An Instrument for Measurement of Clinical Instructor Behaviors

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CLINICAL EDUCATION is a critical component of athletic training education; it provides students with opportunities to apply skills in real situations while fostering clinical reasoning skills. Additionally, clinical education fosters a unique relationship between clinical instructors and students that facilitates student learning of cognitive knowledge and psychomotor skills and fosters the development of professional behaviors that are fundamental for the practice of athletic training. Thus, clinical instructor behaviors are key components of the professional development of athletic training students.

The Commission on Accreditation of Athletic Training Education (CAATE) Standards for the Accreditation of Entry-Level Athletic Training Education Programs includes standards related to the training and responsibilities of an Approved Clinical Instructor (ACI). Additionally, the Standards indicate that Athletic Training Education Programs (ATEP) must include measures of the quality and effectiveness of clinical instruction and provide data that demonstrate outcomes related to this quality and effectiveness in a comprehensive assessment plan. In addition to student evaluation of clinical instructors, ATEP program administrators should evaluate the effectiveness of clinical instructors. Moreover, each ACI should be given the opportunity for self-assessment of his or her effectiveness as an ACI.

Administrators of ATEPs often develop and share tools for evaluation of clinical instruction that may not be psychometrically sound. Instruments that provide valid and reliable data are essential for measurement of clinical instructor behaviors. Healthcare professions such as medicine, nursing, dentistry, and nurse anesthesia have developed tools with sound psychometric properties to assess the effectiveness of clinical instruction and clinical instructor behaviors, while athletic training has modified observational tools. Recently, Weidner and Henning established standards and criteria for selection, retention, and evaluation of ACIs, which have been found important and applicable to a variety of clinical education settings. The purpose of this report is twofold: (a) to describe the process that we followed to develop an instrument that demonstrates reliable and valid properties for evaluation of ACIs and (b) to discuss its practical applications for
ATEP administrators and ACIs to identify areas of strength and weakness.

**Clinical Instructor Behavior Instrument**

**Initial Development**

Based on a review of the health professions education literature, the Clinical Instructor Behavior Instrument (CIBI) was developed to identify the relative importance of various clinical instructor behaviors. The initial survey contained 30 behavior statements that were grouped into five categories: (a) evaluative, (b) instructional, (c) interpersonal, (d) personal, and (e) professional. Each category contained six behavior statements. In previously published research using this survey, 75 program directors and 242 clinical instructors rated the importance of each behavior statement on a Likert Scale (1 = least important, 5 = most important).\(^1\) The initial CIBI demonstrated a high level of internal consistency (Cronbach’s alpha = 0.94). Reliability values for the five behavior categories ranged from 0.73–0.85). A panel of experts attested to its face validity and content validity.

**Clinical Instructor Behavior Category Analysis**

We performed factor analysis to determine whether or not the 30 behavior statements could be grouped into the five categories indicated by the literature. Recommended load cut-off points range from 0.30 to 0.55.\(^2\) Because we wanted statements to be substantially representative of a concept, we chose an 0.40 criterion. The five-category model accounted for 55% of the variance, but several behavior statements loaded on more than one category (>0.40) or did not meet our criteria to load on a category. The behavior statement, “demonstrates honesty when working with students and athletes/patients,” loaded as its own category. To determine whether or not the statements could be reduced to four categories, we performed another analysis, which indicated that several statements loaded on more than one category. Thus, further survey refinement was needed.

**Expert Panel Review**

To determine whether or not behavior statements could be categorized into a more meaningful and practical framework, five athletic training educators and clinical instructors served as a panel of experts. We asked the panel to review both the five-category and four-category models. For each model, we asked the panel to (a) review the behavior statements in each category and to determine whether or not the statements belong to its assigned conceptual category, and (b) provide a label for the category. If a statement loaded on more than one category or did not load on any category, we asked the panel to determine whether or not the statement described an important clinical instructor behavior and to place the statement in a category where it conceptually belongs. Each member of the panel indicated that all 30 behavior statements were important.

**Final Analysis**

After reviewing the expert panel’s feedback, three categories of behavior statements emerged; however, we did not find profound differences in behavior statements among the three categories. The three categories were then collapsed into two categories, which were reviewed again by the panel of experts to (a) determine whether or not the statements belong to its assigned category and (b) to provide a label for the category. The final instrument identifies two categories of clinical instructor behaviors to provide clarity in interpretation and sound psychometric properties. Each category consists of 15 separate statements that identify “interpersonal” or “professional” behaviors (Table 1). The Cronbach’s alpha for both of the two categories indicates high reliability (Interpersonal = 0.90; Professional = 0.90). Deletion of any statement from either category would not increase the reliability. To further demonstrate that these two categories represent different concepts, the Wilcoxon Signed-Ranks Test revealed a large difference between the two categories (z = -7.355; p < .001). Figure 1 provides a summary of the Clinical Instructor Behavior Instrument development process.

**Discussion**

The CIBI is a psychometrically sound instrument that quantifies interpersonal and professional behaviors that are important to program directors and clinical instructors. The interpersonal behaviors identified by the CIBI pertain to interaction between the ACI and the student and characteristics that are associated with personality. Interpersonal behaviors can also be