



## Research Article

# Needs Assessment: Identifying Perceived Needs of Medical Residents in Areas of Self-Management, Coping and Balancing Life

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### Abstract

**Background:** Recent literature highlights the effects of daily challenges on the ability of medical residents to function at their highest level. Programs dedicated to physician wellness and decreasing the probability of burnout are necessary in every residency. However, little information is available on what residents perceive as the most useful topics in the areas of resiliency and stress management. **Aim:** A needs assessment was designed for medical residents in Family Medicine, Neurology, Emergency Medicine, Internal Medicine and Psychiatry to better understand stressors specific to each program.

**Subjects and Methods:** A list of twenty-five topics was developed that comprised areas related to stress management, coping, managing fatigue and balancing life. Residents were asked to identify which topics they believed to be very useful, somewhat useful or not useful. One hundred and fifteen residents completed the survey. **Results:** There was variability in the topics that residents from different specialties found most and least useful. However, topics that were rated most useful across all residencies were time management (67%), dealing with fatigue (68%), and balancing life (65%). Topics perceived as least useful were mindfulness and anger management. **Conclusion:** A needs assessment provides information that is crucial to the design of effective resiliency programs for medical residents. Variations in a basic resiliency program can be made depending on specific needs of residency programs.

**Keywords:** Needs Assessments; Medical Residents; Burnout; Resiliency

### Introduction

Medical residency is a high stress period characterized by long hours, increased responsibilities, lack of control, and fatigue. Such stressors predispose residents to an elevated risk of distress, burnout, and decreased well-being, which result in significant psychological distress [1]. Burnout is defined as a syndrome that involves emotional depletion and maladaptive detachment that develops in response to prolonged occupational stress [2-4]. Burnout has many associated negative outcomes, including increased absenteeism from the workplace, medical errors, and the emergence of clinical depression [5-8]. It is well documented that burnout is experienced by many medical residents, in a wide variety of specialties, ranging from 41% to 76% of all physicians in training [4,9]. Notably, the prevalence of burnout is greater among resident physicians than medical students, attending physicians, and college graduates of the same age [10].

Building resiliency, defined as the ability to respond to stressful situations in strong, healthy, and adaptive ways, may be a promising intervention to help ameliorate burnout experienced by medical residents and improve residents' quality of life and health behavior [11]. Physicians who are in good health make fewer medical errors, and are less likely to drop out of the healthcare workforce [12]. Furthermore, doctors who exhibit traits of resilience have a stronger commitment to their own well-being, provide higher quality of care, and contribute to the overall decrease in healthcare costs [12]. While resiliency was once thought to be a stable

personality trait, recent research shows that resiliency can be acquired through learning specific skills [11].

Despite the growing field of research addressing resident wellness and resiliency and the development of programs designed to prevent resident burnout and associated negative outcomes, no published research has been conducted on the perceived needs of residents and the efficacy of programs designed to address those needs. The goal of this study is to identify self-reported needs of residents in order to design a specialty specific resiliency curriculum.

### Subjects and Methods

Residents in five residencies including Internal Medicine, Neurology, Emergency Medicine, Psychiatry and Family Medicine at the University of Toledo were asked to complete a needs assessment survey by ranking the usefulness of topics related to burnout, building resiliency and acquiring stress management skills. They were told the data would be used to develop a residency specific resiliency program. The needs assessment survey detailed common literature based challenges experienced during residency and examples of interventions that may be beneficial in meeting those challenges. The survey consisted of twenty-five topics and residents were asked to rank each as "very useful", "somewhat useful", or "not useful". "Very useful" indicated that topic would be helpful to the residents and should be

included in the curriculum, whereas “not useful” indicated that the residents believed the topic would not be helpful, and therefore, should be excluded from the curriculum. The program coordinators explained the purpose of the survey and the design of a future curriculum to the residents. They were asked to provide informed consent even though the survey itself was anonymous.

### Review by the Institutional Review Board (IRB)

The needs assessment survey and the curriculum were submitted for review to the IRB. Approval was granted under the expedited review process. All medical residents training in each residency program were eligible to participate. Participation was voluntary.

Residents from each residency program completed the survey prior to beginning the resiliency curriculum in July or August. 115 residents completed the survey. The data used for this paper includes needs assessment surveys completed by 48 Internal Medicine residents from the 2016 academic year, 9 Neurology residents from the 2016 academic year, 29 Emergency Medicine residents totalled from both 2016 and 2017 academic years, 12 Psychiatry Residents from the 2017 academic year and 17 Family Medicine Residents totalled from the 2016-2017 academic years.

### Statistical analysis

The surveys were collected and totalled in Microsoft Excel. Residents that failed to respond to any questions but filled in demographic information were excluded. The most

useful topics were identified as those that had the largest number of “very useful” responses. Least useful topics were identified as those that had the largest number of “not useful” responses. Not every resident responded to each question therefore “n” values were assigned per response to clarify how many residents responded to the specific question. The percentage values were then based on the responses per question. For example, even though a total of 49 Internal Medicine residents completed the entire survey, only 46 residents responded to the dealing with fatigue question (n=46) and 84.7% of those 46 respondents found it “very useful”.

## Results

### All Residents

In all, 115 residents completed the needs assessment survey. Combining all the programs together led to similar results seen with individual programs with time management (67%, n=115), dealing with fatigue (68%, n=111), and balancing life (65%, n=113) being the three categories with the greatest number of “very useful” responses.

The least useful topics remained consistent with those identified in each individual program as well with anger management (43%, n=111) and mindfulness (15%, n=112) remaining as the top categories with residents finding them “not useful” (Figure 1).

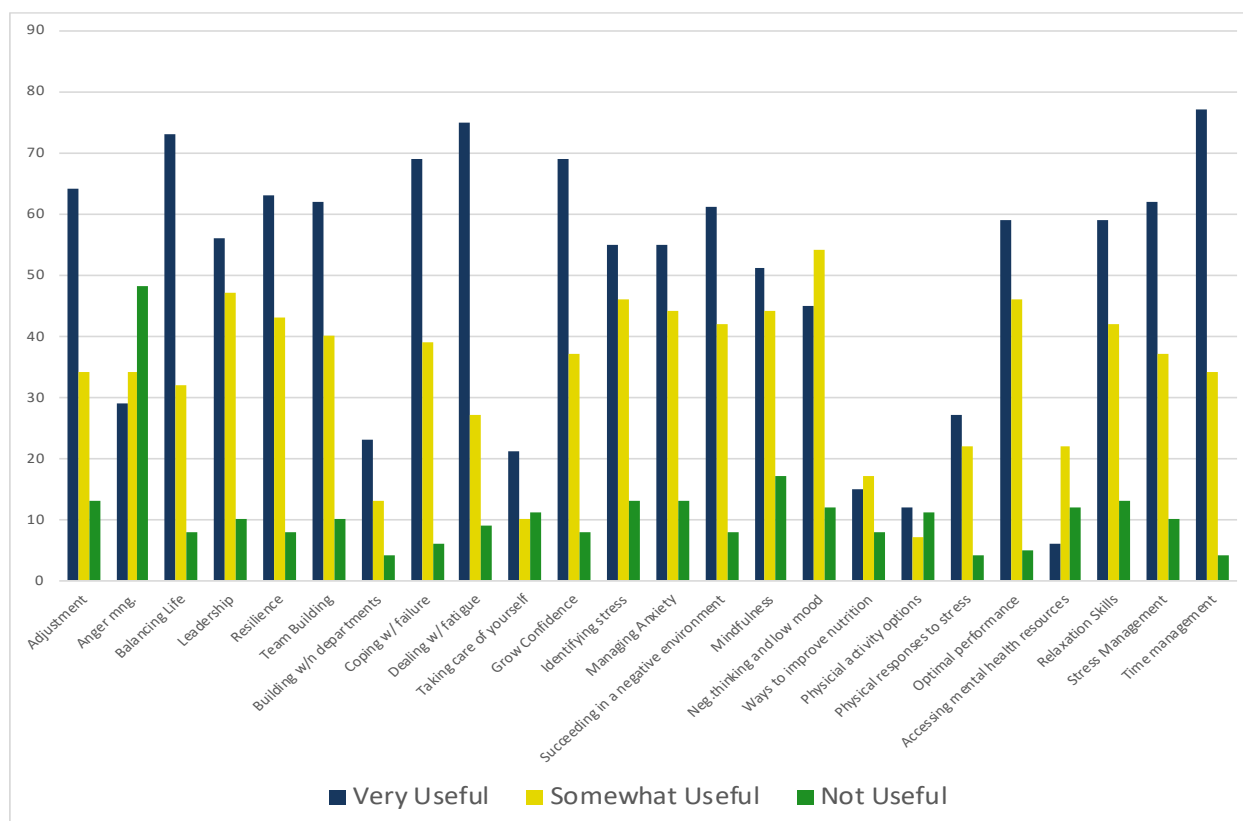
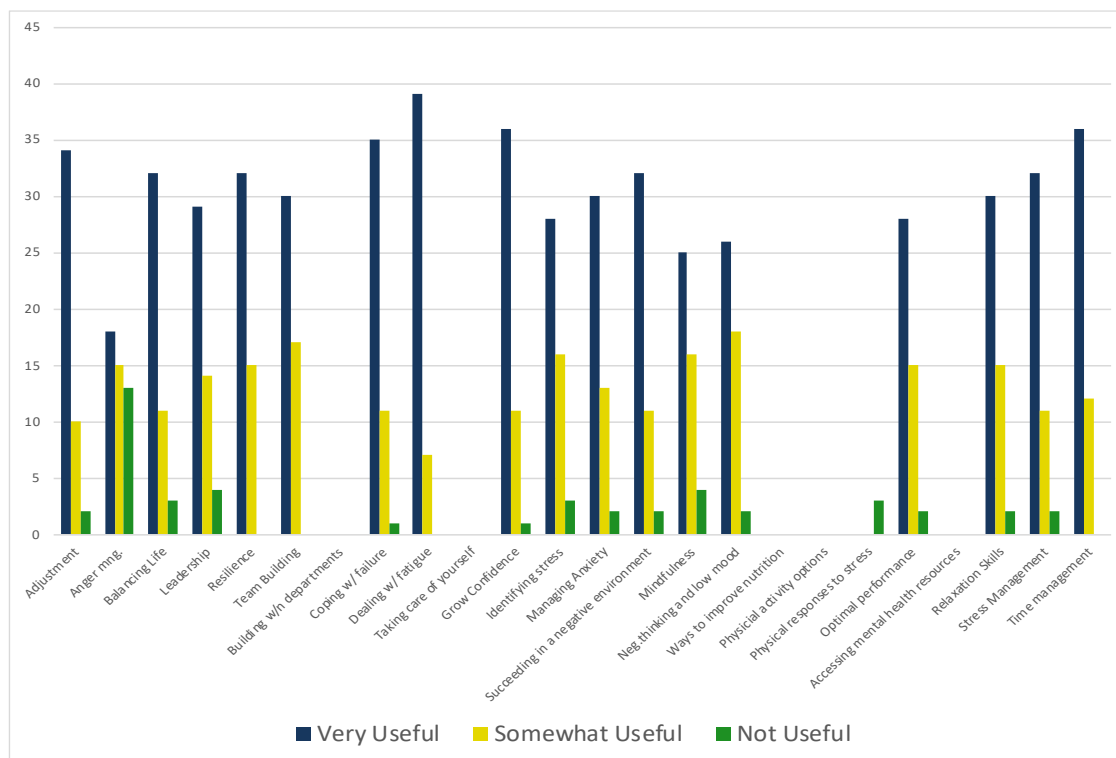


Figure 1: Useful topics identified by all residents.

### Internal Medicine

A total of 48 Internal Medicine residents completed the needs assessment survey. As shown in figure 2, dealing with fatigue had the largest number of “very useful” responses with 84.7% (n=46). Other topics identified by residents as “very useful” included time management (75%, n=48), growing confidence (75%, n=48), and team building (63.8%, n=47).

Twenty-seven percent (27%, n=46) of residents identified anger management as a “not useful” topic, more than triple the amount of not useful responses than any other topic. Other “not useful” topics identified by residents included mindfulness (8.9%, n=45) and leadership (8.5%, n=47) (Figure 2).



**Figure 2:** Useful topics identified by internal medicine residents.

### Neurology

Nine Neurology residents completed the needs assessment survey. Residents found balancing life (77.8%, n=9), managing anxiety (77.8%, n=9), and time management (77.8%, n=9) as the most useful topics identified by them having the greatest number of “very useful” responses.

Anger management (44.4%, n=9) and mindfulness (44.4%, n=9) were identified as the least useful topics by the neurology residents with the majority of residents indicating them as “not useful” (Figure 3).

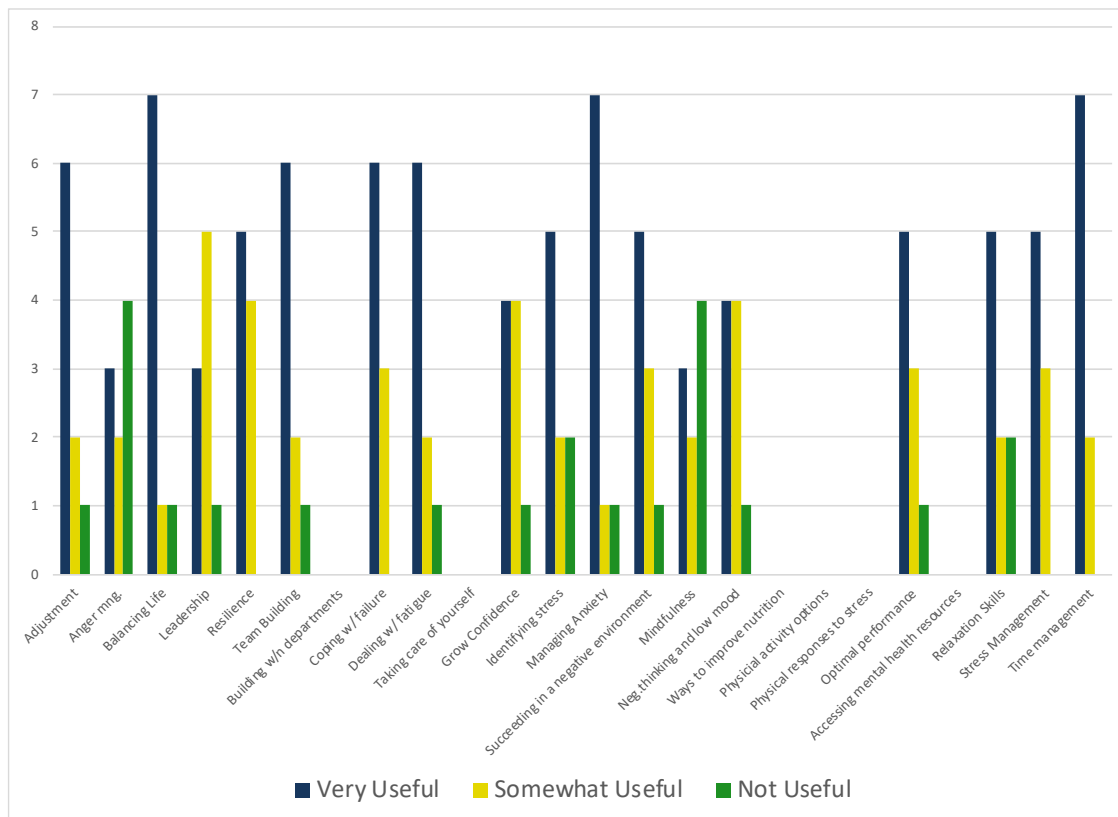
### Emergency Medicine

A total of 29 Emergency Medicine (EM) residents completed the needs assessment survey. Figure 4 shows that the results for the EM residents had a greater variability among responses rated as very, somewhat, and not useful. Dealing with fatigue (51.7%, n=29) and balancing life (51.7%, n=29) had the greatest number of “very useful”

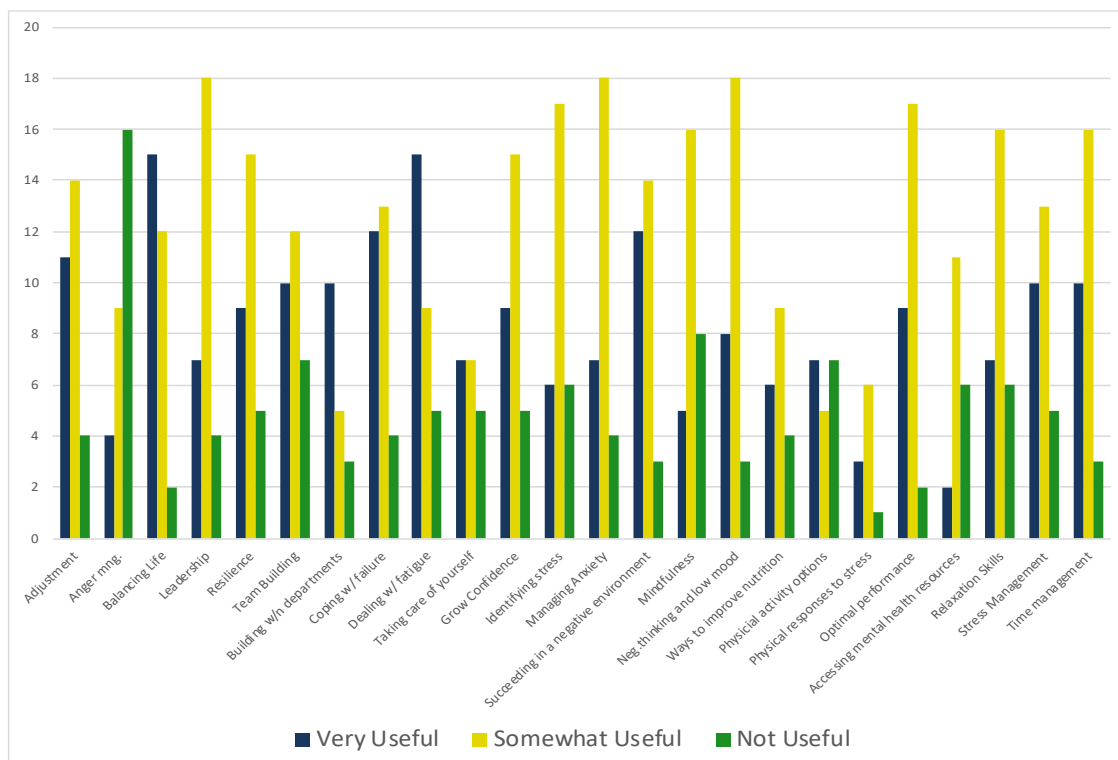
responses by this group. EM residents had a larger number of not useful responses than any other residency program. Similarly to internal medicine and neurology residents, EM residents found anger management (55.2% n=29) and mindfulness (27.5%, n=29) to be the least useful topics (Figure 4).

### Psychiatry

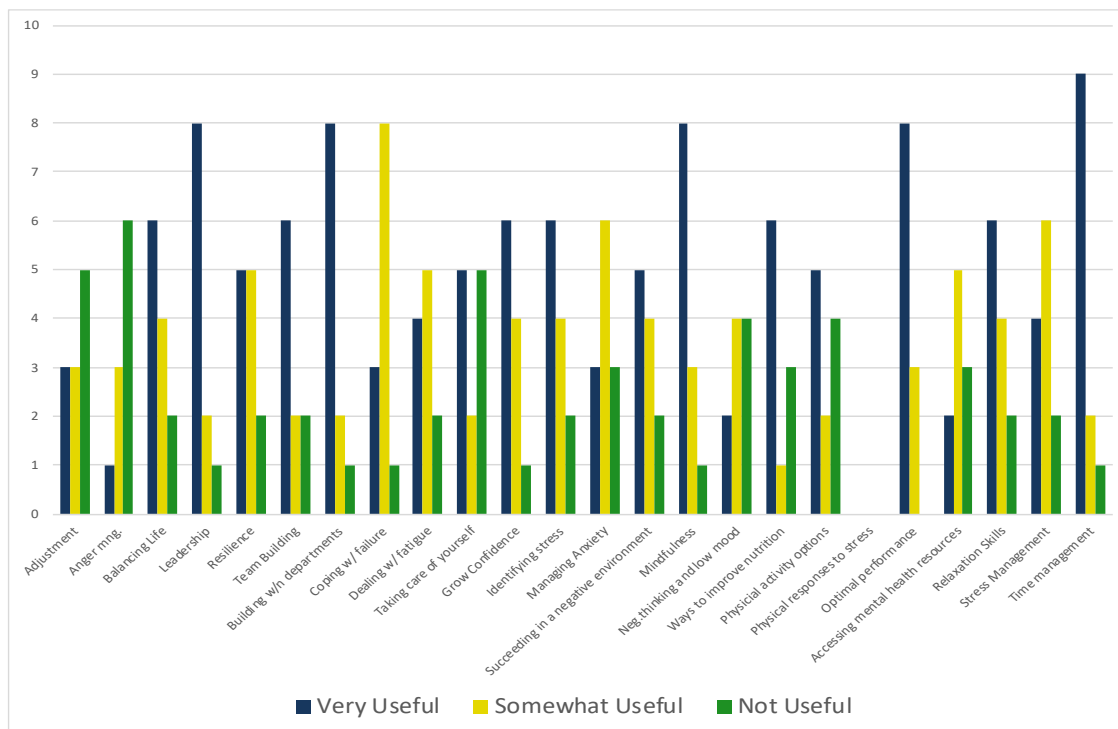
Twelve Psychiatry residents completed the needs assessment survey. They identified time management (75%, n=12) as their most useful topic. Interestingly they were the only program to identify leadership, (73%, n=11), building within departments (73%, n=11), and mindfulness (66%, n=12) among their most useful topics. Psychiatry residents found anger management to also be the least useful topic, with 50% (n=12) considering it “not useful”. Taking care of yourself and adjustment were also seen as less useful topics with each having 42% of residents (n=12) consider it “not useful” to the program (Figure 5).



**Figure 3:** Useful topics identified by neurology residents.



**Figure 4:** Useful topics identified by emergency medicine residents.



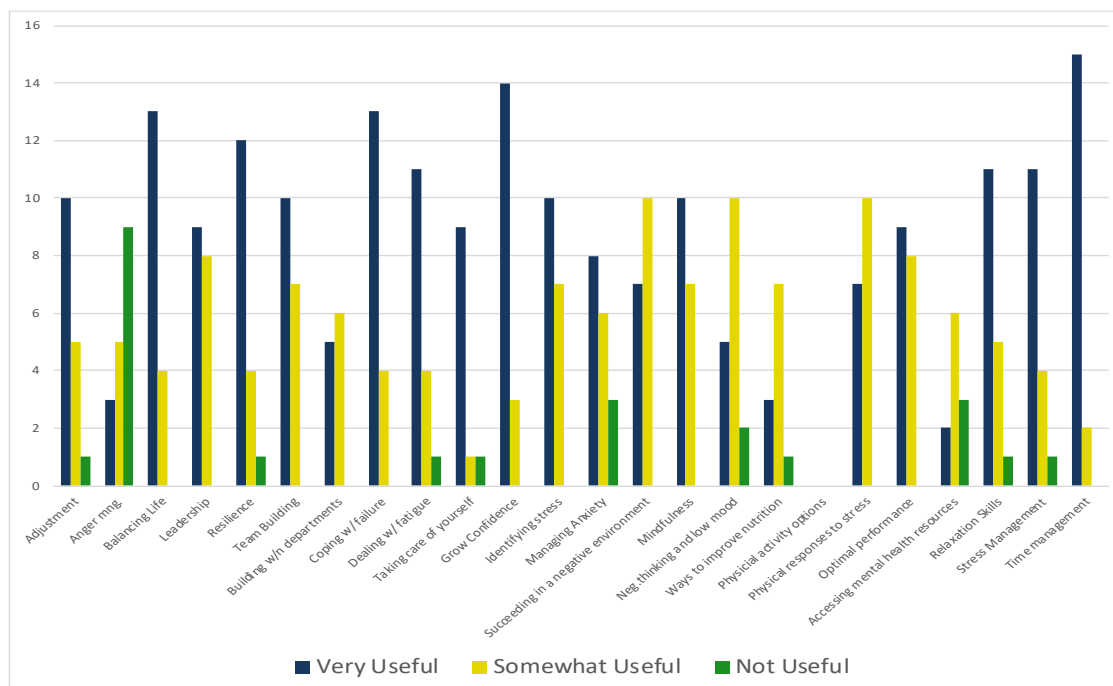
**Figure 5:** Useful topics identified by psychiatry residents.

**Family Medicine**

A total of 17 Family Medicine residents completed the needs assessment survey. The most useful topics identified by family medicine residents were consistent with results found in other programs with time management (88.2%, n=17), growing confidence (82.3%, n=17), and balancing life

(76.5%, n=17) being the categories receiving the most “very useful” responses.

Family medicine residents also found anger management to be the least useful category with 53% (n=17) considering it “not useful”. Unlike the other residency programs, family medicine did not identify mindfulness in their least useful topics with zero residents selecting “not useful” (Figure 6).



**Figure 6:** Useful topics identified by family medicine residents.

## Discussion

Time management, dealing with fatigue, and balancing life were identified as being “very useful” among residents of all 5 specialties. Obtaining this information would allow a program to adapt curricula to include and possibly focus on these three topics [13,14]. For example, the authors adapted the curriculum to include a session that focused on time management and full engagement [15,16]. Principles taught included building mental capacity, utilizing positive energy, energy renewal and recovery, and a balance of physical, emotional, mental and spiritual energy.

Most residents also identified dealing with fatigue as a topic that would be useful to them. This is not surprising considering the impact of electronic medical records, and residents’ evolving roles as health care professionals. Despite recent guidelines to decrease duty hours, burnout rates are still high and residents’ well-being has not sufficiently improved [17]. Having residents identify this as one of their main priorities allowed us to better tailor our sessions to skills aimed at decreasing fatigue such as sessions focused on making conscious decisions to utilize time off, and prioritizing work tasks to avoid procrastination that predisposes to anxiety. Furthermore, we suggested the use of caffeine and short naps to enhance alertness.

Finally, 68% of the residents identified balancing life as a topic “very useful” to them. Long residency hours make work life balance difficult. We addressed this during the time management session where we stressed the importance of recovery time and how to effectively use time off. Using positive psychology techniques was also helpful as we asked residents to think about an enjoyable activity outside of medicine and to plan a time that they will engage in this activity. We helped residents identify the areas of their life that were most and least balanced.

Among the least useful topics identified, anger management and mindfulness were consistently seen with the largest amount of “not useful” responses. This highlighted that residents are not angry or resentful about their current training program, their supervisors, or their peers. Our resiliency program therefore did not address coping with angry feelings. Mindfulness being seen as a not useful topic was an interesting finding, considering that most of the literature has pointed to mindfulness being the most evidence based method to improve resiliency [18]. Interestingly, only the psychiatry and family medicine residents did not include mindfulness in their least useful topics with psychiatry residents actually finding mindfulness to be very useful. Psychiatry residents and family medicine residents likely have received more education and are more familiar with the literature about mindfulness than their peers in other specialties and were more likely to find its benefit when included in a resiliency program.

## Limitations

There are several limitations to our study including a relatively small number of residents in each year of residency which prevented us from analyzing the data by post graduate year. Also the study relied solely on self-reported needs and

may have been made stronger by input from spouses, and co-workers. It would be beneficial to have attending physicians from each of these specialties complete the needs assessment based on their perspectives of resident’s needs as well. Further investigation is required to determine whether knowledge of resident perceived needs help create a more effective resiliency program.

## Conclusion

The information obtained through a needs assessment is critically important to design and implement resident resiliency programs most suitable to specific specialties. Relevance is a key consideration to maintain interest and commitment by the residents, but interventions must also be evidence based according to current literature. Identifying the major needs of each specialty allows the resiliency team to adapt the curriculum appropriately and to maintain optimal relevance to the daily life of residents.

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