RESEARCH ARTICLE

# Mindfulness, mindset, motivation, and academic performance of speech pathology undergraduate students: A correlational study

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**ABSTRACT**

**Background:** Speech pathology (SP) students report great difficulty as they experience academic and mental health concerns while completing their programs. Even with increased global attention on non-cognitive factors influencing academic performance, no study focusing on Filipino SP students has been done.

**Objectives:** This study aimed to (1) explore the relationships among mindfulness, growth mindset, academic intrinsic motivation, and academic performance, and (2) investigate the influence of mindfulness, mindset, and motivation levels on academic performance.

**Methodology:** SP undergraduate students from a university in Manila (n=89) responded to an online survey measuring the three variables. Grades were extracted and analyzed alongside survey scores. Correlation and multiple linear regression analysis were performed.

**Results:** Higher mindfulness level was significantly related to better academic performance ($r_s(89) = -.235$, $p<.05$). Correlation analysis further revealed a significant association between mindfulness and growth mindset ($r_s(89) = .390$, $p<.01$); mindfulness and academic intrinsic motivation ($r_s(89) = .504$, $p<.01$); and growth mindset and academic intrinsic motivation ($r_s(89) = .409$, $p<.01$). No significant relationship was found between grades and growth mindset or motivation levels. Furthermore, regression analysis revealed that mindfulness, mindset, and motivation levels do not significantly predict grades ($F(3,85)=.461$, $p=.710$, $R2=.016$).

**Conclusion:** This study provides scientific findings to help educators develop a better understanding of Filipino health professions education student characteristics. Evidence on the significance of mindfulness in student performance is presented. It also provides new knowledge regarding the association between the constructs of mindfulness, growth mindset, and intrinsic motivation in this specific population.

**Keywords:** *mindfulness, growth mindset, motivation, academic performance, speech pathology education*

## Introduction

Educational programs in allied health fields like speech pathology (SP) are quite complex and demanding. In the Philippines, undergraduate students typically go through four or five years in a university before obtaining a Bachelor's degree in SP. This includes at least three years of coursework and a final year of clinical training. Throughout the whole program, and especially towards the latter years, students report great difficulty. Many, thus, get delayed or fail to finish the program. In a university in Manila, 11.31% of their graduating SP students did not finish successfully or on time for the years 2017 and 2018. Among the top reasons for student delays and failures were reportedly academic difficulties and mental health concerns (H. Albert, personal communication, 2019). The need to improve student outcomes is recognized in this academic community yet no study has been found to explore factors related to the experience and performance of SP students in the country.

Traditionally, academic success has been almost exclusively linked to cognitive factors. There was a strong belief that academic success is highly determined by a person's intelligence and academic abilities [1]. More recently, however, views on academic performance have shifted. Student performance is now viewed as a very complex

phenomenon that is influenced not only by cognitive abilities but also by many other non-cognitive factors [2]. In the past decades, numerous studies have shown that non-cognitive influences play a major role in predicting academic performance, success, and persistence [3]. Yet, very little has been done involving allied health education fields like SP.

This study was conducted to address the limited knowledge on non-cognitive factors influencing SP student performance especially in the Philippine setting. It looked into three constructs that have been previously linked with undergraduate student success and wellbeing: mindfulness, mindset, and motivation. Specifically, this study aimed to (1) explore the relationships among mindfulness, growth mindset, academic intrinsic motivation, and academic performance, and (2) investigate the influence of mindfulness, growth mindset, and academic intrinsic motivation levels on academic performance.

*Mindfulness*

Mindfulness is a concept that has been the focus of many researchers. More interest on this topic in relation to education has emerged as researchers attempt to find more solutions to student psychosocial and mental health concerns. Kabat-Zinn, one of the forerunners in creating mindfulness training programs, defines the concept as "paying attention in a particular way: on purpose, in the present moment and nonjudgmentally" [4]. This skill is usually developed through various meditative practices and activities. Being mindful means learning to pay attention to the present moment with a mindful attitude – with openness, curiosity, and acceptance [5]. Baer *et al.* depict mindfulness as having five essential components. The first is *observing* or the ability to attend to experiences within and outside oneself. Second is *describing* which pertains to the ability to describe or illustrate internal experiences using words. *Acting with awareness* involves how a person attends to activities currently being done. *Nonjudging of inner experience* is being nonevaluative towards one's emotions and thoughts. Lastly, *nonreactivity to inner experience* involves the "tendency to allow thoughts and feelings to come and go, without getting caught up in or carried away by them" [6].

Mindfulness among college students has been heavily studied in the past decade. Most researchers, however, focus on its positive effects on mental health. To date, several studies summarizing the results of such studies have been made available. The extensiveness of the research indicates the strength of evidence supporting the relationship between mindfulness and student mental health. Specifically, mindfulness has been heavily linked with improvements in psychological wellbeing [7] and decrease in depression, anxiety, and stress among undergraduate students [7-9]. Similar findings were likewise found among students from health fields like medicine and nursing [10].

Fewer studies have investigated mindfulness and academic performance and the results are somewhat conflicting. In a study by Brausch examining the predictive ability of certain constructs on academic success, it was found that mindfulness levels did not predict college grade point averages among 268 undergraduate students [11]. In a systematic review by McConville *et al.*, they found two studies examining the effects of mindfulness meditation on academic performance [10]. These studies by Yamada & Victor and Paholpak et al. failed to find a significant effect on learning, memory, academic performance, and achievement [10].

Two studies involving Spanish secondary school students, however, successfully linked mindfulness and academic performance. López-Gonzalez *et al.* found that mindful meditative habits predict academic performance among 420 adolescents [12]. Franco *et al.* administered a mindfulness program to 30 students. Both pre-post intervention and control-experimental group comparisons confirmed an increase in grade averages among the participants [13]. Meanwhile, only one study involving college students was found to show the effects of mindfulness on academic performance. Lin & Mai investigated the effects of a mindfulness meditation program on first-year university students. A comparison between experimental and control groups revealed better short-term academic performance in the experimental group. However, long-term academic performance for both groups did not significantly differ [14]. These authors proposed that several components of mindfulness seem to be responsible for improved academic outcomes. Mindful people are more able to direct their focus to the here and now, thereby having more control over their attention. Mindfulness also typically entails the ability to lessen mind wandering and to free one's mind of distractions. This heightened skill in attention and concentration, which allow better cognitive functioning, may be responsible for improving student performance [13,14]. Mindfulness also allows one to have better emotional awareness, control, and balance, which may be contributors to good school performance especially during stressful situations [13].

It appears that most studies on mindfulness point to its strength in improving psychological well-being. However, its relationship with student success is not as straightforward due to conflicting research findings.

*Mindset*

People have a combination of fixed and growth mindsets. The predominance of a fixed mindset makes a person believe that intelligence is permanent and unchangeable. Having a growth mindset, on the other hand, means a person believes in the malleability of intelligence [15]. Another framework usually referred to in relation to mindset is the implicit theories of intelligence. Individuals may hold two different types of beliefs about intelligence. Entity theorists, similar to people with a fixed mindset, believe that intelligence cannot be altered or enhanced. Those who have strong incremental beliefs, on the other hand, believe that intelligence can be improved and worked on [16]. These two frameworks referring to beliefs about intelligence are sometimes used interchangeably.

Mindset has been shown to impact numerous aspects within a student, including study strategies, motivation, and reaction to academic setbacks. Having a fixed mindset affects these negatively, then leading to poorer student performance. On the other hand, the positive effects of having a growth mindset on these factors lead to better academic performance [17-19]. Numerous authors have thus shown the link between a growth mindset and better grades among students [18,20-22]. In a study by Claro *et al.* involving 75% of all public school tenth graders in Chile, growth mindset was likewise shown to predict academic achievement at a national level [23]. Additionally, a growth mindset has been associated with better academic engagement [20,21], academic enjoyment [20], and affect towards school [22].

While many studies have shown the positive relationship between growth mindset and academic performance, a few others have failed to prove this connection. Studies by Bahník and Vranka, and Furnham *et al.* showed no significant relationship between intelligence beliefs and the academic performance of university students [24,25].

*Motivation*

Numerous theories relating to motivation exist. The Self-determination Theory, however, has been studied extensively in relation to academic performance. The framework focuses on sources of motivation or the reasons behind people's actions. Basically, people engage in tasks to satisfy autonomy, competence, and relatedness needs [26,27]. The proponents of this theory distinguish between several types of motivation. Among these, the motivation orientation that has been most strongly linked with academic success is intrinsic motivation [26]. It involves doing tasks for the "pleasure and satisfaction derived from their performance" [28]. They engage in tasks volitionally and without the need for material rewards [28]. Subsequently, intrinsically-motivated behaviors are the ones considered to be more self-determined and truly self-endorsed. Intrinsic motivation brings out the human's "inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn" [27].

Several studies have demonstrated the link between intrinsic motivation and student success among college students. Specifically, authors have shown that intrinsic motivation is associated with better academic performance [29,30]. Richardson *et al.* did a systematic review and meta-analysis of psychological correlates of academic performance among university students. The authors reviewed more than a thousand articles and found 50 different correlates to grade point average. Intrinsic academic motivation was among the few non-intellective correlates that showed a small, yet, significant positive association with academic performance [26].

While a lot of evidence on the positive link between intrinsic motivation and academic performance exists, not all studies obtained a similar result. Baker examined the relationship between motivational orientations and different factors related to academic performance and wellbeing of psychology undergraduate students. Correlation and regression analyses revealed no significant relationship between intrinsic motivation and academic performance [31]. Studies by Dennis *et al.* and Allen likewise failed to establish an association between motivation levels and student performance, as measured in grade point averages [32,33].

A good amount of evidence has shown the association between student performance and the three constructs – mindfulness, mindset, and motivation. However, contradictory findings exist. It is, thus, valuable to examine these relationships in specific populations and settings in order to determine their actual significance in particular contexts. This study investigated the relationships among mindfulness, growth mindset, academic intrinsic motivation, and student performance of Filipino speech pathology undergraduate students. It also examined how mindfulness, growth mindset, and academic intrinsic motivation levels influence academic performance. This study provides information regarding possible factors that may be impactful on SP student success or failure. It may assist SP educators in better understanding and adapting to current student characteristics.

## Methodology

The authors utilized an exploratory cross-sectional design to investigate the relationships among mindfulness, growth mindset, academic intrinsic motivation, and student performance.

*Sample*

A total enumeration approach was used, inviting all students satisfying the inclusion criteria in a state university in Manila. To be invited in the study, the student must be: (1) officially enrolled under the BS Speech Pathology program of the university and (2) at least 18 years of age. First-year students and minors were excluded from the study. Additionally, data from students who reported to have had undergone formal mindfulness training were likewise excluded from the analysis. A total of 89 respondents were included, 16 (18%) males and 73 (82%) females. The participants' age ranged from 19 to 25 years old, with a mean age of 20.2 and a standard deviation of 0.94.

*Measures*

Five-Facet Mindfulness Questionnaire (FFMQ). The FFMQ, created by Baer and colleagues [34], is a 39-item Likert scale assessing a person's mindfulness using subscales based on the five mindfulness facets, observing, describing, acting with awareness, nonjudging of inner experience, and nonreactivity to inner experience. The scale shows good construct and predictive validity. All five subscales also possess acceptable to good internal consistency, with alpha values ranging from .75 to .91 [34].

Implicit Theories of Intelligence (Self-Theory) Scale (ITIS). The ITIS by De Castella and Byrne [21], which was based on the original Implicit Theories Intelligence Scale by Carol Dweck, was used to measure growth mindset level. The instrument generally measures a person's perspective about the malleability of the brain and each person's ability to alter one's intelligence. There are a total of eight items, four of which measure entity or fixed mindset beliefs while the other four assess incremental or growth mindset beliefs. The ITIS presents good internal consistency with an alpha value of .90 [21]. With the scoring method used in this particular study, a higher ITIS score indicates a higher level of incremental self-beliefs.

Academic Intrinsic Motivation Scale (AIMS). The AIMS, created by French and Oakes [35], is a scale designed to measure the academic intrinsic motivation level of college students. This 25-item scale has four subtests representing four classes of intrinsic motivators. Challenge involves the extent to which a person views his academic activities as challenging with regard to his abilities. Control is the student's belief or sense of control over his own academic outcomes. Curiosity includes a person's eagerness to learn, while career outlook involves a person's level of being future-oriented. The scale (alpha = .92 & .96) and subscales (alpha values ranging from .70 to .92) have been demonstrated to possess good internal consistency and stability. Initial evidence for construct validity also exists [35].

General Weighted Average (GWA). The GWA is a measure of a student's overall scholastic standing at the University of the Philippines (UP). UP follows a 5-point grading system in which 5.0 is the lowest grade and 1.0 is the highest grade [36]. The GWA is calculated by averaging the student's grades in all subjects taken in the University. This GWA calculation will yield a number, usually presented with two decimal places, anywhere between 1.0 and 5.0 (e.g. 1.67, 2.44, 3.60). While UP's grading system uses an ordinal scale, the calculated GWA is treated as a continuous variable in this study.

*Procedure*

Students were met and invited to participate in batches. Those who gave their consent were then sent an email with a link to the online form containing all three measures (AIMS, FFMQ, ITIS). The second- and third-year students were given designated class time (approximately 20 minutes) to complete the survey. The graduating and fourth-year students were assigned to their clinical placements out of campus. They were given around two to four weeks to complete the forms on their own, with follow-up reminders after one to two weeks. All participants received identical letters of invitation, consent forms, links, and online surveys. No time limit was given to any of the participants in completing the form.

General weighted averages (GWA) were obtained through the college administration. Once scale scores and grades were matched and double-checked, student numbers were replaced with participant codes for data analysis.

Scoring and data organization followed. Participant responses were exported from Google Forms into Google Sheets. Microsoft Excel was used for scoring and data organization.

*Data Analysis*

Since all measures used Likert scales, aside from computing total scale and subscale scores, item average scores were also

generated. Spearman Rho correlation analysis was done to understand the relationships among mindfulness, mindset, motivation, and academic performance. A nonparametric test to assess correlation was chosen since the scale scores obtained did not pass normality tests. To determine the level of influence of all three variables on academic performance, multiple linear regression was performed. A confidence interval of at least 95% was maintained during data analysis. The IBM SPSS Statistics V23 Software was used for all statistical analyses.

## Results

Since data collection spanned the tail end of one academic year (AY) and the beginning of another, the participants were composed of graduating students from AY 2017-2018 and sophomore, junior, and senior students from AY 2018-2019. Figure 1 shows the distribution of respondents according to year level. The sample consisted mostly of second, third, and fourth-year students. Fifteen were graduating students and three identified themselves as irregular students.

The computation of the GWA for graduating students included all available grades for all academic courses throughout their academic career. On the other hand, the GWA computation for all other participants included available grades from all semesters prior to data collection. Table 1 summarizes the scores obtained from the measures used in this study, including the GWA.

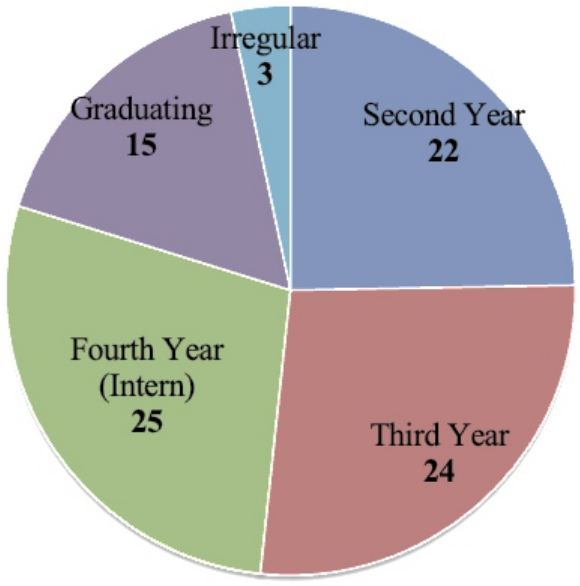


**Figure 1.** *Distribution of participants according to year level, n = 89.*

A Shapiro-Wilk test revealed that only the FFMQ scores were normally distributed, W(89)= 0.98, p=0.32. The ITIS (W(89)= 0.94, p=0.00), AIMS (W(89)= 0.84, p=0.00), and GWA (W(89)= 0.90, p=0.00) scores significantly deviated from normality. A two-tailed analysis of significance revealed a significant weak negative relationship between GWA and FFMQ total scores ($r_s(89) = -.235$, $p < .05$). Specifically, this implies that the higher FFMQ scores were associated with better grades (lower numerical value). The GWA showed a weak yet non-significant negative association with ITIS and AIMS scores ($r_s(89) = -.059$, $p > .05$ and $r_s(89) = -.132$, $p > .05$, respectively). Meanwhile, a significant weak positive correlation was found between FFMQ and ITIS scores ( $r_s(89) = .390$, $p < .01$ ). Furthermore, a significant moderate positive association was revealed between FFMQ and AIMS ($r_s(89) = .504$, $p < .01$), and ITIS and AIMS ($r_s(89) = .409$, $p < .01$). Results of Spearman correlation analysis are presented under Table 2.

Regression analysis revealed no significant effect between mindfulness, mindset, motivation and GWA, ($F(3, 85) = .461$, $p = .710$, $R2 = .016$). These results indicate that the three variables had a negligible effect on the variation of GWA, predicting only 1.6% of its variation.

## Discussion

Based on the results, only mindfulness level seemed to have a significant relationship with academic performance. These findings are congruent with a few studies relating these two variables [1,13,14]. This association may be related to the impact of mindfulness on presence, attention, and concentration, leading to better cognitive functioning [13,14]. Additionally, other mindfulness-related traits such as emotional awareness, self-control, self-awareness, and positive self-regard perhaps contribute to improved cognitive functioning and academic engagement as well.

While numerous studies have supported the positive relationship between growth mindset and academic performance, a few other authors have likewise found no significant association between the two. The current study's findings support those of Furnham *et al.* [25] and Bahník & Vranka [24]. There could be a few possible explanations for this nonsignificant relationship. One is that growth mindset simply may not be a strong enough factor to have an influence or association with academic performance in this context. It is also possible that only very high levels of growth mindset can influence student outcomes [24] and this high level is not that present in this group of students. Given that

**Table 1.** *Summary of Scores*

| Variable | Highest Possible Score | Lowest Possible Score | Mean | Average Item Score |
|---|---|---|---|---|
| **Mindfulness (FFMQ)** | 195 | 39 | 117.94 | 3.02 |
| Observe | 40 | 8 | 27.69 | 3.46 |
| Describe | 40 | 8 | 24.66 | 3.08 |
| Acting with Awareness | 40 | 8 | 23.91 | 2.99 |
| NonJudging of Inner Experience | 40 | 8 | 20.20 | 2.53 |
| NonReactivity to Inner Experience | 35 | 7 | 21.48 | 3.07 |
| **Mindset (ITIS)** | 48 | 8 | 36.92 | 4.62 |
| **Motivation (AIMS)** | 125 | 25 | 102.63 | 4.11 |
| Challenge | 30 | 6 | 24.94 | 4.16 |
| Control | 35 | 7 | 28.78 | 4.11 |
| Curiosity | 35 | 7 | 27.97 | 4.00 |
| Career Outlook | 25 | 5 | 20.94 | 4.19 |
| **Academic Performance (GWA)** | 5 | 1 | 1.83 | - |

Note. This table presents scores obtained from the different measures. Mindfulness is measured using the Five Facet Mindfulness Questionnaire (FFMQ) which used a 5-point Likert scale for its five subtests: Observing, Describing, Acting with awareness, Nonjudging of inner experience, and Nonreactivity to inner experience. Growth mindset was measured using the Implicit Theories of Intelligence (Self-Theory) Scale (ITIS) via a 6-point Likert scale. Intrinsic motivation was measured using the Academic Intrinsic Motivation Scale (AIMS) which used a 5-point Likert scale for the subtests Challenge, Control, Curiosity, and Career Outlook.

**Table 2.** *Spearman Rho Correlation Analysis Results*

| Variable | | GWA | FFMQ | ITIS | AIMS |
|---|---|---|---|---|---|
| Academic Performance (GWA) | $r_s$<br>P | 1<br>- | | | |
| Mindfulness (FFMQ) | $r_s$<br>P | -.235*<br>.026 | 1<br>- | | |
| Growth Mindset (ITIS) | $r_s$<br>P | -.059<br>.583 | .390**<br>.000 | 1<br>- | |
| Academic Intrinsic Motivation (AIMS) | $r_s$<br>P | -.132<br>.217 | .504**<br>.000 | .409**<br>.000 | 1<br>- |

Note: $r_s$ = Spearman correlation coefficient;
*p < .05. ; **p < .01

no formal or explicit training on growth mindset is included in any of their undergraduate coursework, this could be likely. Lastly, results could be providing support for the idea that growth mindset may only be beneficial and applicable in certain circumstances [24]. The association may be strong in studies involving subjects like math and language [23] yet insignificant when academic performance is measured on a larger scale and with a greater variety of course types, which is the case when the GWAs are used as a measure (*i.e.* wide range of general education courses, major courses). The authors also recognize the possibility, however, that results may be different with a bigger pool of participants.

Contrary to a wide collection of literature, the current study failed to show a significant association between intrinsic motivation and academic performance. This finding, however, resonates with those of Baker [31], Allen [33], and Dennis *et al.* [32]. These results may be an indication that, similar to Allen's findings, intrinsic motivation may be associated with positive academic outcomes, such as academic persistence, that are not measured or reflected when looking at the GWA alone. Another possible explanation for this lack of association may be related to sex differences. There is a dissimilarity in the influence of motivation on performance between the two sexes, which may be due to differences in learning characteristics, learning behaviors, and subject-based intrinsic motivation level differences [37]. With the current study's sample that is 82% females, the sex-based intrinsic motivation characteristics may have had an influence.

The results also revealed that mindfulness, growth mindset, and academic intrinsic motivation are positively

related to each other. The relationship between mindfulness and growth mindset is just beginning to be explored as very few studies have examined this so far [38]. What relates mindfulness and growth mindset is not that easy to see. Perhaps the most probable explanation is that having a growth mindset somehow requires some level of mindfulness or at least components of it. Mindfulness permits one to have wider awareness levels, heightened concentration, greater ability to reperceive, and improved cognitive flexibility [39] which may all be valuable skills in fully gaining a growth mindset. These allow an individual to achieve growth mindset elements like having an accurate view of oneself and clearer focus to work on one's goals.

The current study also provides support for the strong relationship between mindfulness and motivation. The findings indicate that mindful persons tend to be more autonomously or intrinsically motivated, as similarly seen in other studies [40]. The results likewise revealed that people with a growth mindset tend to be more intrinsically motivated as well. This relationship is supported by existing evidence showing that growth mindset interventions lead to increased internal locus of control, challenge approach motivation [41], and learning motivation, including intrinsic motivation [42].

The results of regression analysis showed that the three variables are not significant predictors of academic performance in this particular sample. This lack or weakness of association between the variables may be due to several different explanations. First, the results may imply cultural or racial variations in non-cognitive factors that significantly impact academic performance. It is possible that unlike other well-studied populations, the strength of mindfulness, growth mindset, and intrinsic motivation in predicting the performance of Filipino students is, indeed, negligible.

Second, a myriad of variables may have had a stronger influence on the participants' grades. Other demographic, academic, cognitive, and personality/behavior factors [43] may have had more influence in predicting academic performance in this sample. Third, the strength of mindfulness and mindset as predictors of academic performance may not be as visible when measured without a certain intervention. Instead of correlation analysis, authors who have successfully linked these variables with student performance most commonly did intervention studies [13,14,16,44]. This may imply that the impact of mindfulness and growth mindset on academic performance is necessarily strengthened with the provision of programs and interventions. It may also suggest that significant influence on student grades may be difficult to see unless variables like mindfulness and mindset are at high levels, like what Bahník & Vranka [24] surmised.

This study sheds some light regarding the significance of mindfulness on student performance, even on a Filipino undergraduate sample. It also provides evidence on the association between three non-cognitive factors that have been heavily linked with student performance and wellbeing in numerous international studies. It confirms the association of intrinsic motivation with mindfulness and growth mindset. Furthermore, it provides data on the significant link that is relatively unexplored between mindfulness and growth mindset.

This information can be used by university academicians in the process of curricular improvement. Academic programs may be studied and revised for explicit incorporation of non-cognitive factors such as mindfulness and growth mindset. The creation and reinforcement of remedial and other student support programs incorporating training on these may also be considered. These could be initiated at the beginning of their undergraduate education for greater application and impact. In the context of SP education, greater reinforcement of these skills may be done during the crucial years of heavy coursework and clinical training wherein their academic performance and psychological wellbeing are challenged the most. Considering the results of this study and supporting evidence all over the world, it is the hope that with purposeful training, these SP students' high levels of mindfulness and growth mindset will help sustain their motivation and performance throughout their academic careers. This study could lead to a boost in local research on the influence of non-cognitive factors on allied health students as well as the efficacy of evidence-based mindfulness and growth mindset interventions when used on the same population.

Some biases brought about by the study's sampling and data collection method may have had an impact on the results. The current study was done on a sample of BS Speech Pathology students from a single university in Metro Manila. Thus, the results are only applicable to this specific population. The involvement of students from other schools and geographical locations may have made more generalizable results. While substantial results were obtained, a larger sample size may have offered more powerful and accurate results. Data from this study were all self-reported and the scales used have not been validated using a Filipino sample, posing some unintended effects on the results as well. Moreover, it is also possible that the results were affected by

the reliability of the GWA as a measure. Since the participants came from four different year levels, the components included in their GWA computations greatly vary as well, possibly compromising reliability. The use of a more standardized measure for academic performance may have been beneficial.

## Conclusion and Recommendations

This study aimed to investigate the relationships among mindfulness, growth mindset, academic intrinsic motivation, and academic performance. The findings confirm that mindfulness levels are related to better academic performance among Filipino undergraduate speech pathology students. In addition, a positive relationship between mindfulness, growth mindset, and academic intrinsic motivation exists. This study, however, failed to provide evidence on the association of academic performance with growth mindset and motivation levels. In addition, the three variables do not significantly predict academic performance.

The researcher recommends that higher education institutions, especially in the field of health professions education, consider the incorporation of non-cognitive factors such as mindfulness, growth mindset, and intrinsic motivation into their academic programs. In terms of research, follow up studies using more diverse student groups and bigger samples to confirm the relationships between these non-cognitive variables and student performance are essential. Further exploration of year level differences may also be done. It may likewise be beneficial to use a more standardized measure of academic performance or academic achievement to ensure better reliability. A measure of student wellbeing may also be included in further understanding the significance of mindfulness, mindset, and motivation among Filipino health professions education student populations. Lastly, an exploration of other important non-cognitive factors may also be done to further understand Filipino allied health student characteristics and needs.

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