Facets of Mindfulness and Stress Reduction in Speech Language Pathologists

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Abstract: **Objectives: Current generations of college students are experiencing elevated levels of stress and anxiety impacting them academically and at times continuing into their career paths. Graduate students, particularly those in demanding programs such as speech-language pathology (SLP), often struggle with managing academic and clinical stressors. Mindfulness training, particularly through programs like Koru Mindfulness (KM), has been suggested as an effective intervention for reducing stress and improving mental health outcomes in this population. This study examines the impact of a mindfulness curriculum based on KM integrated into an SLP program, focusing on how various facets of mindfulness predict perceived stress in the SLPs as graduates. Methods: A quantitative approach was used, with 33 SLP alumni completing surveys that measured mindfulness (via the Five Facet Mindfulness Questionnaire), life experiences (via the Life Experiences Survey), and perceived stress (via the Perceived Stress Scale). Results: Facets of mindfulness, including *acting with awareness* and *nonjudgmental attitude*, were significant predictors of lower perceived stress. Furthermore, mindfulness training during graduate school was reported as beneficial by most participants, with many continuing to practice mindfulness post-graduation. Conclusions: These findings suggest that mindfulness training could play a key role in helping SLP professionals manage stress both during their academic careers and into practice. The study also highlights the need for further research on the long-term effects of mindfulness interventions in professional education, particularly in healthcare fields like speech-language pathology.**

Keywords: **mindfulness, stress reduction, speech language pathology, five facet mindfulness questionnaire.**

1. INTRODUCTION

Current generations of college students are experiencing unprecedented levels of stress and anxiety (American College Health Association, 2021). Many enter higher education with limited life experience and underdeveloped coping mechanisms, leaving them ill-prepared to manage both the academic demands and mental health challenges of a graduate-school curriculum (Lisnyj et al., 2021; Twenge, 2017). Additional stressors, such as the social isolation associated with online learning and the escalating cost of higher education, further exacerbate these issues (Wallace et al., 2021; Yusufov et al., 2019).

As a result, academic programs are increasingly overwhelmed by students seeking support for stress management and are actively exploring potential interventions. One promising approach is mindfulness training, which has shown effectiveness in reducing stress and anxiety while enhancing various dimensions of mindfulness among student populations (Dawson et al., 2020; Halladay et al., 2019). Although research in this area has grown significantly, important questions remain regarding best practices for implementation, the duration of benefits, and which specific components of mindfulness are most effective in mitigating negative outcomes such as stress and anxiety.

Mindfulness is commonly defined as "paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally" (Kabat-Zinn, 2009). This definition highlights the importance of intentional focus, present-moment awareness, and an accepting, nonjudgmental attitude. Over time, researchers have identified several dimensions of mindfulness. The Five Facet Mindfulness Questionnaire (FFMQ) captures these aspects, including: observing internal and external experiences, describing internal experiences, acting with present-moment awareness, approaching inner experiences nonjudgmentally, and observing thoughts without reacting to them (Carpenter et al., 2019).

Although the precise mechanisms by which mindfulness reduces stress are still being explored, the Mindfulness-to-Meaning Theory (MMT) posits that mindfulness helps individuals decenter from habitual, negative reactions. This decentering broadens awareness, allowing for adaptive reappraisal of stressors (Garland et al., 2017). In this way, students—or future speech-language pathologists—may learn to perceive challenges such as exams or difficult clinical cases not as threats, but as opportunities for growth.

Similarly, the well-established Transtheoretical Theory of Stress and Coping (TTSC) emphasizes the role of cognitive appraisal in shaping stress responses. According to this theory, events are not inherently positive or negative; rather, the perceived impact depends on an individual's coping resources and interpretation of the situation. Mindfulness may support this adaptive process by interrupting automatic, negative reactions and enabling new perspectives and solutions to emerge (Garland et al., 2017).

Several well-established mindfulness programs exist such as Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy (MBCT). While these programs have demonstrated effectiveness in various populations and various outcomes, they are often time-intensive, and their formal structure can be met with resistance from students (Crowther et al., 2020). This may contribute to findings that such programs are often less effective for student populations compared to the general public (Khoury et al., 2015).

In contrast, the Koru Mindfulness (KM) program was specifically developed to address the needs of emerging adults (ages 18–29). Created by psychiatrists, KM is a streamlined mindfulness and stress management intervention tailored for college-aged individuals (Rogers & Maytan, 2019). The program consists of four 75-minute sessions delivered over four to five weeks. It incorporates a variety of practices, including breathwork, guided imagery, mindful walking, and mindful eating. Participants are also encouraged to engage in daily mindfulness practice for ten minutes, supported by a mobile app that tracks practice and fosters accountability.

Although KM has not yet been studied as extensively as MBSR, a growing body of evidence supports its effectiveness. Research has shown that KM can improve self-compassion (Weis et al., 2021), reduce anxiety (Mirabito & Verhaeghen, 2022), improve sleep quality (Weis et al., 2021), and lower perceived stress (Smit & Stavrulaki, 2021) among college students. It has also been found to enhance both state and trait mindfulness (Greeson et al., 2014; Mirabito & Verhaeghen, 2022; Smit & Stavrulaki, 2021; Weis et al., 2021).

This study explored facets of mindfulness and life experiences as predictors of perceived stress in graduate SLPs. The survey assessed experience with and the long-term effects of a KM-based mindfulness program integrated into a graduate-level speech-language pathology (SLP) curriculum. SLP students are a relevant population for mindfulness practice, as they report moderate to high levels of stress during both academic and clinical training (Ellis & Briley, 2018; Sandberg et al., 2021). Unlike the standard four-week KM model, the program used in this study was extended and embedded throughout multiple semesters (trimesters one, two, three, and five) of the academic curriculum. For additional program details, see Appendix A.

Mindfulness was measured using the FFMQ-24, a validated short-form version of the FFMQ, which assesses both overall mindfulness and its five facets (Baer et al., 2012; Park et al., 2013; Silva Gheradi-Donato et al., 2020). The FFMQ is the most widely used mindfulness assessment tool, demonstrating adequate reliability and validity (Park et al., 2013; Silva Gheradi-Donato et al., 2020). The FFMQ-24 version was chosen for this study due to its psychometric adequacy and lower participant burden compared to the full version. The measure provides a total mindfulness score, and each of its five facets—describing, non-reactivity, nonjudgmental attitude, observing, and acting with awareness—can be assessed individually.

Perceived stress was measured using the Perceived Stress Scale (PSS-10), a widely used and psychometrically sound measure of stress over the past month (Cohen et al., 1983; Lee, 2012). The PSS-10 was chosen for its brevity, established reliability, and validity as a measure of perceived stress (Cohen et al., 1983; Lee, 2012).

Positive and negative life changes were measured using the Life Experiences Survey (LES), which evaluates the occurrence and impact of common life events over a six- to twelve-month period (Sarason et al., 1978). The survey consists of 47 items (e.g., marriage, job changes, social activity changes), with a 7-point scale ranging from -3 (extremely negative) to +3 (extremely positive). Participants rate the occurrence and impact of each event. The LES provides scores for positive, negative, and total life changes and has demonstrated moderate reliability and validity. (Sarason et al., 1978). The goal was to control for significant life experiences impacting the findings.

The purpose of this study were twofold: (1) to assess participants' experiences with the integrated mindfulness program, and (2) to identify which specific facets of mindfulness most strongly predict perceived stress in early-career SLPs. Findings from this research may help inform the design of future mindfulness programs tailored to the needs of health professions students and graduates. To the authors' knowledge, this is the first published study to investigate KM-based mindfulness training in the context of a graduate SLP curriculum.

2. METHODS

This quantitative study examined whether the five facets of mindfulness—observing, describing, acting with awareness, nonjudging, and nonreactivity, as measured by the Five Facet Mindfulness Questionnaire (FFMQ)—along with positive and negative life changes, as assessed by the Life Experiences Survey (LES), predicted perceived stress levels in a group of speech-language pathologists (SLPs).

Participants

A convenience sample of SLPs was recruited for this study. The inclusion criteria were individuals who graduated from a SLP program at a private institution that included a mindfulness component and who fully completed the survey information. Individuals were only excluded from the study if they did not complete the survey. Recruitment was conducted via email invitations sent to all alumni of the program's Austin and Dallas, Texas campuses. The study was approved by the university's Institutional Review Board, and all participants provided informed consent prior to participation.

Procedures

The survey was distributed to 270 graduates of an SLP program. After providing informed consent, participants received a link to complete the survey. The demographic section collected information on age, health status, race/ethnicity, marital status, number of children, current and prior mindfulness experience, graduation month and year, current employment status and setting, as well as participants' experiences with mindfulness training during their academic program. Participants were also asked whether they found the mindfulness training beneficial and were invited to provide open-ended comments.

Following the demographic questions, participants completed three standardized measures: the Five Facet Mindfulness Questionnaire–Short Form (FFMQ-24), the Life Experiences Survey (LES), and the Perceived Stress Scale (PSS-10). The total estimated time to complete the survey was approximately 10 to 15 minutes.

Data Analysis

Descriptive statistics were used to summarize the demographic characteristics of the sample. Two multiple regression analyses were conducted: the first examined facets of mindfulness and positive life experiences as predictors of perceived stress, while the second used facets of mindfulness and negative life experiences as predictors of perceived stress.

3. RESULTS

A total of 33 participants completed all survey components, representing 12% of the target population. The majority identified as White (n = 29, 71%), non-Hispanic (n = 26, 63%), and female (n = 32, 97%), with most reporting being married or partnered (n = 22, 54%). Participants ranged in age from 24 to 52 years, with a mean age of 30.48 (SD = 6.19). Most respondents had graduated within the past year (n = 22, 67%) and were employed as speech-language pathologists in either school settings (n = 15, 45%) or outpatient clinics (n = 10, 30%) at the time of the survey. The majority reported having no children (n = 29, 71%). This demographic profile aligns with national trends, as the SLP profession is predominantly composed of young, White females ("A Demographic Snapshot of SLPs," 2019).

Participants were asked to report their previous and current experience with mindfulness. Prior to entering graduate school, the majority (n = 36, 88%) did not engage in a regular mindfulness practice. After completing the school-based mindfulness training, 39% (n = 13) reported maintaining a regular practice at the time of the survey—reflecting a 27% increase in

mindfulness engagement following the program. Additionally, most participants (n = 28, 68%) indicated that they found the mindfulness training during graduate school to be beneficial. Key demographic information for participants who completed the full survey is summarized in Table 1.

Table 1: Participant Demographics

Variable		n	%
Sex	Male	1	3.0%
	Female	32	97%
Race	White	24	72.7%
	Black or African American	2	6.1%
	Asian or Asian American	2	6.1%
	American Indian or Alaska Native	1	3.0%
	Another Race	3	9.1%
	Prefer Not to Respond	1	3.0%
Months Since Graduation	0-12	22	66.7%
	13-24	9	27.2%
	25-36	2	6.1%
Marital Status	Married/Partnered	20	60.6%
	Single/Divorced	12	36.4%
	Prefer Not to Respond	1	3.0%
Children in the Home	No children	21	63.6%
	One-two children	10	30.3%
	Three or more children	2	6.1%

Means and SDs of each the facets of mindfulness on the FFMQ-24 and positive and negative life experiences were collected. The mean score for the *describe* facet was 18.59 (SD 2.66), *non-react* 14.79 (SD 2.86), *nonjudging* 16.56 (3.71), *observe* 14.06 (SD 2.86) and *act with awareness* 16.32 (SD 3.35). The mean score for *positive life experiences* was 7.47 (SD 6.59) and *negative life experiences* was 7.68 (SD 6.64).

The Perceived Stress Scale (PSS-10) was used to measure participants' levels of stress. According to established guidelines, scores between 0–13 indicate low stress, 14–26 indicate moderate stress, and 27–40 indicate high stress (Cohen et al., 1983). Most participants (n = 24) fell within the moderate stress range, while a smaller number reported either high (n = 4) or low (n = 5) stress levels. The mean PSS-10 score was 19.51 (SD = 5.41), reflecting an overall moderate level of perceived stress among participants.

Prior to conducting the multiple regression analyses, key assumptions were tested and met, including normality, homoscedasticity, linearity, multicollinearity, and independence of residuals. Two multiple regression analyses were conducted to evaluate the extent to which the five facets of mindfulness—describing, nonreactivity, nonjudging, observing, and acting with awareness—along with either positive or negative life experiences, predicted levels of perceived stress.

In the first model, which included the mindfulness facets and positive life experiences as predictors, the regression was statistically significant, $F_{(6, 26)} = 3.933$, p = .006, with R = .690, R^2 = .476, and adjusted R^2 = .355. This indicates that approximately 48% of the variance in perceived stress was explained by the model. The second model, which included the same mindfulness facets along with negative life experiences, also reached statistical significance, $F_{(6, 26)} = 3.931$, p = .006, with R = .690, R^2 = .476, and adjusted R^2 = .355. Again, this model accounted for roughly 48% of the variance in perceived stress.

Although both models significantly predicted perceived stress, only specific predictors contributed meaningfully. In the first model (positive life experiences), *nonjudging* (β = -0.357, t = -2.310, p = .029) and *acting with awareness* (β = -0.370, t = -2.232, p = .034) were significant negative predictors of stress. In the second model (negative life experiences), only *acting with awareness* remained a significant predictor (β = -0.368, t = -2.215, p = .036). The *nonjudging* facet did not reach statistical significance in the second model (p = .092). Detailed coefficients for all predictor variables are presented in Table 2.

Table 2: Coefficients: Predictors of Perceived Stress

Regression 1	Beta	SE	β	T	p	95% CI LB	UB
Constant	48.415	6.849		7.069	.001	34.337	62.493
Positive Life Experiences	.103	.123	.127	.833	.412	-.151	.356
Acting with awareness	-.590	.264	-.370	-2.232	.034*	-1.132	-.047
Observe	-.281	.365	-.150	-.769	.449	-1.030	.469
Nonjudgmental	-.538	.233	-.357	-2.310	.029*	-1.017	-.059
Non-reactivity	-.064	.359	-.034	-.178	.860	-.802	.675
Describe	-.341	.324	-.170	-1.051	.303	-1.007	.325
Regression 2							
Constant	46.450	7.145		6.501	.001	31.763	61.136
Negative Life Experiences	.106	.127	.131	.829	.415	-.156	.367
Acting with Awareness	-.586	.264	-.368	-2.215	.036*	-1.129	-.042
Observe	-.324	.376	-.173	-.862	.397	-1.097	.449
Nonjudgmental	-.411	.235	-.273	-1.748	.092	-.895	.072
Non-reactivity	-.032	.361	-.017	-.089	.930	-.775	.710
Describe	-.346	.324	-.173	-1.067	.296	-1.011	.320

*Note: Facets of mindfulness per the FFMQ include describe, non-reactivity, nonjudgmental, observe, and acting with awareness. Facets of mindfulness and positive life experiences (per the LES) were included in Regression 1 and facets of mindfulness and negative life experiences (per the LES) were included in regression 2. * Denotes statistical significance.*

4. DISCUSSION

The purpose of this study was to explore whether facets of mindfulness and life experiences (positive and negative) predicted perceived stress in speech-language pathologists (SLPs) who completed mindfulness training during graduate school. Given the well-documented stress levels among health care professionals and students (Aloufi et al., 2021; American College Health Association, 2021), understanding the long-term impact of mindfulness training is essential for improving mental health and preventing burnout in this population.

The findings revealed that both models—one incorporating positive life experiences and the other negative life experiences—were statistically significant and explained approximately 48% of the variance in perceived stress. Among the individual mindfulness facets, *acting with awareness* emerged as the most consistent predictor of lower stress, appearing significant in both models. *Nonjudging of inner experience* was also a significant predictor but only in the context of positive life experiences. These results suggest that being present and attentive to one's actions, combined with a nonjudgmental attitude toward thoughts and emotions, are particularly beneficial for managing stress in this population.

These findings are consistent with prior research linking *acting with awareness* and *nonjudging* to lower levels of stress, anxiety, and depression (Bodenlos et al., 2015; Carpenter et al., 2019; Soysa & Wilcomb, 2015). Importantly, research cautions that cultivating awareness without acceptance may lead to negative outcomes (Carpenter et al., 2019), emphasizing the necessity of integrating both attention and acceptance into mindfulness practice. In contrast, *nonreactivity*—a facet often associated with improved emotional regulation—did not significantly predict stress in this study, diverging from previous findings (Medvedev et al., 2018; Kingery et al., 2020). This may reflect a ceiling effect among participants already trained in mindfulness, or it may be due to the limited sample size, which may have reduced statistical power.

Interestingly, neither positive nor negative life experiences were individually significant predictors of perceived stress, although they contributed to the overall variance. This aligns with prior research suggesting that life events, while impactful in the short term, tend to have diminishing effects on well-being over time (Suh et al., 1996). The Life Experiences Survey (LES) used in this study asked participants to reflect on events over the past year, which may have introduced variability in recall and timing. Additionally, life events often occur in clusters—particularly during transitional periods such as early career stages—making it difficult to isolate the impact of positive versus negative experiences. For example, while participants rated new jobs and marriages as positive, these same experiences can also bring stress related to sleep, role transitions, or reduced social engagement.

A noteworthy finding of this study was the relatively high rate of continued mindfulness practice following graduation. While only 12% of participants reported practicing mindfulness prior to graduate school, 39% continued practicing one to three years post-graduation. This retention rate exceeds those reported in prior research, where adherence to mindfulness practice often declines sharply after formal training ends (Gray et al., 2018; Weis et al., 2021). One possible explanation lies in the structure of the mindfulness program: rather than a short standalone course, mindfulness content in this study was delivered over a 15-week semester and integrated into multiple trimesters of the SLP curriculum. This extended and embedded approach may have helped participants internalize mindfulness concepts and apply them more meaningfully to their professional roles.

Sustaining mindfulness practice post-graduation is critical for long-term stress management. Academic programs may consider offering booster sessions, integrating mindfulness into internships, or providing alumni resources to reinforce ongoing use. Future studies could explore whether these interventions improve adherence and outcomes over time.

An exploratory analysis also examined the impact of demographic factors—age, marital status, and work setting—on perceived stress. None of these variables were significant predictors in the present study. This contrasts with previous research identifying higher stress levels among SLPs working in schools compared to hospital settings (Brito-Marcelino et al., 2020), and studies that have highlighted age and marital status as influential factors (Lieberman et al., 2018). However, the homogeneity and small size of the sample likely limited variability in these variables, reducing the ability to detect meaningful effects.

5. LIMITATIONS

The findings of this study should be interpreted in light of several limitations. First, the sample was drawn exclusively from speech-language pathologists (SLPs) who received mindfulness training as part of their graduate curriculum, which limits the generalizability of the results to other professional groups or educational settings. The sample was also demographically homogenous, consisting primarily of White, female participants in their 20s and 30s, most of whom were married and did not have children. As prior research has demonstrated, responses to mindfulness interventions can vary across cultural backgrounds and gender identities (Raphiphatthana et al., 2019; Soysa & Wilcomb, 2015). For instance, the *nonjudging* facet of mindfulness has been found to be more strongly associated with positive outcomes in Western populations than in Eastern ones.

Furthermore, the results should not be generalized beyond the outcome of perceived stress. The facets of mindfulness have been shown to relate differently to various psychological outcomes. For example, *nonreactivity* has been more strongly associated with reductions in generalized anxiety, whereas *acting with awareness* is more predictive of reduced depressive symptoms (Curtiss & Klemanski, 2014; Hanley & Garland, 2017). Therefore, caution is warranted when extending these findings to other mental health domains or diverse populations without further evidence.

Another important limitation concerns the sample size. Power analysis indicated a required sample size of 63 participants to detect medium effect sizes with adequate power; however, only 33 participants completed all study measures. As a result, the study was underpowered, which may have limited the ability to detect additional significant effects. Despite this, all regression assumptions were met, and the models produced statistically significant results that align with previous research, lending support to the validity of the findings.

6. IMPLICATIONS

This study contributes to the growing body of research on mindfulness and its impact on healthcare professionals. The findings suggest that specific mindfulness skills—particularly *acting with awareness* and *nonjudging*—may be key in reducing stress among SLPs. Moreover, the relatively high rate of post-graduation practice retention suggests that curricular design plays an important role in fostering long-term engagement.

Stress is an inherent component of both graduate education and clinical practice, particularly within healthcare professions such as speech-language pathology. In the present study, 73% of participants reported moderate levels of stress, and an additional 12% reported high levels. These findings underscore the need for effective, accessible tools to help students and professionals manage the psychological demands of their academic and clinical environments.

The results of this study suggest that mindfulness training may serve as a valuable intervention for reducing perceived stress in this population. A majority of participants reported that the mindfulness training integrated into their graduate curriculum was beneficial, and notably, a substantial proportion continued to engage in mindfulness practice post-graduation.

Regression analyses demonstrated that the combination of mindfulness facets—specifically *acting with awareness* and *nonjudging of inner experience*—along with life experiences, significantly predicted perceived stress levels. In contrast, demographic factors such as age, marital status, and work setting were not significant predictors of stress.

These findings support the inclusion of mindfulness-based interventions in graduate curricula for SLPs and potentially other healthcare disciplines. Mindfulness programs that emphasize cultivating a nonjudgmental mindset and encouraging intentional, present-moment awareness may be especially effective in mitigating stress. Moreover, the observed continuation of mindfulness practice after graduation suggests that training embedded within an academic program may foster lasting behavioral change. Institutions should consider designing mindfulness curricula that are tailored to the unique stressors of healthcare training and practice, and further research should explore how these skills may enhance not only well-being but also professional functioning and patient care.

7. CONCLUSION AND FUTURE RESEARCH

This study highlights the potential of mindfulness training in reducing perceived stress among speech-language pathologists, particularly through the cultivation of a nonjudgmental attitude and present-moment awareness. While the study demonstrated the benefits of mindfulness training integrated into academic curricula, further research is needed to explore the long-term effects of mindfulness on stress, burnout, and other psychological outcomes across diverse populations of healthcare professionals.

Future studies should investigate the impact of sustained mindfulness practice post-graduation, the role of different mindfulness facets in predicting specific stress-related outcomes, and the effectiveness of mindfulness interventions in diverse settings. Additionally, examining how demographic factors, including gender and cultural background, influence the efficacy of mindfulness training would provide valuable insights for tailoring these programs to diverse student and professional populations.

Appendix A: SLP Mindfulness Curriculum

Appendix A: Speech Language Pathology Mindfulness Curriculum

Trimester 1- The students are introduced to stress management tools including the benefits of mindfulness as a stress management tool, education regarding various mindfulness techniques (walking meditation, breath awareness, mindful eating, and guided meditation), stress management strategies for test anxiety (progressive muscle relaxation, visualization, and calming breath). This 1-hour module was performed in-person during the first trimester residency. Students practiced mindfulness for 10-15 minutes with either mindful walking or mindful eating.
Trimester 2- The students participate in the Koru Mindfulness training in a hybrid format. The students complete the training over 14 weeks with the book, The Mindful Twenty Something: Life Skills to Handle Stress, as a guide. Each week consists of readings to complete on their own, journal prompts for journaling about their experiences, and 10 minutes of mindfulness practice to be completed on their own. The techniques include breath awareness, belly breathing, body scanning, dynamic breathing, walking meditation, Gatha meditation, guided imagery, labeling thoughts practice, eating meditation and loving kindness practice. For a complete list of the assignments, journal prompts, and practice techniques, please see Appendix A. During their on-campus residency, they participate in an hour-long lecture on why mindfulness is important and how to do it. The lecture includes a review of many of the techniques included in the book and time for 15 minutes of practice with their preferred technique.
Trimester 3- The students receive an hour-long lecture during their on-campus residency on the evidence supporting mindfulness, benefits of mindfulness, consequences of not being mindful, how to practice mindfulness, and how to implement these practices into your daily life. The students then practice a mindfulness technique for 10-15 minutes with the class.
Trimester 4- No mindfulness content.
Trimester 5- In this trimester, the students receive an hour-long lecture on the role of mindfulness in counseling and education of clients and patients, they discuss counseling techniques (such as active listening and reframing) then practice active listening with increased mindfulness. In addition, they discuss how mindfulness can improve awareness of non-verbal communication and discuss how they can use mindfulness as a clinician.

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