

# Alive and Well: Encouraging Long Term Health Habits Through Implementation of Student Driven Wellness Programs in Medical Schools

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## Abstract

**Purpose:** A lack of coping mechanisms has been linked to increased rates of anxiety, depression, and imposter syndrome among medical students. In response, schools have been searching for methods to negate these results through wellness programs focused on student life.

**Methods:** A survey comprised of three multiple choice questions was disseminated amongst first year basic science medical students to determine their current state of well-being and potential interest in an educational course focused on wellness. Questions inquired about students' current coping strategies and their interest in engaging in wellness focused activities. Participants' responses were then used to create a Well-being selective. The course design was centered around a small points reward system in order to promote autonomous decision making and encourage balance of body, mind, and spirit.

**Results/Discussion:** Initial survey data suggests student interest in the creation of a wellness centered selective. Students engaged in a diverse array of activities to support the whole of their being. By tracking student choices of activities to engage in and feedback sent to the selective director, the selective design is being adapted to fit the needs of the student body.

**Conclusion:** Through promotion of on and off-campus extracurricular activities, the Well-being selective offers a non-threatening and self-paced approach to a balanced mind, body, and spirit. In this selective, students participate in diverse activities that support health and life balance, ranging from sunset group yoga to local botany. Student feedback suggests that through the selective they have experienced increased community engagement and support during their basic sciences medical education.

## Keywords

well-being, wellness programs, mental health, medical school, rewards system, student driven

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## Purpose

The role of negative health outcomes and physician burnout is a major focus of concern within the medical community. An overwhelming number of medical students report experiencing a low quality of life that manifests within the basic science years, and begin to experience higher rates of anxiety and depression as compared to their peers in the general population as their studies continue.<sup>1</sup> Studies conducted amongst residents and physicians show that anxiety, depression, and imposter syndrome can have far reaching impacts including medication errors, poor patient outcomes, and unprofessional behaviors.<sup>2</sup>

At the level of medical education, depressive symptoms are a positive predictor of students considering

dropping out of their respective programs.<sup>3</sup> These students entered the field with a passion to help their fellow humans and are driven to extremes of negative physical and mental outcomes, including suicidal ideation.<sup>4</sup>

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Many students are told to “fake it till they make it” during the basic science years, but when does the faking stop?<sup>5</sup> A pilot study conducted in 2016 sought to understand imposter syndrome and its close ties to feelings of burnout, depression, and anxiety among medical students.<sup>6</sup> Imposter syndrome is defined as chronic feelings of self-doubt and fear that one does not belong, despite adequate competency and performance.<sup>6</sup> Amongst medical students, 50% of females and 25% of males reported experiencing imposter syndrome at some point during their education.<sup>6</sup> Results also found that imposter syndrome was a major contributor to overall psychological distress, and inextricably tied to depression and burnout.

Students often assume that the stressors they experience throughout their education will dissipate upon completion of their studies. Based on these assumptions, students fail to integrate positive coping mechanisms and well-being habits from the start. They tend to experience these negative symptoms in isolation, and often believe that seeking professional help could negatively impact their career.<sup>7,8</sup> Eventually these patterns follow them into residency and beyond, where they contribute to burnout, suicidal ideation, and medical errors.<sup>8,9</sup> For example, residents who report depression have higher rates of medication errors as compared to their peers.<sup>10,11</sup> A separate study amongst pediatric residents found they were 3 times more likely to make harmful errors while caring for patients if they screened positive for depression.<sup>12</sup> Depression in medical practitioners perpetuates a harmful cycle: depression is linked to an increased number of medical errors and medical errors that cause “significant medical morbidity” were found to increase rates of depression and burnout amongst physicians.<sup>13</sup>

Throughout the medical community, depression and burnout are recognized as major systemic problems.<sup>13</sup> Based on the current information, patterns of negative mental health including anxiety and depression begin within the formative years of medical school education and follow students into their future careers.<sup>8,9</sup> Integration of wellness programs into the medical school curriculum is linked to decreased rates of depression and burnout in physicians.<sup>14</sup> These statistics underpin the need to implement evidence-based preventative wellness programs in order to negate negative health outcomes.

Educational institutions are searching for solutions to stem the tide of anxiety, depression, and imposter syndrome among students given the overwhelming evidence in support of wellness-based curriculum changes.<sup>15</sup> Many schools have implemented mandatory wellness programs, but students resist such measures as it deprives them of autonomous choices. Such approaches often fail to impart long-term benefits as they do not inspire habit formation on behalf of students.

With this idea in mind, the Well-being selective was created to prevent these outcomes and instill positive health habits that hopefully will extend beyond their medical school education years.

## Methods

### Survey

Students have a mandatory 80% attendance policy at St. George’s University (SGU), enforced through the use of Turning Point Technology which records one response per student per question polled as the student “clicks in” their respective answer for each question. Students have 45 seconds to click in and record their answers to questions posed at the beginning and end of lecture to track attendance. A survey was developed and disseminated amongst first year medical students at SGU utilizing Turning Point Technologies student “clicker” polling system to determine their current state of well-being. The purpose of the survey was to understand students’ current state of well being and to establish the level of student interest in an educational course surrounding the topic of wellness; results would then be utilized to create an evidence-based course derived from this feedback. The Chair of the Institutional Review Board (IRB) at SGU was consulted in regard to the student survey and determined that IRB approval was not necessary as it was conducted for the improvement of educational activities.

The survey was conducted in 2 separate lecture times on the same day, with time between the surveys less than 6 hours. Students in attendance in their respective lecture were asked to voluntarily give their feedback to help determine if a well-being selective would be desired by them. Students were aware that polling was not anonymous and survey questions were posed prior to the start of lecture to maximize student participation.

Out of a combined class total of 1400 students, the final sample size (n) was 938 students, of which 49% were female and 51% male. The large sample of students is due to the intake of medical students in both the fall and spring semesters, thus leading to a first-year class size of 1400 students. The student body consists mainly of United States citizens (75%), with the remainder comprised by international students (25%).

The questions included in the survey were designed to determine the current state of student wellness, the activities they currently utilized to support their health outside of the classroom, and gauge interest in an educational selective designed around bolstering student well-being (Table 1). Questions 1 and 3 had straightforward participant answer choices consisting of “Yes,” “No,” and “Maybe.” Question 2 provided 5 answer options seeking to maximize student responses.

**Table 1.** Well-being Selective Survey (n = 938).

Question	Options	Responses
1. Are you currently supporting your well-being?	Yes	207 (22%)
	No	336 (36%)
	Maybe	395 (42%)
2. How do you support your well-being?	Netflix	347 (37%)
	Social Media	131 (14%)
	Gym	197 (21%)
	Studying Only	141 (15%)
	Variety	122 (13%)
	3. Are you interested in a well-being selective?	Yes
	No	56 (6%)
	Maybe	75 (8%)

The inclusion of the “variety” category sought to address the variability of students’ extracurricular activities beyond the other 4 options within the limitations of a polling-administered survey. The other choices were based on prior student feedback of the activities they generally engaged in outside of class. Of student responders (n = 938), 22% reported they were “doing enough” to support well-being, while 42% said they were unsure, and the remaining 36% of students acknowledged they did not feel they were currently supporting their well-being (Table 1).

When asked what outlets they employed to support their well-being, 15% of students responded that they had no time outside of studying to engage in activities. Of the remaining students, 37% responded they watched shows on Netflix, 21% worked out at the gym, 14% reported social media as their main outlet, while the remaining 13% engaged in a variety of activities. Of students surveyed, 86% expressed an interest in improving their well-being (Table 1). The survey highlighted that most students spent their free time watching Netflix and going to the gym, and that these were their major outlets for the stressors they encounter in their daily lives. The student responses established the framework for the community focused Well-being selective.

### Creating a Selective

The Well-being selective was designed specifically to give students an opportunity to explore a more well-rounded approach to medical school and thus structured around three key factors: introducing student autonomy into wellness, facilitating short and long-term participation through a small points reward system, and inspiring greater social engagement both amongst peers and within the local community. These parameters became the foundation of the selective based on student feedback espousing interest, feasibility of implementation, and substantial literary evidence that supports the efficacy of these principles.<sup>16</sup>

St. George’s University offers a number of “selectives” to their student body, created to engage students in activities outside of their basic science studies. These extra-curricular courses are available to students who have successfully completed at least their first semester with a grade point average above 85% to earn credits on their transcript, but do not contribute to their grade point average. A selective which does not require additional coursework has no restrictions based on student status or grades. All selectives are pass/fail and students may choose to withdraw from a selective without repercussions if they feel it is not compatible with success in their core coursework. The Well-being selective was created without restrictions to be inclusive of all students looking to better their wellness.

**Student autonomy.** The Well-being selective is structured around autonomous decision making based on empirical evidence surrounding the positive outcomes associated with autonomy as well as the resentment associated with mandated lecture-based wellness talks.<sup>16</sup> Autonomy and competence positively predict professional satisfaction.<sup>17</sup> Hindering autonomy is linked to diminished motivation and wellbeing while providing choice actually boosts intrinsic motivation, effort, and performance.<sup>18</sup> With this evidence in mind, the Well-being selective provides a platform where students have ready access to autonomously choose from a wide variety of activities specifically curated to support the spirit, body, and mind as a whole. Enabling student choice in wellness pursuits is likely to ignite intrinsic motivation, overall satisfaction, academic success, and negate exhaustion.<sup>16</sup>

**Small point reward system to facilitate student engagement.** Apart from ensuring autonomous decision making within the Well-being selective, an approach was needed that would pique student interest, facilitate engagement within the program, and allow the course

director to keep track of student progress within the selective. It was equally important that participation in activities would hinge on intrinsic motivation resulting in well-being habit formation rather than on working towards a large award. The use of a rewards system has been successfully implemented in industries from airlines to credit cards to classroom settings. This has been shown to be an effective method for capitalizing on long-term participation as well as fostering innate marketing through word of mouth.<sup>19,20</sup> A study on a cohort of medical residents found implementation of a reward system was able to induce greater research productivity and engagement.<sup>21</sup> Thus, the use of a small points reward system was implemented into this Well-being selective.

Through each activity students partake in, one point is allotted towards their participation in the selective. A minimum of 16 points must be accrued over the duration of two academic years in order to receive 1 academic credit. To encourage long-term engagement that fosters habit-formation over semesters only 8 points per semester may count toward the total. Students who surpass the 16 point minimum are officially recognized with an exemplary participation award in the Well-being selective at the end of their two years of basic science courses.

The selective may be completed within 1 academic year, but students are encouraged to participate for the duration of their two basic science years. Each activity should be unique over the course of the semester for a student to be awarded a point. An activity for which a student previously gained a point may be repeated the following semester for an additional point. Activities and points can be tracked throughout the semester by the students through their online gradebook. At the end of the selective, students will earn 1 academic credit towards their transcript which will not have any impact on their overall grade point average. By providing the minimal 1 academic credit as incentive, the selective aims to ensure that extrinsic motivation is not the major factor promoting participation in the selective.<sup>19</sup>

**Social engagement.** Authenticity and purpose during the basic science years and clinical rotations has a positive protective impact on medical student well-being. Community relationships with student peers as well as faculty members and clinical preceptors have been shown to be intrinsic to students' sense of belonging, thus negating the imposter syndrome and boosting social support.<sup>22</sup> Peer support is a major factor that strengthens feelings of relatedness, professional competence, and resilience in healthcare students.<sup>23</sup> Medical students in particular report that relatedness to their community has directly affected their sense of well-being as well as satisfaction with their education.<sup>24</sup> Community and social engagement play an integral

role in establishing balance in the lives of students during their school years and into their professions, and are foundational components of the Well-being selective.

**The role of technology and mentorship.** Students document their participation in the selective through photographs (selfies) taken during their chosen activities which are emailed to the selective faculty. This built-in email connection fosters communication between students and the selective director and opens the door to potential mentorships. Participation points are totaled throughout the school term on each student's personal account page so they can track their total activities and ensure they are pursuing a synergistic balance of body, mind, and spirit.

To gain points through the small point reward system, suggested activities within the Well-being selective include but are not limited to: sunset yoga, outdoor group meditation, discussing and reflecting on books, writing poetry that can be contributed for publication in the student run open-access journal, volunteering at the local orphanage or nursing home, participating in a student organized event, learning about the local flora at the botanical gardens, engaging in a group workout at the gym, and attending student-organized talks on diverse topics. These activities are centered around social involvement both between students and their surrounding communities, highlighting the importance of social engagement, sense of self, and the creation of a strong and positive support network. Additionally, mindfulness and group meditation are actively encouraged as previous studies have shown a significant relationship between these activities and reduced rates of anxiety and burnout in healthcare professionals.<sup>25</sup>

Regular updates are sent to all students through email highlighting local events on campus and in the community to broaden the scope of possibility for students who do not have the time to research novel activities but would be interested in engaging. These updates also include requests for student submissions to an online, open-access student run journal where they can share their stories and art, expand their sense of community and connectedness, and receive a Well-being selective point for their efforts. The journal, *Let It Out and Share*, published monthly highlights these student's efforts and promotes involvement in the Well-being selective.

## Results/Discussion

As indicated by the results of the survey, 37% of students engage in an isolating activity as the major source of their well-being support (Netflix). To negate the solitary nature of these pursuits and foster autonomy in wellness, the Well-being selective was created.

Students are not limited to the activities suggested by the Well-being selective guidelines and are encouraged to inquire about any other ideas they may have, as a diversity of activities is integral to the support of the whole person: Spirit, Mind, and Body. Through encouraging the nourishment of the whole person rather than just the physical through the gym or the mind through Netflix shows, the selective has provided a path through which students can model their wellness habits and become more well-rounded individuals.

Students have engaged in many different activities, all documented and communicated to the course director. As of March 2020, 42 students were enrolled in the Well-being selective. With the escalation of COVID-19 to a global pandemic in March, students were evacuated to their homes and the selective was suspended until in-person classes resume. Students can remain engaged through artistic contributions to the journal *Let it Out and Share*. The selective is still in its early stages, and awareness of the selective is increasing gradually through email communications from the selective director as well as word of mouth by students. Students have indicated through personal feedback in email and verbal communications with the selective director that they experience a greater sense of control and calm with the coping mechanisms they have gained through the Well-being selective.<sup>16</sup> Future research could better ascertain the extent to which the selective has impacted medical students' lives both during their formative education and into their professional lives.

## Conclusion

Medical students in their basic science academic years report an alarmingly high rate of negative mental health conditions when compared to their peers not in medical school, specifically on parameters such as depression, anxiety, imposter syndrome, and suicidal ideation. Studies have found significant evidence that a strong social network has been associated with more empathetic students, higher levels of resilience against stress, and positive outcomes both academically and personally.<sup>26</sup> To combat these effects and instill healthy coping mechanisms, the Well-being selective was implemented at the medical school student level based on a collaboration between students and faculty.

The program was developed with the following fundamental parameters in mind: it would be student driven and promote autonomy through a small points reward system, it would foster long term habit formation, integrate social and community engagement, and provide students access to mentorship under the program director. The Well-being selective has helped students engage in a variety of wellness focused activities in a self-paced

approach that aims to support positive long term well-being habits and professional success.

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