Early Identification of Barriers to Student Success in Physical Therapy Clinical Education: Utilization of a Week One Clinical Survey Tool

Bridget Eubanks
Campbell University, bripa@campbell.edu

Jennifer Bunn
Sam Houston State University, jab229@shsu.edu

Heidi L. Shearin
hshearin@windstream.net

Follow this and additional works at: https://nsuworks.nova.edu/ijahsp

Recommended Citation
Abstract

Purpose: The purpose of this study was to evaluate the use of a week-one clinical survey tool for early identification of student perceived barriers, including personal and environmental safety, that may impact success during full-time clinical education experiences (CEE) in physical therapy. Methods: DPT students (n = 81) engaged in full-time CEE in their second and third years were required to complete an online self-designed survey tool regarding perceptions of safety, clinical instructor (CI) satisfaction, and clinical challenges. Students in their third year completed the survey for both experiences. Data were assessed to compare second versus third-year student responses overall using a Mann-Whitney U test. Qualitative data was analyzed using an incident coding process. Results: Most students (65.1%) indicated high satisfaction with their CI (≥ 9 on a 10-pt scale). Two students (1.8%) indicated feeling unsafe. There were no differences between cohorts for perception of personal safety or completion of orientation, but there was a difference in rating of their experience with the CI (p = .008). Narrative responses revealed that students’ perceptions of CI personality characteristics were related to their overall CI satisfaction. There were no differences between cohorts or levels of CEE in overall qualitative themes from the open-ended questions, but there was a difference in the impact of each qualitative theme and associated subcategories. Conclusion: During the first week of a CEE, students reported high CI satisfaction and low personal and environmental safety concerns. Further research is needed to examine the perspective of other stakeholders with the utilization of this week-one clinical survey tool. The results of this study are the first to contribute an understanding of the barriers to success during the first week of a CEE from the students’ perspective.

Author Bio(s)

Bridget R. Eubanks, PT, DPT, is the Co-Director of Clinical Education and Assistant Professor in the Doctor of Physical Therapy Program at Campbell University. She is a licensed physical therapist and a Board-Certified Clinical Specialist in Neurologic Physical Therapy. She is currently the secretary for the Carolina Clinical Education Consortium.

Jennifer Bunn, PhD, is an Associate Dean and Professor in the College of Health Sciences at Sam Houston State University. She is a Fellow of the American College of Sports Medicine. She is a section editor for the International Journal of Exercise Science.

Heidi Shearin, PT, DPT, is a licensed physical therapist in the state of NC.
Early Identification of Barriers to Student Success in Physical Therapy Clinical Education: Utilization of a Week One Clinical Survey Tool

Bridget Eubanks¹
Jennifer Bunn²
Heidi L Shearin³

1. Campbell University
2. Sam Houston State University
3. Licensed Physical Therapist
United States

ABSTRACT

Purpose: The purpose of this study was to evaluate the use of a week-one clinical survey tool for early identification of student perceived barriers, including personal and environmental safety, that may impact success during full-time clinical education experiences (CEE) in physical therapy. Methods: DPT students (n= 81) engaged in full-time CEE in their second and third years were required to complete an online self-designed survey tool regarding perceptions of safety, clinical instructor (CI) satisfaction, and clinical challenges. Students in their third year completed the survey for both experiences. Data were assessed to compare second versus third-year student responses overall using a Mann-Whitney U test. Qualitative data was analyzed using an incident coding process. Results: Most students (65.1%) indicated high satisfaction with their CI (≥ 9 on a 10-pt scale). Two students (1.8%) indicated feeling unsafe. There were no differences between cohorts for perception of personal safety or completion of orientation, but there was a difference in rating of their experience with the CI (p = .008). Narrative responses revealed that students’ perceptions of CI personality characteristics were related to their overall CI satisfaction. There were no differences between cohorts or levels of CEE in overall qualitative themes from the open-ended questions, but there was a difference in the impact of each qualitative theme and associated subcategories. Conclusion: During the first week of a CEE, students reported high CI satisfaction and low personal and environmental safety concerns. Further research is needed to examine the perspective of other stakeholders with the utilization of this week-one clinical survey tool. The results of this study are the first to contribute an understanding of the barriers to success during the first week of a CEE from the students’ perspective.

Keywords: clinical education, physical therapist, education, safety, interdisciplinary studies
INTRODUCTION
Health professions programs are required by their accrediting bodies to include significant components of off-site experiential training under the mentorship of clinical instructors (CI) or preceptors who are not typically employed by the academic institution. These full-time clinical experiences occur at national and international clinics away from the direct support systems of students' home institution. Clinical faculty must monitor the progress and goal achievement of students remotely during these off-site clinical experiences. Success during these clinical education experiences (CEE) is dependent on many factors beyond the academic abilities of the student. Professional ethics, communication styles, psychosocial factors, age, ethnicity, race, student expectations, CI teaching styles, and societal events can influence the experiential learner. Challenges from these external factors, combined with the academic rigor of a health professions program, can impact student success. Early identification (within the first week of the experience) of these negative factors may help mitigate potential barriers to success during CEE.

Experiential learning challenges students to apply didactic knowledge in patient care situations, oftentimes in unstructured environments with little ability to anticipate or plan for certain events. Clinical findings vary from textbook presentations resulting in the potential for uncertainty and subsequent student stress. Educational stress including fear of failure can impact performance and coping ability when beginning experiential training. Stress in medical school education is found to be related to multiple factors including financial concerns, workload, academic performance, and transition post academics. Prolonged stress of graduate healthcare students can lead to burnout that worsens as they transition through their programs. Students in doctor of physical therapy (DPT) programs experience similar stressors documented that impact medical students and other health professions students. More specifically, the main causes of stress for DPT students found in the literature include a high work demand and perceived or actual low support from their academic institution. DPT program experiential training separates students from academic faculty support and often involves work in high productivity and fast-paced clinical settings. Further, evidence indicates that access to university support systems including student services, behavioral health, spiritual health, etc., is greatly diminished during offsite DPT clinical experiences, which comprise an average of 35.8 weeks or 29% of the entire educational program.

The physical separation of health care students from university faculty and on-campus institutional resources makes the role of the CI or preceptor very impactful on a student's learning experience. CIs/preceptors are noted to have limited educational theory training but are responsible for components of performance assessment. In DPT education, CIs can complete professional development courses designed to enhance teaching skills and increase awareness of learning theory. Additionally, academic DPT programs can offer continuing education support to CIs who host their students, but utilization of resources may be variable depending on the individual CI and clinic expectations. In this study, less than half of CIs had completed advanced training in clinical teaching, including the APTA Credentialled Clinical Instructor Program.

Face-to-face interaction between students and faculty from their program is reduced during CEEs, but the university program may still maintain responsibility for the health and safety of the student. Research shows that 50% of surveyed graduate students with anxiety or depression reported a lack of support and positive mentorship related to their anxiety while in their graduate programs. This lack of supportive services, coupled with separation from the academic institution, peers, and faculty for CEEs, can negatively impact performance and increase stress. Even before the COVID-19 pandemic, health professions students reported higher levels of stress than their peers not enrolled in health professions programs. A serious factor impacting stress is the perception of safety related to the incidence of student sexual harassment, with health professions students completing clinical experiences being at higher risk. Evidence suggests that, in general, 53% of female graduate students experienced at least one incident of inappropriate sexual behavior from an instructor and that 38% of medical residents suffered from sexual harassment over the course of their graduate career. The experience of sexual harassment of students has been linked to “negative educational outcomes.” Additionally students are also often hesitant to discuss their stress levels with their faculty or advisors.

Stress in health program experiential training settings has been associated with other factors including communication, student emotional preparation, life balance, and reported mistreatment. Students often delay discussions about these stress-related issues in CEE with their academic clinical faculty members. Evidence related to nursing student challenges in the clinical setting showed that emotional changes were associated with exposure to new clinical situations. Furthermore, these emotional events had an objective impact on learning. This was not isolated to nursing students. Inadequate communication was cited as causing student "perception of mistreatment and dissatisfaction" in a study of medical interns. In physical therapy, the impact of stress on clinical performance has not been reported. However, findings suggest that when DPT faculty facilitate the use of coping strategies when students encounter stress, improvements in student success in the didactic portion of the curriculum have been demonstrated.
Student satisfaction of their CI can be influenced by communication, professional values, and trust. Factors related to the hierarchical nature of the CI-student relationship can impede the bidirectional communication necessary for effective communication in interprofessional teams. CIs serve as both clinical experts and mentors to students in experiential learning. Research shows that mentorship to be beneficial to the student, factors including trust and effective communication are necessary in the student-CI relationship. Research related to female athletic trainers and effective mentorship found that participants rated open communication, support, and lack of judgment as important aspects of mentorship. Additional considerations of ethics, values, culture, gender or racial bias, or fear of bias by a CI can also impair effective communication, teamwork, and ultimately student success.

The primary purpose of this study was to evaluate the use of a week-one clinical survey tool for early identification of student perceived barriers, including personal and environmental safety, potentially impacting their success during their CEE. A secondary aim was to examine the differences in students’ perceptions of challenges, safety, and satisfaction among different levels of clinical experience courses as students’ progress through the curriculum. Based on experience in clinical education, the authors hypothesized that the week one clinical survey tool would be effective in students’ identification and reporting of safety concerns, communication barriers with CIs, and other internal and external factors that could potentially impact student performance and success. Furthermore, the authors hypothesized that the self-designed Week One Clinical Survey Tool would improve student reporting of these issues, allowing early and effective intervention by academic and clinical faculty before issues led to poor performance or clinical conflict. Additionally, early identification of safety concerns and barriers to success may be useful to provide alternative plans or help the student overcome challenges.

METHODS
Ethical Statement
Due to the retrospective study design and assessment for quality assurance, the Institutional Review Board at the researchers’ institution approved this study as exempt, non-human subjects research as defined in 45 CFR 46.102(e) and approved the study.

Study Design
This was a retrospective, observational, mixed-methods study design.

Materials and Subjects/Participants
Materials utilized during this study consisted of an electronic device and the Qualtrics (Provo, UT) platform for investigators to create and students to access the survey. Participants included students (n=81 total, males = 34, females n = 47, mean age 24.5) from one DPT program who were engaged in the first week of a full-time CEE. One hundred percent of each cohort were placed in CEE at a time. Students were asked to complete the survey within seven days of beginning their CEE. The completion of this survey was not a compulsory component of this CEE. Reminders to complete the survey were sent two days prior to the survey deadline. Additionally, CI were not notified of the survey in hopes that students would feel more comfortable responding to survey questions honestly.

Participants in the third year of their DPT education (n = 43) had previously completed one full-time, six-week CEE. Third year students completed the survey twice, once for their second full-time/first terminal CEE (31 responses) and once for their third full-time/terminal CEE (41 responses). Participants beginning the second year of their DPT education (n = 38) had no previous full-time CEE. Second year students completed the survey once after one week in their first full-time CEE. Overall, there were 112 responses to the survey (90.3% response rate).

Technical Information
The 10 item survey, completed by students, included questions regarding demographic and contact information, yes/no and free response questions regarding safety and orientation to the site, a Likert scale ranking (1-10), and free response questions about CI satisfaction and clinical challenges. An additional free response question was included to gather any additional information the student wanted to report. The survey used can be found in (Appendix A). The survey was created and distributed through Qualtrics. Data responses were de-identified prior to analysis.

Statistics
Quantitative Analysis
Frequency and descriptive data were tabulated for all responses. Data were then compared by cohort and how many CEEs students had experienced (e.g., first, second, or third). Non-parametric methods were utilized due to the types of data being analyzed. An alpha level of .05 was used to determine statistical differences for all non-parametric tests. The analysis demonstrated...
a non-normal distribution. Response comparisons between the two cohorts (second year versus third year) were made using a Mann-Whitney U test. Effect sizes (r) were calculated for cohort differences. Interpretation of r were as follows: .1 to .3 small effect, .3 to .5 intermediate effect, >.5 strong effect. A Kruskal-Wallis test was used to evaluate differences in responses by level of clinical experience (first, second, or third full-time CEE). Post hoc contrasts were used for detailed comparisons between groups, and effect size (η²) was calculated for statistical group differences. Interpretation of η² effect sizes were < .01 no effect, .01 to .06 small effect, .06 to .13 intermediate effect, ≥ .14 large effect. Jamovi (version 1.2) was used for all quantitative analyses.

**Qualitative Analysis**

The survey included four open-ended questions related to students’ personal and/or environmental safety, students’ satisfaction with their CI, perceptions of challenges thus far, and any additional information pertinent for the supervising faculty to be made aware of at that time. The researchers employed an incident coding process to analyze the narrative responses of each question separately. Each incident was assigned a code representative of that specific response. For integrity purposes, the researchers coded responses independently. Codes were then examined for matching, and differences were discussed until agreement was reached. Through this process, the researchers developed a set of codes, or nodes, that was then used to code the remaining responses collaboratively. Following initial coding, the researchers collaboratively determined major categories represented by the codes, as well as subcategories for each. Microsoft Excel (Redmond, WA) was used for all qualitative analyses. This process is depicted in Figure 1.

**Figure 1. Coding Process**

![Coding Process Diagram]

**RESULTS**

**Quantitative Analysis**

Only two students (1.8%) out of 112 responses indicated that they felt unsafe at their clinical site. Most students (n = 73, 65.1%) indicated high satisfaction with their CI (≥ 9 on a 10-pt scale), 35 students (31.3%) gave their CI a rating of 6-8, and 4 students (3.6%) rated their CI at 5 or lower.

Table 1 shows descriptive statistics for responses between the 2019 third year students (n = 74) and 2021 second year students (n = 38) cohorts. There were no differences between cohorts for site safety (U = 1368, p = .315) or completion of orientation (U = 1403, p = .974), but there was a difference for how they rated their experience with the CI (U = 1001, p = .008, r = .250). Third year students (2019 cohort) rated their CI lower than the 2021 cohort, second year students. The effect size was small for this difference.
Table 1. Descriptive statistics for cohort (2019 vs 2021) responses to site safety, orientation, and experience with CI questions

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Cohort</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe at site</td>
<td>2019</td>
<td>1.03</td>
<td>1.00</td>
<td>0.16</td>
</tr>
<tr>
<td></td>
<td>2021</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Orientation</td>
<td>2019</td>
<td>0.92</td>
<td>1.00</td>
<td>0.28</td>
</tr>
<tr>
<td>Completed</td>
<td>2021</td>
<td>0.92</td>
<td>1.00</td>
<td>0.27</td>
</tr>
<tr>
<td>Experience</td>
<td>2019</td>
<td>8.58</td>
<td>9.00</td>
<td>1.60</td>
</tr>
<tr>
<td>with CI*</td>
<td>2021</td>
<td>9.40</td>
<td>10.00</td>
<td>0.79</td>
</tr>
</tbody>
</table>

Descriptive statistics for survey responses by level of CEE (first, n = 38; second, n = 31; or third full-time experience, n = 43) is shown in Table 2. There was a main effect difference for experience with CI (H(2) = 6.996, p = .030), but no difference in site safety (H(2) = 1.119, p = .572) or completion of orientation (H(2) = .198, p = .906). Post hoc comparisons showed that students on their third and terminal experience rated their satisfaction with their CI lower than students completing their first experience (p = .047, η² = .046). This is interpreted as a small effect.

Table 2. Descriptive data for survey responses analyzed by level of clinical experience.

<table>
<thead>
<tr>
<th>Group</th>
<th>Safe at site</th>
<th>Orientation completed</th>
<th>Experience with CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
<td>SD</td>
</tr>
<tr>
<td>1</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
</tr>
<tr>
<td>2</td>
<td>1.03</td>
<td>1.00</td>
<td>.18</td>
</tr>
<tr>
<td>3</td>
<td>1.02</td>
<td>1.00</td>
<td>.15</td>
</tr>
</tbody>
</table>

* Indicates a difference between groups (p < .05).

Qualitative Analysis
There were no differences between cohorts in overall categories that emerged from the open-ended questions, but there was a difference in the impact of each category and associated themes. This was also true when comparing the responses by level of CEE. Overall frequency counts per question can be found in Figures 2 and 3.

Figure 2. Frequency count per question (CI Satisfaction)
Factors Influencing Student Satisfaction of CI

Students were asked to provide relevant details to support their numerical rating regarding CI satisfaction. Figure 2 depicts the categories and associated themes related to students' satisfaction with their CI. These narrative responses revealed that students commented frequently on CI characteristics, both positive and negative, being related to their overall satisfaction with their CI. An overwhelming majority of respondents reported positively about their CI and felt that CI knowledge and teaching style were the two areas that led to their overall satisfaction. Personal attributes included any responses that related to specific qualities or personality traits of their CI. Student characteristics, such as their involvement or confidence, did not appear to have a significant impact on their satisfaction with their CI.

Figure 3. Frequency count per question (Student Challenges)

Student Challenges during First Week of CEE

Figure 3 depicts the categories and associated themes identified by students as challenges during the first week of their CEE. Students commented frequently on the clinical environment as being a significant challenge to their first week of a CEE, with documentation, time, and setting as specific challenges cited equally. The category of "Time" included responses that related to the complexity of time management in the clinical setting, including pace of the clinical environment, schedule, and efficiency. The "Setting" category included any responses that related to type of practice setting, patient population served, equipment, or the physical environment of the CEE. Students also commented regularly on their own confidence and experience level presenting a challenge during their first week of a CEE. Different from students’ CI satisfaction, respondents did not feel that CI characteristics impacted the challenges they experienced during their first week.

Discussion

Barriers to success in offsite clinical experiential learning are clearly demonstrated in the literature. Preparation of CIs to be effective mentors and teachers is not consistent in experiential learning. Training to increase knowledge of adult learning strategies by CIs could improve feedback, confidence, and mentorship effectiveness. Training in bidirectional feedback for both student learners and CIs could improve trust, communication, and goal setting. Student perceptions about CI knowledge and teaching abilities is reported as a dissatisfier in research from multiple healthcare training programs including nursing and professional programs.

Today’s technology allows for remote videoconferencing, surveys, and text communication, all of which can aid academic clinical faculty and student communication when offsite for clinical activities. This study aimed to evaluate the use of a week-one clinical survey tool for early identification of student perceived barriers that may impact success during offsite clinical education experiences (CEE). This is the first study to provide an online tool evaluating perceptions of personal and environmental safety, assumptions regarding appropriate orientation, student uncertainty about CI/preceptor qualifications and performance, and discuss the practical use of such a tool for academic clinical faculty and students.
The results of this study show that students' perceptions of experiences with CIs change with their progression in clinical experience level and helped to identify issues with student safety and CI concerns early in the CEE. Student expectations of CIs may change as they progress within that clinical experience or from initial full-time to terminal full-time CEEs. Similar findings that novice student learners may judge CIs differently from advanced learners are reported as a possible rationale for the allowance of student mistreatment and verbal abuse. The reported decreased student satisfaction ratings with CIs between second and third year DPT students need more investigation and may indicate a need for improved communication of realistic expectations prior to clinical experiences by academic clinical faculty.

Limitations
The limitations of this study include a relatively small sample size from a single private institution. The impact of age and generational perception of identified concerns was not assessed. Socioeconomic factors impacting the ability to selectively obtain temporary housing in areas identified as low crime were also not assessed. Additional limitations include that validity and reliability testing were not completed as the tool was originally implemented as part of a course. Other limitations include student misinterpretation of questions and unrealistic student expectations of clinical teaching. Furthermore, CIs were not notified of the results of the survey for potential behavior modification or improved communication strategies, nor was the survey readministered later in the clinical experience to reassess student perceptions. Additionally, CI perceptions after one week were not studied, but do present an area for future research. Finally, no comparisons were made between reports about CIs or sites in this study to reports made prior to this study.

CONCLUSIONS
Early communication related to the identification of safety concerns and clinical challenges allows for immediate intervention to take place if needed, including advising by academic clinical faculty for mitigation of barriers to success. Advising on stress management, effective communication, and professional behaviors may enhance student resilience and success during health program clinical education. The survey tool was effective in identifying student concerns about safety. The differences between cohorts on CI satisfaction should be further assessed to determine what factors such as student expectations or clinical preparation impact student satisfaction with CI during clinical experiences. Advising on stress management, effective communication, and professional behaviors can enhance student resilience and success in experiential components of healthcare education. The original intent of the survey was to ensure student safety, but the information is novel for DPT education. The survey tool can be easily adapted for utilization in other healthcare programs engaged in full-time, offsite clinical education.
REFERENCES
APPENDIX A

Please enter your first and last name.

Please list the name of your clinical site

Provide cell number for emergency contact:

Do you feel safe at your clinical site? If "unsure or no", please give brief explanation of concern. If you do not feel safe for any reason, please text Dr. Shearin at your earliest opportunity for a brief conference. Cell is 919-770-6386.

- [ ] yes
- [ ] Maybe
- [ ] No

Have you completed an orientation before clinical or since your arrival?

- [ ] Yes
- [ ] No
On a scale of 1-10, how would you rate your experience thus far with your CI? (10 is exceptional)

Please provide any relevant details for your response regarding CI satisfaction.

What has been your greatest challenge since the start of your rotation?

List any additional information you feel is necessary for DCE to review.