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Examining the Relationship between Rumination and Job Involvement, Organizational Citizenship Behavior, with the Mediating Role of Grit

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This study explored the relationship between rumination and job involvement, organizational citizenship behavior, with the mediation of grit. The statistical sample of the research consisted of 300 employees of Iran Oil Pipelines and Telecommunications Company in the Lorestan region, selected through stratified random sampling method. The instruments included mental rumination questionnaire (Nolen-Hoeksima et al., 1991), grit questionnaire (Duckworth and Quinn, 2009), job involvement questionnaire (Lodahl & Kejnar, 1965), and organizational citizenship behavior (OCB) questionnaire (Lee and Allen, 2002). Data were analyzed via Structural Equation Modeling (SEM) using SPSS version 26 and AMOS version 22. The proposed model was tested through structural equation modeling. According to the findings, the proposed model was fitted to the data. The results indicated a direct negative effect of rumination along with an indirect effect through grit on both job involvement and organizational citizenship behavior. Based on the findings of the present study, which highlight the importance of grit in enhancing organizational citizenship behavior and job involvement, as well as the negative influence of rumination on organizational outcomes, it is recommended that organizations provide training programs for employees focused on developing grit and managing rumination.

Keywords: rumination, job involvement, organizational citizenship behavior, grit.

Grit has emerged as a key non-cognitive predictor of long-term achievement, reflecting individuals' sustained perseverance and consistency of interest in pursuing valued goals despite challenges or setbacks (Duckworth et al., 2007; Lewis, 2014). Those with a high level of grit persist in meaningful objectives over extended periods, regulate competing impulses, and draw on psychological resources to maintain effort even when progress is slow or uncertain (Duckworth & Gross, 2014; Park et al., 2018). Conceptually, grit is understood as a higher-order construct composed of two core dimensions—consistency of interest and perseverance of effort—collectively facilitating persistent, long-term goal pursuit (Duckworth et al., 2007). A growing body of evidence links grit to enhanced positive affect,

hope, optimism, subjective well-being, and life satisfaction, while indicating negative associations with burnout, anxiety, and maladaptive behavioral tendencies (Hill et al., 2014; Sheridan et al., 2015; Vainio & Daukantaite, 2016).

Even though grit is generally regarded as an adaptive and functional trait, some research highlights potential drawbacks when perseverance becomes rigid or maladaptive, as individuals may persist in achieving unattainable goals beyond the point of benefit (Crust et al., 2016). Nevertheless, grit consistently predicts job performance, career longevity, prosocial tendencies, and organizational citizenship behavior (Duckworth et al., 2007; Ryu & Yang, 2017; Choi et al., 2020). These findings highlight grit's importance in comprehending motivational and behavioral outcomes in organizational environments.

Rumination represents a psychological process which may undermine grit. Defined as repetitive, passive, and self-focused attention on negative thoughts or problems (Nolen-Hoeksema, 1991), rumination drains cognitive and emotional resources that are essential for constructive action. Empirical studies suggest that rumination predicts emotional exhaustion, impaired motivation, poor problem-solving, heightened stress, as well as various maladaptive behavioral outcomes (Smith & Alloy, 2009; Frone, 2015). Rumination also disrupts positive goal-related cognitions such as hope, optimism, and determination (Geiger & Kwon, 2010; Tucker et al., 2013; Tucker et al., 2016). More recently, evidence has shown a negative association between rumination and grit, suggesting that chronic ruminative thought patterns may erode sustained effort and compromise consistency of goal pursuit (Lin, O'Connell, & Law, 2023).

Given these effects, rumination may indirectly impair critical organizational outcomes. Employees who engage in rumination often experience lessened psychological availability, diminished social interaction, and lower capacity for creative ideation, collectively undermining their job involvement and discretionary prosocial behaviors (Karabati et al., 2019). In contrast, grit has been consistently associated with higher levels of job involvement—a positive, fulfilling state characterized by vigor, dedication, and absorption (Schaufeli et al., 2002; Schaufeli & Bakker, 2013). Likewise, grittier employees are more likely to exhibit organizational citizenship behavior (OCB), reflecting voluntary and prosocial actions that contribute to overall organizational functioning (Choi et al., 2020).

Taken together, the literature suggests a theoretical pathway through which rumination may lower job involvement and OCB by diminishing employees' grit. However, in spite of the conceptual relevance of this mechanism, few empirical studies have inspected grit as a mediator linking rumination to key organizational outcomes. Most existing research has examined grit either as a direct predictor or, in some psychological studies, as a moderating variable. Yet within organizational contexts, the mediating role of grit in explaining how cognitive–emotional processes such as rumination translate into performance-related behaviors remains underexplored.

Accordingly, the present study aims to address this gap by proposing and testing a model in which grit mediates the relationships between rumination and two key outcomes: job involvement and organizational citizenship behavior. Based on the theoretical and empirical literature reviewed, we hypothesize that rumination negatively predicts grit, which in turn positively

forecasts both outcomes. The conceptual framework is displayed in Figure 1, and the central research question concerns whether the proposed mediation model indicates an adequate empirical fit.

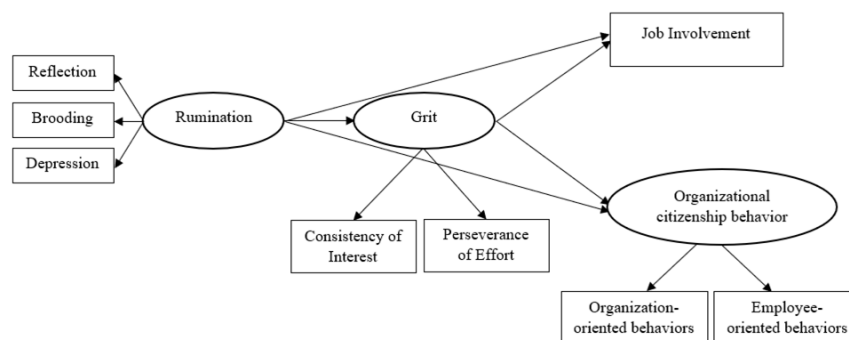


Figure 1. The hypothetical model of the mediation role of grit

Method

The target population consisted of all employees of the Iran Petroleum Pipelines and Telecommunications Company in the Lorestan region in 2024. A sample of 300 employees was recruited from this population through a stratified random sampling method to ensure appropriate representation of major occupational strata within the organization.

The sample size was determined based upon established recommendations for structural equation modeling (SEM). Following Kline's guideline of a minimum of 10 participants per estimated model parameter (Beshlideh, 2014), the parameters of the hypothesized model were calculated, including direct paths, covariances, and error variances. Given the total number of estimated parameters, the final sample size of 300 provided a

participant-to-parameter ratio of approximately 21:1, exceeding commonly recommended thresholds as well as ensuring adequate statistical power for SEM analyses.

The demographic characteristics of the sample were as follows: 295 males (98.3%) and 5 females (1.7%); 66 participants (22.0%) were single and 234 (78.0%) were married. The mean age of participants was 40.98 years ($SD = 10.28$). These distributions accurately reflect the workforce composition of the organization along the data collection period.

Ethical approval for the study was obtained from the Ethics Committee of Shahid Chamran University of Ahvaz (Approval No.: EE/1401.2.24.183169/scu.ac.ir). All participants provided informed consent prior to participation. Data were collected in 2024, whereby all procedures adhered to institutional and national research ethics guidelines.

The conceptual model of Figure 1 was analyzed using the structural equation modeling in AMOS-24 statistical software. For measuring fitness, the proposed model of a combination of fitness measures such as relative Chisquare (χ^2 / df), Incremental Fitness Index (IFI), Confirmatory Fit Index (CFI), Good Fitness Index (GFI), Adjusted Good Fitness Index (AGFI), Toker-Lewis Index (TLI), and Bentler-Bont index or Normed Fit Index (NFI) were employed. Table 1 reports descriptive indices and correlation coefficients of research variables. As can be observed, the correlation coefficients between the variables are significant at the $P < 0.01$ level.

Instruments

Mental Rumination Questionnaire

Mental rumination was appraised using the Mental Rumination Questionnaire developed by Nolen-Hoeksema (1991). This instrument comprises three subscales—reflection, brooding, and depression-related rumination—and includes 22 items rated on a 4-point Likert scale (1 = “never” to 4 = “always”). Previous research has reported internal consistency coefficients ranging from .80 to .87 (Bagherinejad et al., 2010). Bagherinezhad et al. (2010) also documented satisfactory validity indices for the Persian version, further corroborating its construct validity. In the present study, the scale revealed excellent reliability, with a Cronbach’s alpha of .93.

Grit Questionnaire

Grit was measured using the 12-item Grit Scale developed by Duckworth and Quinn (2009), which includes two subscales: persistence of effort (PE) and consistency of interest (CI). Evidence from a meta-analysis by Credé et al. (2017) exhibited mean Cronbach’s alpha values of .79 for both the long and short forms of the grit scale, with reliability coefficients of 0.71 for the PE subscale and .74 for the CI subscale. Credé et al. (2017) also documented acceptable validity indicators supporting the construct validity of the scale. In this study, the Grit Scale presented excellent internal consistency, with a Cronbach’s alpha of .95.

Job Involvement Questionnaire

Job involvement was ascertained using the Job Involvement Questionnaire developed by Lodahl and Kejnar (1965). This 20-item instrument employs a 4-point Likert scale ranging from 1

(“completely disagree”) to 4 (“completely agree”). Prior research has established strong reliability for this measure; for instance, Al-Hour et al. (2022) reported a Cronbach’s alpha of .85. Al-Hour et al. (2022) also confirmed acceptable validity indices, corroborating the scale’s construct validity. In the present study, the Job Involvement Questionnaire demonstrated high reliability, with a Cronbach’s alpha of .93.

Organizational Citizenship Behavior (OCB) Questionnaire

Organizational citizenship behavior was measured using the 16-item OCB scale developed by Lee and Allen (2002), with items rated on a 7-point Likert scale (1 = “never” to 7 = “always”). Psychometric support for the Persian version of this instrument has been documented in prior studies; for example, Poorsoltani et al. (2013) reported a Cronbach’s alpha of .76, reflecting acceptable reliability. Further, Mehdad and Arifin (2009) found satisfactory validity and reliability indices for the Persian adaptation of the scale, further confirming its psychometric soundness. In the present study, the OCB scale revealed excellent reliability, with a Cronbach’s alpha of .95.

Results

Table 1 details the statistics and bivariate correlations among the study variables as outlined in Table 2, the model demonstrated an excellent fit to the data after applying theoretically justified modifications. The goodness-of-fit indices—including the relative chi-square ($\chi^2/df = 1.61$), Incremental Fit Index (IFI = .99), Comparative Fit Index (CFI = .98), Goodness-of-Fit Index (GFI = .98), Adjusted Goodness-of-Fit Index (AGFI = .95), Tucker–Lewis Index (TLI = .99), Normed Fit Index (NFI = .99), and the Root Mean Square Error of Approximation (RMSEA =

.04)—have all fallen within recommended thresholds, suggesting that the hypothesized model provides a strong and satisfactory fit to the data. To inspect the mediation effects, a nonparametric bootstrapping procedure was conducted using 5,000 resamples from the original dataset ($N = 300$). Table 3 presents the direct effects, while Table 4 showcases the indirect effects along with their corresponding 95% confidence intervals. As reported in Table 4, the confidence intervals for both indirect pathways do not include zero, revealing statistical significance. These findings provide empirical support for the mediating role of grit in the relationships between rumination and both job involvement as well as organizational citizenship behavior. Figure 2 depicts the final structural model along with standardized regression weights.

Table 1
Descriptive Statistics and Bivariate-Correlations for Research Variables

Variables	M	SD	1	2	3	4
1 rumination	47.536	15.140	-			
2 Grit	40.366	6.942	-.50**	-		
3 job involvement	55.346	14.653	-.70**	.76**	-	
4 OCB	71.550	26.669	-.67**	.73**	.89**	-

Note: **Correlation is significant at the .01 level (2-tailed).

Table 2
Fit Indices among Competing Models

Variable fit indices	χ^2	df	χ^2/df	AGFI	GFI	NFI	CFI	IFI	TLI	RMS EA
Acceptable values	-	-	<5	$\geq .90$	$\geq .90$	$\geq .90$	$\geq .90$	$\geq .90$	$\geq .90$	$\leq .080$
Proposed model	22.64	14	1.61	.95	.98	.99	.98	.99	.99	.04

Note: N = 300; RMSEA = Root Mean Square Error of Approximation; CFI=Comparative Fit Index; IFI= Incremental Fit Index; and NFI=Normed Fit Index.

Table 3
Direct Effects for the Final Mediation Model

Paths	Standard Estimates	Non-standard estimation	S.E.	C.R.	P Label
rumination → grit	-.61	-.23	.02	-9.82	.001
rumination → job involvement	-.19	-.18	.04	-3.87	.001
rumination → OCB	-.20	-.15	.04	-3.63	.001
grit → job involvement	.83	.65	.13	10.61	.001
grit → OCB	.84	.63	.12	11.86	.001

Table 4
Indirect Effects for the Final Mediation Model

Indirect paths	Indirect effect	Bootstrapped Standard Error	95% confidence interval		P
			Lower	Upper	
rumination → grit → job involvement	-.516	.047	-.610	-.430	.000
rumination → grit → OCB	-.523	.050	-.615	-.435	.001

Note. Bias-corrected 95% confidence intervals based on 5,000 bootstrap samples in AMOS 22. Indirect effects are standardized estimates (β). $p < .001$

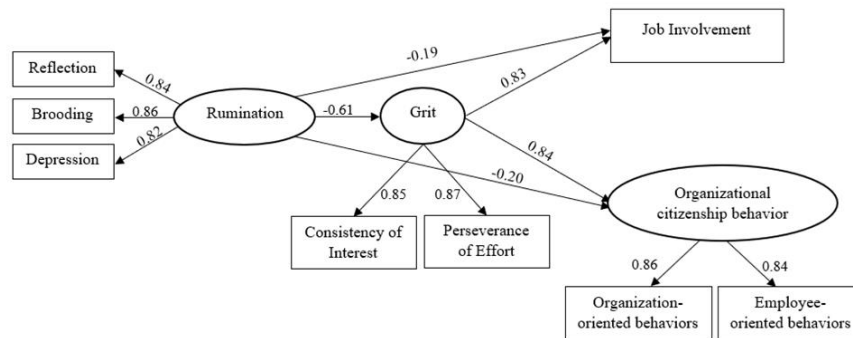


Figure 2. Standardized regression weights for the final model paths

Discussion

The present study explored the relationships among rumination, grit, job involvement, and organizational citizenship behavior (OCB), with a particular focus on the mediating role of grit. The results indicated that rumination exerted both direct negative effects and indirect effects (through grit) on job involvement and OCB. Further, all direct and indirect path coefficients were statistically significant, highlighting the robustness of the proposed model.

Consistent with prior research, rumination was found to negatively predict grit ($\beta = -.61, p < .001$). Similarly, Lin et al. (2023) reported a significant inverse relationship between rumination and grit when testing their combined effects on suicidality. Rumination has been widely recognized as a maladaptive cognitive pattern which drains both psychological and physical resources, resulting in heightened fatigue and impaired functioning. For instance, rumination has been

identified as a key predictor of acute and chronic work-related exhaustion (Querstret & Cropley, 2012) as well as maladaptive behaviors such as problematic alcohol use (Frone, 2015). It also compromises adaptive motivational constructs such as hope, optimism, and determination (Geiger & Kwon, 2010; Tucker et al., 2013; Tucker et al., 2016). In the organizational context, individuals who ruminate may struggle to sustain their efforts and commitment toward work-related goals owing to cognitive depletion and reduced psychological resilience.

The findings also revealed that grit positively predicted job involvement ($\beta = .83$, $p < .001$), aligning with previous studies (Widodo & Chandrawaty, 2020; Jeong et al., 2019; Arifin & Puteri, 2019). As one of the core components of grit, consistency of interest supports long-term commitment to work tasks and goals. Likewise, persistence of effort enables employees to maintain motivation and engagement even in the face of organizational obstacles and setbacks. Employees with higher levels of grit are thus more likely to invest sustained energy and attention in their work roles, leading to higher levels of job involvement.

Further, grit positively predicted OCB ($\beta = .84$, $p < .001$), a finding in accordance with earlier research (Choi et al., 2020). Grit has been proved be a stronger predictor of achievement than IQ and conscientiousness (Duckworth et al., 2007), suggesting that grittier employees may not only function better but also remain committed to their roles for longer periods (Duckworth et al., 2007; Kelly et al., 2014; Robertson-Kraft & Duckworth, 2014). Also, Duckworth (2016) argues that grit is closely linked to prosocial tendencies and other-oriented motivation, suggesting that gritty employees are more likely to

engage in voluntary behaviors that contribute to organizational well-being. As such, grit appears to serve as an important psychological resource that fosters both performance-oriented and prosocial organizational behaviors.

The results further demonstrated that rumination negatively affected job involvement ($\beta = -.19, p < .001$). Rumination entails repetitive attention to negative thoughts and stressors (Nolen-Hoeksema, 1991), which can result in cognitive overload and emotional exhaustion. According to Conservation of Resources Theory (Hobfoll, 1989), when individuals expend cognitive resources on rumination, fewer resources remain available for work engagement and motivation. Accordingly, employees who frequently ruminate may be less able to direct their focus, energy, and enthusiasm toward their work roles (Schaufeli et al., 2002). Moreover, rumination interferes with psychological detachment from work, hampering recovery processes and further lowering engagement (Sonnentag & Fritz, 2015).

Similarly, rumination negatively predicted OCB ($\beta = -.20, p < .001$). Since OCB requires discretionary effort beyond formal job duties, employees preoccupied with negative thoughts may lack the cognitive and emotional capacity to engage in prosocial workplace behaviors. Their diminished psychological availability lessens their likelihood of assisting colleagues or voluntarily contributing to organizational functioning.

Bootstrapping analyses confirmed significant indirect effects at the .001 level, indicating that grit mediates the relationships between rumination and both job involvement as well as OCB. These findings suggest that rumination lowers employees' perseverance and consistency of interest, ultimately

compromising their job involvement and willingness to engage in citizenship behaviors.

The findings highlighted the central role of grit in enhancing job involvement and organizational citizenship behavior, as along with the detrimental effects of rumination on organizational outcomes. In light of these results, organizations may benefit from implementing training programs and psychological interventions aimed at strengthening employees' grit as well as equipping them with effective strategies to manage and reduce rumination. Boosting these psychological resources can contribute to improved performance, well-being, and social functioning within the workplace.

In spite of its contributions, this study was subject to several methodological limitations, including its cross-sectional design and reliance on self-report measures. Future research should apply longitudinal and experimental methodologies to more precisely clarify causal pathways among rumination, grit, and organizational behaviors. Such efforts would deepen our understanding of the mechanisms through which cognitive and motivational processes shape employee functioning across organizational settings.

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References

- Al-Hour, R., Ishtay, R., Hroub, D., Awwad, L. A., AL-Khateeb, N., & Yaqoub, S. A. (2022). Job-Involvement Among Health Care Providers in the Palestinian Society. *International Humanities Studies*, 8(4).
- Arifin, M., & Puteri, H. (2019). Personality, grit and organizational citizenship behavior at vocational higher education: the mediating role of job involvement. *Journal of Social Studies Education Research*, 10(2), 168-187.
- Bagherinezhad, M., Salehi, F. J., & Tabatabaee, S. M. (2010). Relationship between rumination and depression in a sample of Iranian students. *STUDIES IN EDUCATION & PSYCHOLOGY*, 11(1), 21-38. SID. <https://sid.ir/paper/99372/en>
- Bashlide, K. (2014). Research methods and statistical analysis of research examples with AMOS and SPSS. *Ahvaz: Shahid Chamran University of Ahvaz Pub.*
- Choi, J., Sohn, Y. W., & Lee, S. (2020). The effect of corporate social responsibility on employees' organizational citizenship behavior: A moderated mediation model of grit and meaning orientation. *Sustainability*, 12(13), 5411. <https://doi.org/10.3390/su12135411>.
- 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. <https://doi.org/10.1037/pspp0000102>
- Crust, L., Swann, C., & Allen-Collinson, J. (2016). The thin line: A phenomenological study of mental toughness and decision making in elite high-altitude mountaineers. *Journal*

- of Sport & Exercise Psychology*, 38, 598–611.
doi:10.1123/jsep.2016-0109
- Duckworth, A. (2016). *Grit: The power of passion and perseverance* (Vol. 234). New York, NY: Scribner.
- Duckworth, A. L., & Gross, J. J. (2014). Self-control and grit. *Current Directions in Psychological Science*, 23, 319–325.
doi:10.1177/0963721414541462
- Duckworth, A. L., & Quinn, P. D. (2009). Development and validation of the Short Grit Scale (GRIT-S). *Journal of personality assessment*, 91(2), 166–174.
- Duckworth, A. 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, 1087–1101. doi:10.1037/0022-3514.92.6.1087.
- Frone, M. R. (2015). Relations of negative and positive work experiences to employee alcohol use: testing the intervening role of negative and positive work rumination. *Journal of Occupational Health Psychology*, 20(2), 148.
<https://doi.org/10.1037/a0038375>
- Geiger, K. A., & Kwon, P. (2010). Rumination and depressive symptoms: Evidence for the moderating role of hope. *Personality and Individual Differences*, 49(5), 391–395.
<https://doi.org/10.1016/j.paid.2010.04.004>
- Hill, P. L., Burrow, A. L., & Bronk, K. C. (2014). Persevering with positivity and purpose: An examination of purpose commitment and positive affect as predictors of grit. *Journal of Happiness Studies*, 17, 257–269.
doi:10.1007/s10902-014-9593-5

- Hobfoll, S. E. (1989). Conservation of resources: a new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513.
- Jeong, J. Y., Seo, Y. S., Choi, J. H., Kim, S. H., Lee, M. S., Hong, S. H., ... & Park, D. E. (2019). The influence of grit on turnover intention of university hospital nurses: The mediating effect of job involvement. *Journal of Korean Academy of Nursing*, 49(2), 181-190. <https://doi.org/10.4040/jkan.2019.49.2.181>
- Karabati, S., Ensari, N., & Fiorentino, D. (2019). Job satisfaction, rumination, and subjective well-being: A moderated mediational model. *Journal of Happiness Studies*, 20(1), 251-268. <https://doi.org/10.1007/s10902-017-9947-x>
- Kelly, D. R., Matthews, M. D., & Bartone, P. T. (2014). Grit and hardiness as predictors of performance among West Point cadets. *Military Psychology*, 26(4), 327-342. <https://doi.org/10.1037/mil0000050>.
- Kline, R. B. (2023). *Principles and practice of structural equation modeling*. Guilford publications.
- Lee, K., & Allen, N. J. (2002). Organizational citizenship behavior and workplace deviance: the role of affect and cognitions. *Journal of Applied Psychology*, 87(1), 131. <https://doi.org/10.1037/0021-9010.87.1.131>
- Lewis, S. (2014). *The rise: Creativity, the gift of failure, and the search for mastery*. New York: Simon & Schuster. doi:10.5860/choice.186031
- Lin, Y. C., O'Connell, K. L., & Law, K. C. (2023). Moderating roles of grit and locus of control on rumination and

- suicidality. *Journal of Affective Disorders*, 330, 250-258.
<https://doi.org/10.1016/j.jad.2023.02.148>
- Lodahl, T. M., & Kejnar, M. (1965). The definition and measurement of job involvement. *Journal of Applied Psychology*, 49(1). <https://doi.org/10.1037/h0021692>
- Mehdad, A., & Arifin, H. Z. (2009). Moderating effect of nationality, gender, position and tenure on the relationship between organizational citizenship behavior and counterproductive work behaviors among Iranian and Malaysian automotive workers. *Iranian International Journal of Psychology*, 3, 120-145
- Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology*, 100(4), 569.
- 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>
- Poorsoltani, H., & Amirjinaghandar, R. (2013) The Relationship between Organizational Commitment and Organizational Citizenship Behavior in Physical Education Teachers of Mashhad in. *Sport Management Journal*, 5(16), 127-47.
- Querstret, D., & Cropley, M. (2012). Exploring the relationship between work-related rumination, sleep quality, and work-related fatigue. *Journal of Occupational Health Psychology*, 17(3), 341.
- Robertson-Kraft, C., & Duckworth, A. L. (2014). True grit: Trait-level perseverance and passion for long-term goals

- predicts effectiveness and retention among novice teachers. *Teachers College Record*, 116(3), 1-27.
- Ryu, Y. J., & Yang, S. (2017). On the mediating effects of grit and prosocial behavior in the relationship between intrinsic vs. prosocial motivation and life satisfaction. *The Korean Journal of Developmental Psychology*, 30(4), 93-115.
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two-sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3(1), 71-92.
- Schaufeli, W., & Bakker, B. A. (2013). *Job involvement*. Handbook of positive psychology assessment, 273-295.
- Sheridan, Z., Boman, P., Mergler, A., & Furlong, M. J. (2015). Examining well-being, anxiety, and self-deception in university students. *Cogent Psychology*, 2, 1-17. doi:10.1080/23311908.2014.993850.
- Smith, J. M., & Alloy, L. B. (2009). A roadmap to rumination: A review of the definition, assessment, and conceptualization of this multifaceted construct. *Clinical Psychology Review*, 29(2), 116-128.
- Sonnentag, S., & Fritz, C. (2015). Recovery from job stress: The stressor-detachment model as an integrative framework. *Journal of Organizational Behavior*, 36(S1), S72-S103.
- Tucker, R. P., O'Connor, R. C., & Wingate, L. R. (2016). An investigation of the relationship between rumination styles, hope, and suicide ideation through the lens of the integrated motivational-volitional model of suicidal behavior. *Archives of Suicide Research*, 20(4), 553-566.

- Tucker, R. P., Wingate, L. R., O’Keefe, V. M., Mills, A. C., Rasmussen, K., Davidson, C. L., & Grant, D. M. (2013). Rumination and suicidal ideation: The moderating roles of hope and optimism. *Personality and Individual Differences*, 55(5), 606-611.
- Vainio, M. M., & Daukantaitė, D. (2016). Grit and different aspects of well-being: Direct and indirect relationships via sense of coherence and authenticity. *Journal of Happiness Studies*, 17, 2119–2147. doi:10.1007/s10902-015-9688-7.
- Widodo, W., & Chandrawaty, C. (2020). Assessing the effect of grit and employability on organizational commitment mediating by job involvement. *Management Science Letters*, 10(11), 2403-2410.