

Association for Surgical Education

# The impact of goal setting and goal orientation on performance during a clerkship surgical skills training program



Aimee K. Gardner, Ph.D.\*, Diana L. Diesen, M.D., Deborah Hogg, B.S., Sergio Huerta, M.D.

Department of Surgery, UT Southwestern Medical Center, 5323 Harry Hines Blvd, Dallas, TX 75390-9092, USA

## KEYWORDS:

Education;  
Medical students;  
Simulation;  
Goals

## Abstract

**BACKGROUND:** The purpose of this study was to integrate relevant goal-setting theory and to identify if trainees' goal orientations have an impact on the assigned goals-performance relationship.

**METHODS:** Trainees attended 1 of the 3 goal-training activities (do your best, performance, or learning goals) for knot tying (KT) and camera navigation (CN) during the 3rd-year clerkship rotation. Questionnaires and pretests and/or post-tests were completed.

**RESULTS:** One twenty-seven 3rd-year medical students (age:  $25 \pm 2.6$ ; 54% women) participated in the training program. Pretraining to post-training performance changes were significant for all groups on both tasks ( $P < .01$ ), but the increase was significantly greater ( $P < .01$ ) for the learning goals group (do your best:  $KT\Delta = 2.14$ ,  $CN\Delta = 1.69$ ; performance:  $KT\Delta = 2.49$ ,  $CN\Delta = 2.24$ ; learning:  $KT\Delta = 3.04$ ,  $CN\Delta = 2.76$ ). Correlations between goal orientations and improvement were examined, revealing a unique role of goal orientation for performance improvement.

**CONCLUSIONS:** These data indicate that consideration of goal type and trainee goal orientation must be considered during curriculum development to maximize educational value.

© 2016 Elsevier Inc. All rights reserved.

To maximize the student's learning experience, the design of medical student surgical skills training sessions should integrate relevant learning and motivational principles from other domains. Goal-setting theory<sup>1</sup> has been formulated based on more than 5 decades of psychological research that demonstrates that conscious goals affect

action. Research suggests that aligning a specific aim or action with attaining a specific standard of proficiency enhances performance, compared to commonly used "do one's best" exhortations.<sup>2</sup> Scholars within surgical education have embraced the idea of setting goals and often endorse proficiency-based training. For example, research has shown the effectiveness of proficiency-based training for the Fundamentals of Laparoscopic Surgery program.<sup>3</sup>

When training novices with varying levels of commitment to the task (such as 3rd-year medical students [MS3s] required to complete surgical rotations), however, research suggests that the type of goal endorsed can have a substantial impact on learning.<sup>2</sup> Goals can fall into 1 of the 3 categories: they can be the aforementioned easy or

This work was supported by a UT Southwestern Academy of Teachers educational grant.

The authors declare no conflicts of interest.

Presented at the 35th Annual Meeting of the Association for Surgical Education, April 22-25, 2015, Seattle, WA.

\* Corresponding author. Tel.: +1-214-648-2677; fax: +1-214-648-9448.

E-mail address: [aimee.gardner@utsouthwestern.edu](mailto:aimee.gardner@utsouthwestern.edu)

Manuscript received April 20, 2015; revised manuscript May 27, 2015

“do your best” (DYB) goals, in which learners are merely asked to perform to the best of their ability. They can be performance goals, in which learners are provided with a specific and challenging time, score, or other performance standard to achieve. Finally, goals can be classified as learning goals, in which trainees are encouraged to discover and master the processes required to perform well, rather than on reaching a certain level of performance.

Although widely implemented in many surgical education settings,<sup>4,5</sup> performance goals can actually be detrimental for learning among novices. Challenging metric-based goals can create evaluative pressure and performance anxiety among learners who are still trying to establish basic skills. Focused on the outcome, learners provided with performance goals can become anxious to succeed and scramble to discover task strategies in an unsystematic way, ultimately failing to learn what is effective.<sup>6</sup> Thus, performance goals are best for trainees who have already acquired the knowledge and skills necessary to perform the task and should be implemented when learners need motivation to exert additional effort and persistence.<sup>7</sup>

Learning goals, on the other hand, frame training instructions in terms of knowledge or skill acquisition (eg, create a mnemonic to remember the steps of knot tying [KT] in a memorable way) and draw attention away from the end result to the discovery of effective task processes.<sup>6</sup> These goals are ideal for tasks in which minimal prior learning exists, as they facilitate the knowledge acquisition process and because they focus cognitive resources on mastering the processes to perform well. In short, novices must learn how to play the game before becoming concerned with attaining a challenging performance outcome.

Taken together, this work suggests endorsing performance goals or proficiency-based training among medical students learning basic surgical skills may not be the optimal approach. The 3rd-year clerkship rotation is an ideal setting to study this phenomenon as the motivation for learning among students may vary widely depending on their career choices. Thus, we elected to examine the efficacy of each type of goal—“DYB,” performance, and learning—for MS3s learning basic surgical skills (camera driving and KT) for the 1st time.

## Goal orientation

Learners, however, are not a blank slate, as they bring to learning environments unique attitudes, experiences, and dispositions. Learning and performance orientations are such dispositions that represent different ideas of success and different reasons for engaging in learning.<sup>8</sup> Specifically, research has shown that in training settings individuals endorse either a performance goal orientation (PGO) or a learning goal orientation (LGO).<sup>9</sup> Individuals who have a PGO have a strong desire to impress others and, hence, focus on the outcome of their performance. These individuals believe that ability is demonstrated by

performing better than others, surpassing normative-based standards, or succeeding with little effort.<sup>8,10</sup> Individuals with an LGO on the other hand, focus on ways to master tasks so that they can develop their competence, acquire new skills, and learn from experience.<sup>11</sup> LGOs are more likely to adopt strategies to regulate their emotions, attention, and effort during task performance and to engage in the search, information processing, and thinking processes that are critical to learning.<sup>12</sup>

Performance improvement for each type of goal assigned (ie, DYB, performance, learning) likely depends on goal orientation of the learner. Consistent with aptitude-treatment interaction theory,<sup>13</sup> we propose that optimal learning occurs when assigned goals match learner disposition. Thus, we expect performance improvement to be the highest among LGOs in the learning goal condition and PGOs in the performance goal condition.

## Methods

MS3s attended 1 of the 3 skills training sessions at the beginning of their 2-month surgical rotation. Before training, students completed a questionnaire assessing age, sex, intended specialty, previous surgical skill training experience, and goal orientation. LGO and PGO were assessed via an 8-item validated scale, which was originally developed in a sample of undergraduate students and has since been validated in a wide array of training and occupational settings.<sup>14</sup> This assessment includes items such as “I truly enjoy learning for the sake of learning” (LGO) and “It’s important for me to prove that I am better than others in this class” (PGO).

Each training session began with identical video-based instructional tutorials for KT and camera navigation (CN). Students then participated in a 20-minute skills station for each task. Video-recorded pretesting and post-testing occurred at the beginning and conclusion of each station.

Training instructions differed by goal condition. Students were randomly assigned to 1 of the 3 goal conditions: DYB goals, performance goals, or learning goals. The primary distinction between these goals is the framing of the instructions given to trainees.<sup>6</sup> Accordingly, instructors were provided with a specific script for each training session. For example, for CN within the performance goal condition, instructors said each of the following at least once: “Please use the next 20 minutes to practice. Use this time to reach the goal of 45 seconds,” “Keep practicing those skills until you can hit each target perfectly in 45 seconds! That’s the goal!,” “Keep going until you’ve reached the goal,” and “Y’all are doing great, but keep in mind that your goal is proficiency within 45 seconds.” Goals for each task were also posted at each training station.

Pretest and post-test video recordings were deidentified and evaluated by a clinical skills instructor according to validated performance tools.<sup>15</sup> All data are presented as means  $\pm$  standard deviation. Predata and postdata

Download English Version:

<https://daneshyari.com/en/article/4278145>

Download Persian Version:

<https://daneshyari.com/article/4278145>

[Daneshyari.com](https://daneshyari.com)