When I say…attitude

Attitude is a ubiquitous term in health professions education (HPE). Accompanied by knowledge and skills, it rolls off the tongue when discussing competencies and educational objectives.[1,2] As part of the tripartite structure (KSAs), attitudes generally aim to capture all the essential personal elements of learning and performance that are NOT knowledge and skills, including motivation, dispositions, traits, personal characteristics, perceptions, judgements, emotions, etc. Unfortunately, the broadness of this conceptualization limits the utility of attitudes for specific operational purposes such as curriculum development, assessment, and educational research. We see value in the construct of attitude and propose a conceptualization grounded in literature from social psychology — a field that studies people's attitudes as a core subject and that can provide a theoretical basis for the concept.[3]

Social psychology has formulated a general understanding of attitude as an evaluation of any object people may think about, including self, other people, knowledge, skills, ideas, behaviors, physical entities, etc. We instinctively and naturally rely on beliefs, past actions, and emotions in connection to that object to derive an overall single evaluation (i.e., attitude) toward said object. The resulting attitude has a valence and a strength.[4] Valence is a judgment of intrinsic "goodness" (positive) or "badness" (negative), and strength characterizes the magnitude of the valence (from very small to very large). At the same time, the overall valence and strength of an attitude result from the combination of individual valences and strengths associated with each belief, past action, and emotion connected to the object being evaluated. Beliefs, past actions, and emotions are three structural elements in this multicomponent model of attitudes.[5]

An attitude does not need to be informed by all three structural elements — beliefs, past actions and emotions — associated with an object; even one or two may be the basis of an attitude. In addition, there may be multiple past actions, multiple beliefs, or various emotions, each with its own magnitude and

valence, contributing to the overall magnitude and valence of an attitude toward an object.[4]

To illustrate the concepts above, we will use a medical student's attitude toward research (an object) as an example that can be generalized to other curricular areas. To begin, the student's attitude may vary as illustrated in the following three hypothetical situations:

> Situation A resulting in a strong positive attitude: 1) the student believes in the tenets of evidence-based medicine, 2) the student worked in a molecular biology research lab before medical school (a past action), and 3) this student feels happy when working on research (emotions).
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> Situation B resulting in an even stronger positive attitude: 1) the student not only believes in the tenets of evidence-based medicine but also that physicians are scientists and that science will eventually lead to the alleviation of most human ailments; 2) before medical school the student worked in a molecular biology research lab, was a clinical research coordinator, and also avidly read scientific journals (several past actions), and 3) this student feels moved and inspired by science (emotions).
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> Situation C resulting in a weakly negative attitude: 1) the student believes that physicians are humanist more than scientists and that physician-scientists have very large egos; 2) the student worked in a research project as a volunteer (a past action), and 3) although that research experience was enjoyable (emotion), this student dislikes scientists due to a negative relationship with a parent who is a scientist (another emotion of opposite valence). Note that, in this example, beliefs have a negative valence, there are two emotions of opposing valence, and the past action may have a positive valence. The ensuing overall valence and magnitude of the attitude ultimately results from combining the valence and magnitude of each structural component.

Attitudes are not static; they can change in magnitude and valence as more elements are added. For example, building on situations A or B, the influence of the positive-emotions component of the student's attitude toward research could be lessened if an elective research rotation was particularly stressful due to a negative relationship with the faculty mentor (new strong negative emotion) resulting in an updated less favorable attitude. Attitudes become stronger as more structural elements are added, especially if they have the same valence and large magnitudes. As attitudes become stronger, they also become more resistant to change, which is particularly true for negative attitudes.[6]

In situations A or B above, the student is more likely to engage in research-related behaviors not only as a student, but also in the future. These examples illustrate the key point that attitudes can predict planned and actual behavior, whether consciously or not.[4] Since attitudes influence our attention and processing of information, they impact our perceptions, emotions, memories, and, ultimately, our behaviors.[3] This influence is a crucial consideration for education. Students are more likely to engage in behaviors promoted by the curricular design when they develop positive attitudes toward the knowledge and skills supporting those behaviors. Of course, most instructional and curricular designers plan positive learning experiences, and they generally do so from their perspective as content experts and with an emphasis on the required knowledge and skills. To avoid leaving a gap by failing to include attitude, developers need to address beliefs, actions, and emotions in relationship to specific curricular objects and objectives, to cultivate positive attitudes and to diminish negative ones.

As illustrated in our example, student's positive attitude toward research could become negative with a poorly designed curriculum. In the case of students with no prior research experience, their attitude toward research, whether positive, negative or neutral in valence, is unlikely to become strong unless they experience the research curriculum with the necessary structural components to inform a strong positive attitude. Suppose that a student with a background in sociology is interested in critical race theory and the only

available opportunities are in biomedical research. This student would likely be disappointed by the options. Their initial emotion could frame the beginning of a negative attitude toward research. However, through a curriculum with intentional design to support the development of a positive attitude toward research (e.g., pairing the student with an inspiring mentor, supporting the development of strong research skills followed by opportunities for reflection and dialog), this student would be likely to develop a positive attitude toward all kinds of research, thus increasing the chances of this student engaging in inquiry behaviors necessary for clinical practice.

The research example in this essay establishes a principle that applies to all curricular areas: it is critical to intentionally target the three structural components of an attitude (beliefs, past actions and emotions) to develop and reinforce positive attitudes and counteract negative ones. This targeted approach can produce physicians who consistently engage in behaviors the curriculum aims to promote. An application of this concept of attitude beyond curriculum can include strategic goals. For example, this concept could inform institutional approaches to help students develop a positive attitude toward family medicine despite being disproportionally exposed to non-primary care specialized medicine. Institutional officials could do this by increasing the time trainees spend in family medicine (addresses past actions), including consistent positive messaging throughout the curriculum about the importance of family medicine (addresses the formation of new beliefs), and creating warm and kind environments as well as guiding reflection on trainee's experiences in family medicine to promote the formation of positive emotions. Lastly, to evaluate the success of such educational interventions, specific attitudes must be measured before and after attitude-targeting interventions. Thus, the successful application and study of the attitude concept presented here will require the development of high-quality measures as a next step.

References

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