O'Connell D, O'Connell J, Brewer B, Bessire B, Carrico M, MacIntyre C, Queen-Shelburne M, Wilson E. DEVELOPMENT OF THE CERTAINTY SURVEY FOR WHEELCHAIR FIT AND EFFECTIVE UTILIZATION. Hardin-Simmons University Department of Physical Therapy, Abilene, TX.

INTRODUCTION: The wheelchair (WC) is a critically important therapeutic rehabilitative modality. Physical therapists are commonly asked to determine if patients would benefit from use of a wheelchair and if so, to measure and appropriately fit them for WC usage. Once an appropriate WC has been identified, it is imperative to optimally modify the WC for the user. Finally, it is important that the therapist educate and train the patient and their family in critical skills such as wheelchair mobility, maintenance, pressure ulcer prevention and proper transfer techniques. A review of the literature suggests that the current WC-related training of clinicians may be suboptimal as there are no studies identifying therapists or students' perceptions of their competence in basic or more complex WC fitting procedures or in patient/caregiver education. **PURPOSE:** (1) Determine test-retest reliability on the three sections of the newly created Certainty of WC Fit and Effective Utilization Survey plus total score; (2) Test for differences in survey results based on four educational levels (1st, 2nd, 3rd year DPT students, and professional therapists); and (3) Test validity by contrasting survey scores across WC fit experiential levels (0-10, 11-20, 20-30, 30+ WC evaluations). **METHODS**: Subjects within West Texas were recruited by email and asked to complete the electronic survey with a two-week follow-up. The survey consisted of three, 15-question sections on basic WC fit, teaching WC skills, and competence in case-specific WC fitting. Various demographic questions included the number of hours of WC fit experience each subject had completed. A subset of the sample was used to determine test-retest reliability using Pearson correlations A Paired t-test assessed significant difference between the participant's first and second average scores for the WC fit experience and three survey categories. Two separate one-way ANOVAs were conducted to test for differences on survey outcomes based on educational level and WC fit experience. Statistical significance was set at $p \leq .01$ and computed using SPSS 24.0. **RESULTS:** Data from 41 subjects was used to assess test-retest reliability which showed strong positive correlations for the WC fit experience (r=0.785), basic WC fit (r=0.855), teaching WC skills (r=0.843), and case-specific WC fit (r=0.795). One-way ANOVA indicated significantly lower WC certainty of fit scores in first year students for basic fit ($F(3,103)=42.51$, p<.01), teaching ($F(3,103)=26.70$, p<.01) and specific fitting ($F(3,103)=54.85$, p<.01) skills. One-way ANOVA indicated significantly lower WC certainty of fit scores in lower WC fit experience groups (0-10hrs) for basic fit ($F(3,103)=15.08$, p<.01), teaching ($F(3,103)=9.31$, p<.01) and specific fitting ($F(3,103)=17.72$, p<.01). **DISCUSSION**: Test-retest reliability of the survey was demonstrated. First-year students demonstrated the least amount of certainty in wheelchair fit compared to the other 3 groups. There was a significant difference in certainty of WC fit when subjects were grouped by academic level and WC experience, i.e, hours spent working with wheelchairs. **CLINICAL RELEVANCE:** The certainty of a professional's abilities to fit a patient with the most effective wheelchair appears to be related to both education level as well as experiential hours as evidenced by our newly developed reliable survey. It is expected that there is a stepwise increase in certainty levels with higher levels of education and higher experiential levels. Further research utilizing our survey evaluating a larger sample as well as specialists is needed to establish validity.