

Personal Growth Initiatives as a Predictor of Satisfaction With Life Among University Students With Depressive Symptoms

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This study examined the predictive role of personal growth initiative (PGI) in relation to satisfaction with life among university students with depressive symptoms. It also examined relationships among the study variables (personal growth initiative, satisfaction with life, and depressive symptoms) and gender differences. The sample included 193 university students (33 men, 160 women). The ages of the participants ranged from 17 to 30 years. Data were collected using the Personal Growth Initiative Scale II (PGIS II) by [Robitschek et al. \(2012\)](#), the Center for Epidemiologic Studies Depression Scale Revised (CESD-R) by [Van Dam and Earleywine \(2011\)](#), and the Satisfaction with Life Scale (SWLS) by [Diener et al. \(1985\)](#). Findings showed that among the students who had depressive symptoms, PGI significantly correlated with satisfaction with life. Two subdomains of PGI, 'planfulness' and 'intentional behavior', were significantly correlated with life satisfaction, whereas 'readiness for change' and 'using resources' was not. PGI significantly predicted two point nine percent of the variance in life satisfaction. PGI and its subdomains were not significantly correlated with depressive symptoms among students. However, depressive symptoms were significantly negatively correlated with life satisfaction. Students with depressive symptoms had significantly lower PGI scores and life satisfaction than students without depressive symptoms. Students with depressive symptoms also scored significantly lower on the planfulness subdomain of PGI. There were no significant gender differences among students with depressive symptoms in satisfaction with life, PGI, or its subdomains. Overall, the planfulness domain of PGI emerges as a variable to focus on when designing interventions for local students with depression and lower life satisfaction.

Keywords. Personal growth initiative, university students, mental health, life satisfaction, planfulness, depression

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Personal Growth Initiative (PGI) is an individual's conscious and deliberate involvement in their self-growth process (Robitschek, 1998). PGI was initially conceived as an unifactor construct, but as the research on the construct advanced, four subscales of the construct, namely 'readiness to change', 'planfulness', 'using resources', and 'intentional behavior' were put forward (Robitschek et al., 2012). These sub-dimensions take into account both the behavioral and cognitive aspects of PGI.

PGI assumes a greater importance in maintaining and acquiring a mental state of well-being. Past research reports PGI positively relates to self-esteem, levels of wellbeing, and has a negative relationship to depression and anxiety (de Freitas et al., 2016). Wiegold et al. (2020) conducted a meta-analysis study, which also found PGI negatively relates to distress and has a positive relationship with wellness. As far as therapy is concerned, PGI has been proven to be a workable construct that leads to changes in distressing symptoms (Wiegold et al., 2020).

Adolescent and student-focused research conducted previously indicates that PGI and its components are important factors in student well-being. The planfulness component of PGI is reported to account for significant variance in student adjustment (Yakunina et al., 2013). Mason (2019) found that PGI, eudaimonic happiness, and hedonia were associated among university students.

Sharma and Rani (2014) report that among postgraduate students, mental health has a positive relationship with PGI and its three dimensions, apart from using health resources. Support is associated with facilitating PGI (Dhanial et al., 2022). PGI has also demonstrated a moderately significant positive relationship with engagement in leisure education programs (Ayyildiz-Durhan et al., 2021). Ayub and Iqbal (2012) report that higher PGI is associated with higher psychological well-being and has a negative relationship with psychological distress among adolescents.

Depression is among the major reasons for manageable disability globally. Local (Asif et al., 2020) and international research (Ahmed et al., 2020; Ghanim et al., 2022; Islam et al., 2020) reports a particularly higher incidence of depression among university students. Clinical study finds PGI as an adaptable determinant of treatment responses among depression patients (Robitschek et al., 2019). PGI also acts as a protective factor against severity of suicidal ideation (Robitschek et al., 2022). Noor et al. (2020) report that all domains of PGI positively correlate with life satisfaction among university students. Various studies report life satisfaction as negatively related to depression

(Gallagher et al., 2022; Koivumaa-Honkanen et al., 2004; Mamani-Benito et al., 2022). Gigantesco et al. (2019) report depressed men as being more dissatisfied as compared to depressed women. When PGI was put forward as a multidimensional scale it was anticipated that various aspects of PGI would vary from culture to culture (Robitschek et al., 2012). Further research also confirmed that people of different ethnicities vary on different dimensions of PGI (Chang et al., 2017).

This research is designed to investigate the predictability of satisfaction with life by PGI among university students with depressive symptoms. The relationship among PGI, depression, and SWL is also explored. The findings will add to the knowledge about the predictable nature of PGI and also provide insight to the mental health practitioners about the linkages between the variables and the dimensions of PGI affected by changes in depression level and life satisfaction. The present research will also explore the relationship of PGI and life satisfaction with gender and university students with depressive symptoms.

Hypotheses

1. Personal growth initiative (readiness for change, planfulness, use of resources, and intentional behavior) is positively related to life satisfaction and negatively related to depressive symptoms in university students
2. Personal growth initiative positively predicts life satisfaction among university students with depressive symptoms
3. Life satisfaction, personal growth initiative and its sub-domains (readiness for change, planfulness, use of resources, and intentional behavior) will be higher among students without depressive symptoms

Method

Sample

Out of 348 university students including (68 men, 280 women) 193 students (33 men, 160 women) had depression symptoms as indicated by scores on the screening tool Center for Epidemiologic Studies Depression Scale Revised (CESD-R, Van Dam & Earle wine 2011). The Score of 16 and higher on CESD-R indicates that the person is at risk of depressive disorder. Ages of participants ranged from 17 to 30 years ($M = 20.7$, $SD = 1.99$). They had 12 to 15 years of

education ($M = 12.9$, $SD = 1.21$). Two participants were married, and 191 were unmarried. Purposive convenience sampling was used to recruit participants from randomly selected departments of the University of Karachi.

Measures

Demographic Sheet

Personal details about the participants, like Gender, age, marital status, and education, were sought through a demographic sheet

Center for Epidemiologic Studies Depression Scale Revised

The CESD-R is a freely available atheoretical instrument that is grounded on DSM 5-TR criteria for depression (Van Dam & Earleywine, 2011). It includes 20 items. CESD-R has 5 response categories, ranging from 0 to 4, where 0 stands for 'Not at all or less than 1 day' and 4 stand for 'nearly every day for two weeks'. Cronbach α reliability of the scale is reported as .93.

Personal Growth Initiative Scale II

It is a freely accessible, multidimensional instrument designed to assess the complex construct of PGI, and its authors have granted public permission for its use in research. The scale comprises 16 items across four subscales: readiness for change, planfulness, use of resources, and intentional behavior. The PGIS-II (Robitschek et al., 2012) employs a 6-point response format ranging from 0 (strongly disagree) to 5 (strongly agree). The scale demonstrates excellent internal consistency, with reported Cronbach's alpha coefficients ranging from .90 to .94 (Robitschek et al., 2012).

Satisfaction with Life Scale

It is a freely accessible instrument, and the authors have publicly authorized its use for research purposes. The SWLS (Diener et al., 1985) assesses individuals' global cognitive evaluations of their overall life satisfaction. The scale consists of five items rated on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The internal consistency reliability of the scale is reported as Cronbach's $\alpha = .87$ (Diener et al., 1985).

Procedure

This study was conducted at the University of Karachi. Six departments were shortlisted through random selection, and permission to conduct the research was obtained from the respective departmental heads. Student affairs coordinators in each department assisted with data collection. Convenience sampling was used to recruit two classes from each department. Subject teachers granted permission for students to attend a one-hour research session. Students were approached in their classrooms, invited to participate, and provided with a brief overview of the study. Those who expressed interest made themselves available on the scheduled day and time. All research-related queries were addressed, and the researchers' contact details were provided in the participant information sheet for any further information or assistance. Participants were assured that their responses would remain completely confidential and anonymous. They provided written informed consent before questionnaire completion. Participation was completely voluntary, and participants were free to withdraw from the study at any time without any penalty.

Ethical Concern

Participants were given a participant information sheet that had a link to a free online depression screening tool, as well as a list of local mental health facilities with their contact details and approximate treatment or session costs. This was intended to ensure that students had awareness about potential psychological well-being risks and could easily acquire professional support if required.

Results

To examine the relationship between PGI, its sub-domains, namely "readiness for change", "planfulness", "using resources", "intentional behavior", and study variables (satisfaction with life and depressive symptoms), correlations were calculated (Table 1). PGI was found to have a significant correlation with life satisfaction. The planfulness and intentional behavior domains of PGI, were significantly correlated with satisfaction with life, whereas readiness for change and using resources were not correlated with satisfaction with life. PGI and its subdomains were not significantly correlated with depressive symptoms; however, depressive symptoms had a significant negative correlation with satisfaction with life.

Table 1: *Correlation Between PGI and Study Variables (N = 193)*

	1	2	3	4	5	6	7	<i>a</i>
1. PGIS II	-							.86
2. rfc	.82**	-						.71
3. plan	.88**	.73**	-					.72
4. use res	.66**	.31**	.39**	-				.63
4. Int beh	.81**	.53**	.59**	.47**	-			.68
5. SWLS	.17*	.14	.16*	.09	.15*	-		.67
8. CESDR	-.06	-.04	-.07	.05	-.11	-.27**	-	.84

Note. PGIS = "Personal Growth Initiative Scale", rfc = "Readiness for Change", plan = "Planfulness", use res = "Using Resources", Int beh = "Intentional Behavior", SWLS = Satisfaction with Life Scale, CESDR = Center for Epidemiologic Studies Depression Scale Revised.

** $p < .01$, * $p < .05$

Predictability of SWL with personal growth initiative was examined using linear regression (Table 2). Results found that satisfaction with life of students who had depressive symptoms was significantly predicted by personal growth initiative ($R^2 = .029$, $t = 8.49$, $p < .05$). PGI explains 2.9% variance in satisfaction with life.

Table 2: *Linear Regression Summary for Predictive Relationship of PGI With Life Satisfaction Among University Students Having Depressive Symptoms (N = 193)*

Predictor	B	SE	β	<i>t</i>	<i>p</i>
Constant	13.31	1.57		8.49	.000
Personal Growth Initiative	.072	.03	.172	2.41	.017

$R^2 = .029$, Adjusted $R^2 = .024$, $p < .05$

A comparison of study variables among students with and without depressive symptoms revealed a significant difference in PGI and SWL (Table 3). The students having depression symptoms scores significantly lower on PGI and SWL as compared to students without depression symptoms. Students exhibiting depression symptoms scored significantly lower on the planfulness subdomain of PGI.

Table 3: *Difference in PGI and Satisfaction with Life Between Students With and Without Depressive Symptoms (N = 348)*

Variables	With Depressive Symptoms (n = 193)	Without Depressive Symptoms (n = 155)	t (346)	p	Cohen's d
	M (SD)	M (SD)			
SWL	16.95 (5.88)	22.10 (5.97)	8.06*	.000	.87
PGI	50.18 (13.94)	54 (16.09)	2.37*	.02	.25
rfc	13.35 (4.31)	13.82 (4.78)	0.96	.34	.10
plan	15.51 (5.09)	17.62 (5.92)	3.57*	.000	.38
use res	7.55 (3.90)	8.03 (4.15)	1.12	.27	.12
int beh	13.77 (4.14)	14.53 (4.41)	1.66	.10	.18

Note. PGI = "Personal Growth Initiative", rfc = "Readiness for Change", plan = "Planfulness", use res = "Using Resources", Int beh = "Intentional Behavior", SWL = Satisfaction with Life.

There were no significant gender differences among students with depressive symptoms in the presence of study variables, namely satisfaction with life, personal growth initiatives, and its subdomains.

Table 4: *Gender Differences in Depressive Symptoms, Satisfaction with Life, and PGI (N = 193)*

Variables	Male (n = 33)	Female (n = 160)	t (191)	p	Cohen's d
	M (SD)	M (SD)			
Depression	30.91 (12.66)	34.76 (14.54)	-1.413	.16	.28
SWL	18.15 (6.41)	16.70 (5.76)	1.293	.20	.24
PGI	46.27 (15.07)	50.99 (13.60)	-1.779	.08	.33
rfc	12.30 (4.19)	13.57 (4.31)	-1.543	.12	.29
plan	14.03 (4.98)	15.82 (5.08)	-1.847	.07	.36
use res	7 (3.84)	7.66 (3.92)	-.887	.38	.17
int beh	12.94 (4.45)	13.94 (4.07)	-1.263	.21	.23

Note. PGI = "Personal Growth Initiative", rfc = "Readiness for Change", plan = "Planfulness", use res = "Using Resources", Int beh = "Intentional Behavior", SWL = "Satisfaction with Life"

Discussion

The current study illustrates the predictive nature of PGI in relation to life satisfaction. Relationship among personal growth initiatives (PGI) and its sub-domains, satisfaction with life, and depression symptoms among university students. The gender differences on study variables were also investigated.

Results show PGI significantly positively correlates with satisfaction with life. In students with depressive symptoms, “readiness for change” and ‘using resources’ were not found to be correlated with life satisfaction, whereas ‘*planfulness*’ and ‘*intentional behavior*’ were significantly and positively correlated with life satisfaction. No correlation was found between depressive symptoms and PGI or any subdomains of PGI. These findings are inconsistent with the previous research carried out to find a correlation between PGI and life satisfaction on non-clinical samples. [Noor et al. \(2020\)](#) and [Freitas et al. \(2018\)](#) found all subdomains of PGI had a positive correlation with SWL. Although there has been a lot of research that reports a negative association between psychological distress and PGI and a positive association between psychological wellness and depression, no research informs us about which domains of PGI are affected during depression.

The result of the second hypothesis was found in the direction of previous studies. The depression symptoms were found to be inversely correlated with life satisfaction. Past research on student populations shows depression and life satisfaction correlate, and this relationship is moderated by affect ([Dias-Viana & Noronha, 2022](#)). [Liem et al. \(2010\)](#) also reported that young adults who dropped out and those who graduated differed significantly on depression, and SWL adults who did not complete their degrees were found to be more depressed and less satisfied. The coexistence of depression symptoms and a lack of satisfaction with life make it difficult for students to accomplish their academic goals.

PGI significantly predicted life satisfaction among students with depressive symptoms in the present research. [Noor et al. \(2020\)](#) reported that PGI significantly predicts 17.2 percent variance in satisfaction with life in university students. Our findings suggest the lowering of explained variance (2.9%) in life satisfaction of university students when personal growth initiative is explored among students having depressive symptoms.

When groups of students with and without depressive symptoms were compared on PGI and life satisfaction, results revealed that students with depression symptoms had significantly lower PGI and life satisfaction as compared to students without depressive symptoms. The comparison of scores on PGI domains revealed that planfulness is significantly lower in students with depressive symptoms. PGI has already proved to be a malleable construct that predicts treatment progress in depression patients ([Robitschek et al., 2019](#)). However, the cultural differences ([Chang et al., 2017](#)) in the expression of PGI require knowledge of the local scenario to plan and take measures to fix the situation. From a Pakistani perspective, planfulness emerges as a

domain of PGI that needs to be monitored and worked upon when working with depressed students.

The expression of PGI, its subdomains among university students with depressive symptoms did not differ by gender. These findings add support to previous research and extend the knowledge. [Zaman and Naqvi \(2018\)](#) also reported similar findings on overall PGI. Subdomains of PGI have not been reported in their research.

Satisfaction with life did not vary across the genders. This outcome is inconsistent with previous research. [Gigantesco et al. \(2019\)](#) found that depressed men are more dissatisfied than women. Women, despite facing more adverse circumstances, generally report higher satisfaction with life compared to men, and the reason put forward for this difference is the gender differences in responding to scales ([Montgomery, 2022](#)). Our findings in this regard need to be validated with bigger data and multiple measures of life satisfaction that can balance the gender differences in responses.

Limitations and Suggestions

Data was collected from one university in Pakistan only. More representative data from different universities across multiple cities and different professional education institutes should be included in future studies to develop deeper insight into the relationship of variables under investigation.

A lesser number of men were part of the sample in this study. Overall, the randomly selected departments had a lower number of male students in classes. In future studies non non-random sampling techniques may be employed to have increased participation of men in research to draw robust conclusions.

Data were collected at one time point. University student populations are immensely affected by the workload. Workload varies during the semester. Such changes are likely to affect the mood and satisfaction with life. A longitudinal exploration of variables in future studies is likely to provide deeper insight into the role of workload in the moderation of the relationship among the variables of the present research.

Implications of Research Findings

This research provides validation for the correlational relationship among PGI, satisfaction with life, and depressive symptoms. The occurrence of any one of these variables among university students may

alert professionals to the likely presence of the other two. This study explored domains of PGI in relation to satisfaction with life and depression. When working on the rehabilitation of depressed university students, the planfulness domain of PGI that is likely to be impaired can be focused on in therapy. Our findings extend the existing knowledge concerning the understanding of treatment, prevention, and anticipation of depression symptoms in university students.

References

- Ahmed, G., Negash, A., Kerebih, H., Alemu, D., & Tesfaye, Y. (2020). Prevalence and associated factors of depression among Jimma University students. A cross-sectional study. *International Journal of Mental Health Systems, 14*(1), 52. <https://doi.org/10.1186/s13033-020-00384-5>
- Asif, S., Muddassar, A., Shahzad, T. Z., Raouf, M., & Pervaiz, T. (2020). Frequency of depression, anxiety and stress among university students. *Pakistan Journal of Medical Sciences, 36*(5), 971-976. <https://doi.org/10.12669/pjms.36.5.1873>
- Ayub, N., & Iqbal, S. (2012). The Relationship of Personal Growth Initiative, Psychological Well-Being, and Psychological Distress among Adolescents. *Journal of Teaching and Education, 1*(6), 101-107.
- Ayyildiz-Durhan, T., Kurtipek, S., & Gungor, N. B. (2021). Leisure Education as a Predictor of Personal Growth Initiative. *International Online Journal of Educational Sciences, 13*(5), 1430-1444.
- Chang, E. C., Yang, H., Li, M., Duan, T., Dai, Y., Yang, J. Z., Zhou, Z., Zheng, X., Morris, L. E., Wu, K., & Chang, O. D. (2017). Personal Growth Initiative and Life Satisfaction in Chinese and American Students: Some Evidence for Using Resources in the East and Being Planful in the West. *Journal of Well-Being Assessment, 1*(1-3), 49-56. <https://doi.org/10.1007/s41543-018-0004-2>
- De Freitas, C. P. P., Damasio, B. F., Tobo, P. R., Kamei, H. H., & Koller, S. H. (2016). Systematic Review about Personal Growth Initiative. *Anales de Psicologia, 32*(3), 770-782.
- Dias-Viana, J. L., & Noronha, A. P. P. (2022). Life Satisfaction, Affects at School and Depression Symptoms among Adolescents. *Psychological Evaluation, 32*(e3203). <https://doi.org/10.1590/1982-4327e3203>
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*(1), 71-75. https://doi.org/10.1207/s15327752jpa4901_13
- Freitas, C. P. P., Damásio, B. F., Kamei, H. H., Tobo, P. R., Koller, S. H., & Robitschek, C. (2018). Personal Growth Initiative Scale-II: Adaptation and psychometric properties of the Brazilian version. *Paidéia (Ribeirão Preto), 28*, e2806. <https://doi.org/10.1590/1982-4327e2806>

- Gallagher, S., Daynes-Kearney, R., Bowman-Grangel, A., Dunne, N., & McMahon, J. (2022). Life satisfaction, social participation and symptoms of depression in young adult carers: Evidence from 21 European countries. *International Journal of Adolescence and Youth*, 27(1), 60-71. <https://doi.org/10.1080/02673843.2021.2025115>
- Ghanim, M., Rabayaa, M., Atout, S., Al-Othman, N., & Alqub, M. (2022). Prevalence of anxiety and depression among Palestinian university students: A cross-sectional study during COVID-19 pandemic. *Middle East Current Psychiatry*, 29(1), 71. <https://doi.org/10.1186/s43045-022-00238-5>
- Gigantesco, A., Fagnani, C., Toccaceli, V., Stazi, M. A., Lucidi, F., Violani, C., & Picardi, A. (2019). The Relationship Between Satisfaction With Life and Depression Symptoms by Gender. *Frontiers in Psychiatry*, 10, 419. <https://doi.org/10.3389/fpsy.2019.00419>
- Islam, Md. A., Barna, S. D., Raihan, H., Khan, Md. N. A., & Hossain, Md. T. (2020). Depression and anxiety among university students during the COVID-19 pandemic in Bangladesh: A web-based cross-sectional survey. *PLOS ONE*, 15(8), e0238162. <https://doi.org/10.1371/journal.pone.0238162>
- Koivumaa-Honkanen, H., Kaprio, J., Honkanen, R., Viinamäki, H., & Koskenvuo, M. (2004). Life satisfaction and depression in a 15-year follow-up of healthy adults. *Social Psychiatry and Psychiatric Epidemiology*, 39(12), 994-999. <https://doi.org/10.1007/s00127-004-0833-6>
- Liem, J. H., Lustig, K., & Dillon, C. (2010). Depressive Symptoms and Life Satisfaction Among Emerging Adults: A Comparison of High School Dropouts and Graduates. *Journal of Adult Development*, 17(1), 33-43. <https://doi.org/10.1007/s10804-009-9076-9>
- Mamani-Benito, O., Carranza Esteban, R. F., Castillo-Blanco, R., Caycho-Rodriguez, T., Tito-Betancur, M., & Farfán-Solís, R. (2022). Anxiety and depression as predictors of life satisfaction during pre-professional health internships in COVID-19 times: The mediating role of psychological well-being. *Heliyon*, 8(10), e11025. <https://doi.org/10.1016/j.heliyon.2022.e11025>
- Mason, H. D. (2019). Personal growth initiative: Relation to Hedonia and Eudaimonia happiness among South African university students. *Journal of Psychology in Africa*, 29(3), 260-264.
- Noor, A. M., Priyalatha, G., & Isa, N. J. M. (2020). Personal growth initiative in relation to life satisfaction among university students: Inisiatif pertumbuhan personal dan perkaitannya dengan kepuasan hidup dalam kalangan pelajar universiti. *EDUCATUM Journal of Social Sciences*, 6(2), 42-49. <https://doi.org/10.37134/ejoss.vol6.2.5.2020>
- Montgomery, M. (2022). Reversing the gender gap in happiness. *Journal of Economic Behavior & Organization*, 196, 65-78. <https://doi.org/10.1016/j.jebo.2022.01.006>
- Dhania, D. R., Suhariadi, F., Fajrianti, F., & Suryanto, S. (2022). Husband support: Supporting or inhibiting personal growth initiative of women

- leaders. *Journal An-Nafs: Kajian Penelitian Psikologi*, 7(1), 75-87. <https://doi.org/10.33367/psi.v7i1.2097>
- Robitschek, C. (1998). Personal Growth Initiative: The Construct and Its Measure. *Measurement and Evaluation in Counseling and Development*, 30(4), 183-198. <https://doi.org/10.1080/07481756.1998.12068941>
- Robitschek, C., Ashton, M. W., Spering, C. C., Geiger, N., Byers, D., Schotts, G. C., & Thoen, M. A. (2012). Development and Psychometric Evaluation of the Personal Growth Initiative Scale–II. *Journal of Counseling Psychology*, 59(2), 274-287. <https://doi.org/10.1037/a0027310>
- Robitschek, C., Cukrowicz, K., Brown, S. L., & Ciavaglia, A. (2022). Personal growth initiative as a buffer against suicide ideation severity in psychotherapy outpatients with depressive symptoms. *Journal of Clinical Psychology*, 78(9), 1752-1763. <https://doi.org/10.1002/jclp.23333>
- Robitschek, C., Yang, A., Villalba II, R., & Shigemoto, Y. (2019). Personal growth Initiative: A robust and malleable predictor of treatment outcome for depressed partial hospital patients. *Journal of Affective Disorders*, 246, 548-555. <https://doi.org/10.1016/j.jad.2018.12.121>
- Sharma, H. L., & Rani, R. (2014). Impact of mental health on Personal Growth Initiative (PGI) among university postgraduates. *new science*, 4(3), 134-147.
- Van Dam, N. T., & Earleywine, M. (2011). Validation of the Center for Epidemiologic Studies Depression Scale—Revised (CESD-R): Pragmatic depression assessment in the general population. *Psychiatry Research*, 186(1), 128-132. <https://doi.org/10.1016/j.psychres.2010.08.018>
- Weigold, I. K., Boyle, R. A., Weigold, A., Antonucci, S. Z., Mitchell, H. B., & Martin-Wagar, C. A. (2018). Personal Growth Initiative in the Therapeutic Processes: An Exploratory Study. *The Counseling Psychologist*, 1-24. <https://doi.org/10.1177/0011000018774541>
- Wiegold, I. K., Wiegold, A., Russell, E. J., Wolfe, G. L., Prowell, J. L., & Martin-Wagar, C. A. (2020). Personal Growth Initiative and Mental Health: A Meta-Analysis. *Journal of Counselling and Development*, 98(4), 376-390. <https://doi.org/10.1002/jcad.12340>
- Yakunina, E. S., Weigold, I. K., & Weigold, A. (2013). Personal Growth Initiative: Relations with Acculturative Stress and International Student Adjustment. *International Perspectives in Psychology: Research, Practice, Consultation*, 2(1), 62-71. <https://doi.org/10.1037/a0030888>
- Zaman, S., & Naqvi, I. (2018). Role of Personal Growth Initiative as a Moderator between Stress and Mental Health among Adolescents. *Pakistan Journal of Psychological Research*, 33(1), 123-147.

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