past meta-analytic findings of 60 studies found the measure to have satisfactory internal consistency ($\alpha = .78$; Vassar, 2008) which was exceeded in the current study ($\alpha = .87$).

Mental Health Inventory. The Mental Health Inventory-21 (Hennessey, Patrick, & Swinbourne, 2018) is a 21-item self-report measure of psychological wellbeing and psychological distress adapted from Viet and Ware (1983). Participants rated positively and negatively-worded statements such as "During the past month, have you ever been under, or felt you were under any strain, stress, or pressure?" and "How much of the time, during the past month, have you felt cheerful, light-hearted?" using six-point verbal frequency scales with the most common anchor points being "All of the time" to "None of the time". Participant responses were averaged to create composite scores for psychological wellbeing (8 items) and psychological distress (13 items), with higher scores for each indicating higher wellbeing or distress respectively. Previous research has found suitable internal consistency community samples for psychological wellbeing ($\alpha = .90$) and psychological distress ($\alpha = .92$; Hennessey et al., 2018) which is comparable to the current study: psychological wellbeing ($\alpha = .90$) and psychological distress ($\alpha = .95$). In addition, the current study found satisfactory dissimilarity between psychological wellbeing and psychological distress ($r = -.62$).

Procedure

This study was approved by the University of Canberra Human Research Ethics Committee (2018-1566). Convenience sampling was used to recruit participants for an online survey between

Table 2: Unstandardised (*B*) and Standardised (β) Regression Coefficients and Squared Semi-Partial Correlations (*sr*²) for each Predictor, Covariate, and Interaction Term for a Hierarchical Regression Predicting Life Satisfaction

Variable	<i>B</i>	SE <i>B</i>	β	<i>sr</i> ²
Step 1				
Conscientiousness	0.73**	.61	0.38	.14
Step 2				
Conscientiousness	0.17	.16	0.09	.00
Psychological wellbeing	0.73**	.12	0.47	.12
Psychological distress	-0.24*	.11	-0.17	.00
Perseverance of effort	0.25	.16	0.13	.01
Step 3				
Conscientiousness	0.15	.16	0.08	.00
Psychological wellbeing	0.79**	.12	0.51	.14
Psychological distress	-0.14	.11	-0.10	.01
Perseverance of effort	0.17	.16	0.09	.00
Psychological wellbeing x Per	0.05	.03	0.03	.00
Psychological distress x Per	0.40*	.15	0.21	.03

Note. Per = Perseverance; * $p < .05$, ** $p < .001$; 5000 bootstrap samples, $N = 153$

December 2018 and March 2019 via online course webpages for first year psychology students at the University of Canberra and from online social media samples (Facebook and Reddit) for the community sample.

Participants viewed information explaining the purpose of the study and inclusion criteria (18 years or older). Out of 184 responses, 31 participants responded to less than 50% of the survey items and were removed. The 153 participants who answered at least 50% of the survey items were offered a chance to enter a prize draw to

win one of two AU\$50 gift cards. Participants typically (>80%) took between 10 to 15 minutes to complete the survey.

RESULTS

Descriptive Statistics

There was no missing data. Descriptive statistics and correlations between predictor and criterion variables are presented in Table 1. All variables were significantly correlated. No significant differences were found between age groups (18-34, 35-50, 51-67) or gender (male, female) for perseverance or life satisfaction, so age and gender were excluded from further analyses.

Moderated Regression Analyses

Moderated regression analyses were used to examine whether perseverance moderated the relationship between psychological distress and life satisfaction and between psychological wellbeing and life satisfaction, whilst controlling for conscientiousness. Mean centring was used, as suggested by Field (2017) for moderated regression models.

Correlations and bivariate scatterplots indicated significant linear relationships between predictor variables, however the relationships were not large enough to indicate multicollinearity (tolerance > .3). Assumptions of normality, linearity, and homoscedasticity of residuals were also met and there were no multivariate outliers. Finally, the Durbin-Watson statistic for all analyses was between 1.5 and 2.5, suggesting independence of errors (Field, 2017). Interaction terms were

computed for moderator variables (Psychological Wellbeing x Perseverance, and Psychological Distress x Perseverance).

Results for a hierarchical regression with life satisfaction as a criterion variable are presented in Table 2. Step one revealed that the covariate conscientiousness accounted for a significant 14% of variance in life satisfaction ($R^2 = .014$, $F(1, 151) = 24.74$, $p < .001$). In step two, psychological wellbeing, psychological distress, and perseverance accounted for an additional 35% of variance ($\Delta R^2 = .49$, $\Delta F(4, 148) = 35.37$, $p < .001$). In

the final step, the Psychological wellbeing x Perseverance and Psychological distress x Perseverance interactions accounted for an additional 3% of variance ($\Delta R^2 = .03$, $\Delta F(6, 146) = 5.04$, $p = .008$). Overall, the final model explained 52% of variance in life satisfaction ($R^2 = .52$, $F(6, 146) = 26.55$, $p < .001$).

Psychological wellbeing ($t(136) = 5.97$, $p < .001$) and psychological distress ($t(136) = -2.28$, $p = .024$) were significant predictors at step two, explaining 12% and 2% of the unique variance in life satisfaction respectively. Psychological wellbeing remained a significant predictor in the final model, explaining 14% of life satisfaction variance ($t(136) = 6.53$, $p < .001$) while psychological distress became non-significant ($t(136) = -1.24$, $p = .217$). The Psychological distress x Perseverance interaction was significant, explaining 2.5% of life satisfaction in the final model ($t(136) = 2.74$, $p = .007$). Finally, conscientiousness ($sr^2 < 1\%$, $t(136) = 0.94$, $p = .349$), perseverance ($sr^2 = 1\%$, $t(136) = 1.07$, $p = .286$), and the Psychological wellbeing x Perseverance interaction ($sr^2 < 1\%$, $t(136) = 0.33$, $p = .739$) were non-significant predictors in the final model.

Simple slopes analysis, using the SPSS PROCESS macro (Hayes, 2017), tested the conditional effects of three levels of perseverance (one standard deviation below the mean, at the mean, and one standard deviation above the mean). At one standard deviation below the mean of perseverance, there was a significant negative relationship between psychological distress and life satisfaction ($b = -0.42$, 95% CI [-0.67, -0.16], $t = -3.26$, $p = .001$). At the mean of perseverance, there was a non-significant negative relationship between psychological distress and life satisfaction ($b = -0.14$, 95% CI [-0.35, 0.08], $t = -1.28$, $p = .200$). Finally, at one standard deviation above the mean of perseverance, there was a non-significant positive relationship between psychological distress and life satisfaction ($b = 0.14$, 95% CI [-0.22, 0.44], $t = 0.76$, $p = .450$). The Johnson-Neyman technique showed that the relationship between psychological distress and life satisfaction became significant when perseverance was -.15 standard deviations below the mean. This indicates that there was a negative relationship between psychological distress and life satisfaction, but only for participants with low perseverance.

DISCUSSION

The current study found that perseverance moderated the relationship between psychological distress and life satisfaction

whilst controlling for conscientiousness. As hypothesised, perseverance and psychological wellbeing were positively related to life satisfaction (both $r = >.4$), while psychological distress was negatively related to life satisfaction ($r = > -.5$), consistent with the first hypothesis and past research (Disabato et al., 2019; Guney et al., 2010; Rissanen et al., 2013; Strine et al., 2009).

The second hypothesis was not supported. Although perseverance was significantly correlated with life satisfaction, it became non-significant when conscientiousness was included. Previous research has debated the utility of the addition of perseverance as a predictor of outcomes when analysed simultaneously with conscientiousness. Some authors have argued that perseverance is a relabeled version of conscientiousness (Credé et al., 2017; Ivcevic & Brackett, 2014), while others have found that unique variance is explained by perseverance (Duckworth et al., 2007; Strayhorn, 2014).

The final hypothesis was supported. Perseverance moderated the relationship between psychological distress and life satisfaction. For participants who reported low perseverance, their psychological distress had a stronger negative relationship with life satisfaction than participants with average or higher perseverance. As levels of perseverance increased, the relationship between psychological distress and life-satisfaction became non-significant. This suggests that perseverance may serve as a protective factor for psychological distress; those who persistently strive through setbacks and obstacles in an effort to achieve their long-term goals maintain life satisfaction better in the face of psychological distress than less gritty individuals.

Much past grit research has focused on the influence of grit on academic and achievement outcomes (Akos & Kretchmar, 2017; Credé et al., 2017). This is reasonable, as the underlying theory of grit postulates that individuals differ in their capacities to undertake goal-directed behaviour with passion and perseverance (Duckworth et al., 2007). However, there is a need to better understand the potential role of grit in non-academic outcomes.

To our knowledge, this is the first study to examine the moderating effect of grit on the relationship between mental health and life satisfaction. In a non-clinical student and community sample, there was no direct relationship between perseverance and life satisfaction once conscientiousness was controlled. However, the finding that perseverance moderated the relationship between psychological distress and life satisfaction is important as it suggests that grit may be a protective factor for the impact of distress on life outcomes.

Von Culin, Tsukayama, and Duckworth (2014) found that perseverance was strongly related to engagement in activities, rather than pleasure or meaning. In clinical populations, task engagement is one of the strongest predictors of psychotherapeutic efficacy (Constantino, Castonguay, Sanno, & DeGeorge, 2010; Harrison, Hardy, & Barkham, 2019). Examining perseverance towards engagement in therapy could be a beneficial direction for further research with clinical samples.

This research should however be considered in light of its limitations. The study used a cross-sectional, correlational design; thus, the causality and directionality of relationships could not be determined (Reichenheim & Coutinho, 2010). Post hoc power analyses revealed an adequate sample size ($b > .99$), however the convenience sampling method limits its representativeness. As anonymous online data collection was used, the veracity of the data was not monitored. In this study, an overall measure of psychological distress was used. Future studies could explore how perseverance modifies the relationships between different types of psychology distress (e.g., anxiety, depression, & stress) and outcomes such as life meaning and life satisfaction.

The current study contributes to the small body of literature about the complex relationship between grit and mental health. The results suggest potential for considering perseverance as a moderator or mediator of relationships between risk factors and outcomes, rather than a direct predictor. Given concerns about the prevalence and burden of psychological disorders globally, and the scarce research examining grit in this area, it is important to understand protective factors for mental health and life satisfaction.

Future research could first explore the moderating influence of perseverance on different forms of psychological distress, such as anxiety, depression, or trauma, in relation to meaningful outcomes such as life satisfaction. Additionally, further research could examine how individual differences in perseverance may influence therapeutic engagement and retention. Finally, longitudinal research could examine the ontology of perseverance across the

developmental lifespan in relation to both mental health and life satisfaction. Such further research may provide understanding of any causal relationships or bi-directional associations between perseverance and meaningful life outcomes. Overall, this study suggests that grit, in the form of perseverance, may buffer the impact of psychological distress on life satisfaction. ■

Citation

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Biographies

Micah Boerma is with the Centre for Applied Psychology, University of Canberra, Australia

 <https://orcid.org/0000-0002-7053-5110>

Dr James Neill is with the Centre for Applied Psychology, University of Canberra, Australia

 <https://orcid.org/0000-0003-0710-4550>

Dr Patricia Brown is Head of Discipline, Centre for Applied Psychology, University of Canberra, Australia

 <https://orcid.org/0000-0002-6045-0068>

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