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Does academic performance influence personal growth initiative? An institutional-based study among undergraduate dental students

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Abstract:

INTRODUCTION: Personal growth initiative (PGI) is an "intentional involvement in changing and developing as a person." A student who has higher level of PGI is said to show higher academic performance because higher level of PGI might increase the student's contribution and achievement in life.

AIM: This study aimed to explore the association between academic performance and PGI among undergraduate dental students.

METHODS: A cross-sectional study was carried out among 287 2nd, 3rd, 4th year dental students and interns of Panineeya Institute of Dental Sciences, Dilsukhnagar, Hyderabad. Personal growth was evaluated by Personal Growth Initiative Scale-II (PGIS-II) along with their university academic performance in the last year. SPSS package version 21.0, Kruskal–Wallis test, and Mann–Whitney U-test were used for comparison among variables.

RESULTS: A significant difference (P = 0.05) was observed for PGIS subscale "readiness for change," with a higher mean score among 4th-year students (3.59 ± 1.07). However, females showed higher mean score for all subscales of PGIS except "Using resources" and total PGIS, but there is no significant gender difference. While higher mean scores for all subscales and total PGIS were observed among students who attained > 75% in their last year university examination, significant difference was observed for subscale "Intentional behavior" (P = 0.02) only.

CONCLUSION: PGI scale plays a crucial role among students to experience increased levels of well-being, develop them positively, and adapt to adverse situations.

Keywords:

Academic performance, dental students, intentional change, personal growth initiative

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Introduction

In the last few decades, there has been an increasing scientific attention to the role of individuals in their own personal growth and development.[1] Personal growth and development is a transformational process, in which improvements are made in one's physical, emotional, spiritual, social, and financial states in an environment. Hence, the desire for personal growth and development may arguably be one of the most defining human characteristics.[2]

In recent times, personal growth initiative (PGI) has emerged as a promising construct in further human development such as escalating change, seeking out opportunities, and individual's personal fulfillment.[3,4] PGI is defined as "active intentional engagement in the process of personal growth" or

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"intentional involvement in changing and developing as a person."[5] Hence, it is a skill set that every person carries into life experiences that influence each person to seek out opportunities for growth and capitalize those opportunities by engaging in intentional efforts to personal change and improvement.

The construct of personal growth originated in the 1990s. Robitschek first conceptualized personal growth and created a one-dimensional Personal Growth Initiative Scale-I (PGIS-I).[2] Although the scale included cognitive components such as knowing how to change and believing that change is possible and behavioral components such as taking the initiative to accept change process, it failed to distinguish between those components.[2,6] Furthermore, PGI was reconceptualized as a multidimensional quality consisting of separate cognitive and behavioral dimensions and developed PGIS-II.[2]

Individuals who are high in PGI are more involved in changing themselves in directions they desire. In addition, they are more concerned about self-improvement than individuals with low PGI.[7] According to Whittaker and Robitschek, people who are high on personal growth tend to be open to experiences, seek improvement in self, and have a sense of direction and goals in life.[8] Furthermore, Robitschek and Kashubeck found that people who have high levels of PGI know the direction in which they would like to grow and they seem to capitalize on opportunities for personal growth and seek out adaptive solutions.[9] Hence, higher levels of PGI should drive people toward a wide range of well-being and it is a critical resource for today's students facilitating not only academic but also future career success.[10]

A high grade point average or academic performance result is a kind of achievement to university students. A student who has higher level of PGI is said to show higher academic performance because higher level of PGI might increase the student's contribution and achievement in life.[11] However, individuals can either grow by overcoming their deficiencies or by building up their strengths, and this differentiation has not been considered in prior researches.[12] In addition, there is a dearth of evidence stating the relationship between PGI and academic performance. Therefore, the association between academic performance of the undergraduate students and their PGI was studied.

Methods

The study sample comprised 2nd, 3rd, and 4th year undergraduate dental students and interns of Panineeya Institute of Dental Sciences. Anonymity and confidentiality of respondents were maintained and participation was voluntary. Ethical approval for this study was obtained from the Institutional Review Board of Panineeya Institute of Dental Sciences and Research Centre (PMVIDS and RC/IES/PHD/PR/0132-17). Permission from the college authorities was obtained prior to the survey procedure.

The survey tool comprised PGIS-II questionnaire developed by Robitschek *et al*.[13] PGIS-II is a multidimensional scale comprising of four subscales, i.e., Planfulness, Readiness for Change, Using Resources, and Intentional Behavior. The responses were recorded on a 6-point Likert-type scale from 0 (disagree strongly) to 5 (agree strongly). All items were positively worded and the subscale scores were calculated by summing the item responses for that subscale and were divided by the number of items in the subscale. When calculating averages, unanswered questions were excluded. For example, if only four of the Planfulness subscale questions are answered, the subscale score would be the sum of those 4 responses divided by 4 (rather than 5). Thus, a subscale score was the mean response value for items on that subscale. However, the total mean score was calculated by summing the subscale scores and then divided by 4 (i.e., the number of subscales). This provided a mean subscale score which reduces weighted effect of the different number of items on the subscale. The subscale Readiness for Change included items 2, 8, 11, and 16 and the subscale Intentional Behavior included 4, 7, 9, and 15 with a possible range from 0 to 20. Likewise, the subscale Planfulness (1, 3, 5, 10, and 13) ranges from 0 to 25 and Using Resources subscale (6, 12, and 14) ranges from 0 to 15. The total mean score was not the average of all responses. Instead, it was calculated by summing the subscale scores and then divided by 4 (the no. of subscales), with a possible range from 0 to 20. A higher score indicates a greater degree of PGI in each subscale area and overall.

Their university academic performance was recorded as percentage of marks obtained in the previous university examination as >75%, 65%–75%, and <65%.

The questionnaire was distributed to undergraduate dental students during lecture hours in the classroom and the participants were instructed not to discuss the questions among themselves. Throughout the duration of the study, participants were given the opportunity to leave if they experienced any form of discomfort. After completing the questionnaire, participants were thanked for volunteering.

The completed questionnaires were collected, and data were entered and analyzed using the Statistical Package for the Social Sciences Software 20 (IBM SPSS Statistics for Windows, Versions 20, Armonk, NY, USA).

Mann–Whitney U-test and Kruskal–Wallis ANOVA test were used for comparison among items of the questionnaire based on variables. Differences were tested at a significant level of $P \leq 0.05$.

Results

The questionnaire was distributed among 287 undergraduate dental students (2nd year, 3rd year, 4th year, and interns) of Panineeya Institute of Dental Sciences and Research Centre. Among the study population who completed the questionnaire, 65 (22.6%) were male and 222 (77.4%) were female with a mean age of 21.16 ± 1.32 years. Majority of the students belonged to 3rd year (82 [28.6%]) followed by 4th year (77 [26.8%]), interns (67 [23.3%]), and 2nd year (61 [21.3%]) dental students. However, more than half of the study population (67.9%) scored 65%–75% in their last year university academic examination. On the other hand, only a small percentage of the students gain >75% (15.7%) and <65% (16.4%) university academic performance in last year among undergraduate dental students [Table 1].

Majority of the study population responded for the option "Agree a little" and "Agree somewhat" for most of the items of PGIS. However, mean responses were comparable for various items of PGIS ranging from 3.10 ± 1.46 (item 1: I ask for help when I try to change myself) to 3.90 ± 2.10 (item 9: I am constantly trying to grow as a person) [Table 2]

Females had a higher mean score for all subscales except for a subscale "Using resources." Likewise, even the total mean PGIS score (3.42 ± 0.82) was higher among females. However, none of the mean subscale and total PGIS scores showed a significant gender difference [Table 3]

A statistically significant difference ($P = 0.05$) was observed for the subscale "Readiness for change," with a higher mean score among 4th-year undergraduate dental students (3.59 ± 1.07). Meanwhile, no statistically significant difference was observed for other subscales based on the year of study. Regarding total PGIS mean score, 3rd-year undergraduate dental students showed higher mean score (3.52 ± 0.59) when compared to 2nd-year (3.33 ± 0.76) and 4th-year (3.44 ± 0.98) students and interns (3.31 ± 0.92). However, the difference was not statistically significant [Table 4]

Except for subscale "Intentional behaviour" ($P = 0.02$), no statistically significant difference was observed in relation to all subscales of PGIS. Meanwhile, higher mean scores for all subscales and total PGIS were observed among students who attained >75% academic performance in the last year. On the other hand, lower mean scores were observed among the students who scored <65% in their last year university academic examination [Table 5]

Table 1: Demographic distribution of the study population based on variables

Variables	Number of respondents, *n* (%)
Gender	
Males	65 (22.6)
Females	222 (77.4)
Year of study	
2nd year	61 (21.3)
3rd year	82 (28.6)
4th year	77 (26.8)
Interns	67 (23.3)
University academic performance in the last year	
>75%	45 (15.7)
65%-75%	195 (67.9)
<65%	47 (16.4)

Discussion

Personal growth can be an intentional or unintentional transformational process by which an individual changes and develops himself/herself throughout his/her lifespan.[14] When a person is concerned only with intentional change, that individual actively engages in the changing process in any life domain.[15] Riff's theory of personal growth says that the individuals are aware of the ongoing process of self-change but may or may not deliberately participate in the process.[16] Hence, intentional personal growth is a conscious process toward growing, changing, and developing as a person.[17] These changing processes prudently developed by individuals are recognized as PGI.

PGI is an effective and purposeful engagement in the pursuit of personal growth among college students, which includes changing specific aspects of their life and academic achievement.[17] However, PGI frequently comes in the minds of dental students because at this stage, students undergo and start thinking about their growth and development.[16] According to De Jager-van Straaten *et al*.,[17] the capacity to adopt and change is an important characteristic of a healthy personality development among students and they seek opportunities to grow as influenced by their level of PGI. Hence, high levels of PGI develop students to adopt adverse situations and drive positively to achieve higher academic success.[18] This was further proved in the present study that students with high academic percentage had high levels of PGI.

According to Shigemoto *et al*,[19] PGI includes cognitive and behavioral skills. Cognitive skills are recognized by self-efficacy, beliefs, attitudes, and values. Students with high levels of these skills can identify areas in which they

Table 2: Frequency distribution and mean score of Personal Growth Initiative Scale for the study population

Item	Percentages of responses, *n* (%)						Mean±SD
	Disagree strongly (0)	Disagree somewhat (1)	Disagreed a little (2)	Agree a little (3)	Agree somewhat (4)	Agree strongly (5)	
P_1	11 (3.8)	25 (8.7)	22 (7.7)	94 (32.8)	69 (24)	66 (23)	3.33±1.35
RC_1	10 (3.5)	20 (7)	39 (13.6)	90 (31.4)	76 (26.5)	52 (18.1)	3.25±1.28
P_2	16 (5.6)	21 (7.3)	40 (13.9)	77 (26.8)	85 (29.6)	48 (16.7)	3.18±1.36
IB_1	5 (1.7)	13 (4.5)	42 (14.6)	75 (26.1)	88 (30.1)	64 (22.3)	3.46±1.21
P_3	6 (2.1)	20 (7)	28 (9.8)	76 (26.5)	97 (33.8)	60 (20.9)	3.46±1.23
UR_1	20 (7)	22 (7.7)	49 (17.1)	73 (25.4)	65 (22.6)	58 (20.2)	3.10±1.46
IB_2	9 (3.1)	5 (1.7)	26 (9.1)	61 (21.3)	108 (37.6)	78 (27.2)	3.70±1.19
RC_2	13 (4.5)	12 (4.2)	22 (7.7)	61 (21.3)	91 (31.7)	88 (30.7)	3.63±1.34
IB_3	8 (2.8)	8 (2.8)	18 (6.3)	61 (21.3)	96 (33.4)	95 (33.1)	3.90±2.10
P_4	14 (4.9)	17 (5.9)	26 (9.1)	90 (31.4)	84 (29.3)	56 (19.5)	3.33±1.31
RC_3	72.4	25 (8.7)	21 (7.3)	91 (31.7)	91 (31.7)	52 (18.1)	3.36±1.24
UR_2	6 (2.1)	23 (8)	35 (12.2)	87 (30.3)	76 (26.5)	60 (20.9)	3.34±1.27
P_5	15 (5.2)	11 (3.8)	34 (11.8)	110 (38.3)	80 (27.9)	37 (12.9)	3.18±1.22
UR_3	16 (5.6)	22 (7.7)	36 (12.5)	84 (29.3)	74 (25.8)	55 (19.2)	3.20±1.38
IB_4	7 (2.4)	9 (3.1)	31 (10.8)	66 (23)	91 (31.7)	83 (28.9)	3.65±1.22
RC_4	5 (1.7)	15 (5.2)	29 (10.1)	86 (30)	78 (27.2)	74 (25.8)	3.53±1.22

SD=Standard deviation

Table 3: Subscale wise and total mean score comparison of Personal Growth Initiative Scale based on gender

Subscales	Males	Females	*P*
Planfulness	3.29±1.01	3.30±0.99	0.88
Readiness for change	3.39±1.04	3.46±0.94	0.78
Intentional behavior	3.58±0.84	3.71±1.03	0.24
Using resources	3.22±1.03	3.21±1.10	0.97
Total	3.37±0.83	3.42±0.82	0.69

≤0.05 statistically significant

Table 4: Subscale wise and total mean score comparison of Personal Growth Initiative Scale based on year of study

Subscales	2nd year	3rd year	4th year	Interns	*P*
Planfulness	3.23±0.88	3.41±0.78	3.38±1.14	3.12±1.12	0.27
Readiness for change	3.36±1.03	3.53±0.75	3.59±1.07	3.24±0.97	0.05*
Intentional behavior	3.58±0.92	3.94±0.98	3.60±1.05	3.54±0.97	0.19
Using resources	3.14±0.99	3.18±1.02	3.18±1.17	3.35±1.13	0.72
Total	3.33±0.76	3.52±0.59	3.44±0.98	3.31±0.92	0.38

*$P \leq 0.05$ statistically significant

want to grow (readiness for change) and develop specific plans to achieve that growth (planfulness). Moreover, behavioral skills focus on action-oriented growth which includes intentionally implementing the action plan created for personal growth (intentional behavior) and using the available resources that facilitate achieving growth-oriented goals (using resources).

The multifactor structure of the PGIS-II yields an important advantage over the original PGIS of assessing PGI more complexly in terms of readiness for change, planfulness, using resources, and intentional behavior in their academic endeavor.[13] Hence, the present study was conducted to explore the influence of academic performance on their PGI. Robitschek *et al*.[13] developed PGIS-II to assess how personal growth dimensions act on the process of self-improvement among students. The brevity of this instrument makes it quite useful among undergraduate dental students to know the influence of university academic performance on their PGI. Multiple studies have provided data supporting the internal consistency, construct, convergent, and discriminate validity of the PGIS.[2,13,14,20]

The present study comprised 287 undergraduate dental students; of which, 22.6% were male and 77.4% were female. For the reason that dentistry is an art and mainly emphasizes on esthetics, often this artistic nature attracts any creative individual toward the profession and, as a general perception, girls are quite creative, innovative, and love artistic things. Similarly, Weigold *et al*.[14] who examined the psychometric properties of the PGIS-II in African-American college students also reported a high percentage of females (74%). In another similar study by Sharma and Rani[21] to find relation between PGI and self-efficacy among three university students of Haryana city, the majority were female (64%) compared to male (36%).

In the current study, majority of the students (67.9%) acquired 65%–75% in their last year university academic examination. This can be due to the fact that they have enough time to complete their tasks and focus more on academics. These findings conflict with the results reported by Lakshminarayan *et al*.[22] among dental students in Davangere, where higher percentage of dental students scored <60% in their university

Table 5: Comparison of total Personal Growth Initiative Scale score and each subscale according to university academic performance

Subscales	University academic performance			*P*
	>75%	65%-75%	<65%	
Planfulness	3.47±0.73	3.29±0.97	3.15±1.25	0.73
Readiness for change	3.66±0.80	3.43±0.95	3.30±1.12	0.41
Intentional behavior	4.08±1.20	3.66±0.87	3.39±1.16	0.02*
Using resources	3.30±0.98	3.22±1.09	3.07±1.12	0.73
Total	3.63±0.64	3.40±0.79	3.23±1.05	0.20

*$P \leq 0.05$ statistically significant

examination. This as reported by the authors could be because of their inability to balance their academic and clinical responsibilities simultaneously, thereby ensuring lower quality of work and poor grades.[22]

It was observed that majority of the study population responded for the option "agree a little" and "agree somewhat" for most of the items of PGIS. This may reflect that students have an interest for change, developed as fully functioning individuals, and amplify progress in their studies. Likewise, in a study by Meyers *et al*.[11] among graduate students in a social sciences master's program at Dutch University and Robitschek[23] among college students in a Mexican-American population, they were mainly agreed with the PGI statements. In contrast, Oluyinka[10] reported that Nigerian university student population presented more neutral views of their own PGI.

The study done by Robitschek *et al*.[13] indicated that females reported higher PGI than males. This finding concurs with our results (3.42 ± 0.82) along with the other similar studies by Oluyinka[10] and Robitschek and Keyes.[24] In the current study, females had higher mean score for all subscales except for the subscale "Using resources." It may be because females prepare themselves for self-change and apply their knowledge to plan and utilize less external resources for intentional behavior change than males and choose not to make use of outside resources due to negative assumptions.[25]

Based on year of study, a statistically significant difference was observed only for subscale "Readiness for change," with a higher mean score among 4th-year undergraduate dental students. This could be because 4th-year students demonstrate a stronger intention in the changing process in order to pursue goals. Regarding total PGIS mean score, 3rd-year undergraduate dental students showed higher mean score (3.44 ± 0.59) because they are not subjected to clinical stress. However, these results were in contrast to the study by Gohlan and Singla[16] among various colleges of Punjab, who reported that 1st-year students had higher PGI score than other levels of education.

Results of the present study found that, except for subscale "Intentional behavior," no statistically significant difference was observed in relation to any subscale and total PGIS with their last year university academic performance. Therefore, students who feel confident had higher level of achievement in comparison to those who lacked confidence in themselves. These findings are supported by Malik *et al*.[26] among students of Technical Training Institutes of Sargodha city, Pakistan, who reported that overall PGI was not related to academic achievement, but its subscales of planfulness and intentional behavior had a significant positive relationship with academic achievement of students. Thus, improving self-regulation behavior and developing certain plans, students can improve their academic performance.[27]

The present study acknowledges certain limitations such as single institution based and cross-sectional nature of the study; hence, the results should be generalized with caution. In the present study, the influence of academic performance on PGI was only measured without considering the influence of environmental factors. Hence, there is a need for more studies that evaluate the structure of the PGIS-II in different cultures, including different groups present in the general population and the influence of various factors.

Conclusion

The current study reported that there was no significant gender difference among undergraduate dental students in relation to PGI. A statistically significant difference was observed for subscale "Readiness for change," with a higher mean score among 4th-year undergraduate dental students. However, higher PGI mean score was observed among students who attained >75% in their academic performance. Except for the subscale "Intentional behavior," no statistically significant difference was observed in relation to all subscales of PGIS. Therefore, the findings support that PGI scale plays a crucial role among students to experience increased levels of well-being, developing them positively, and adapt to adverse situations.

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Conflicts of interest
There are no conflicts of interest.

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