

Determining attainment of the EPAS foundation program objectives:
Evidence for the use of self-efficacy as an outcome

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Building on research related to social cognitive theory and its construct of self-efficacy, this article describes the development of the Foundation Practice Self-Efficacy scale (FPSE). This measure is designed to assess graduate social work programs' attempts to achieve the educational policy objectives for foundation year graduate study set by the Council on Social Work Education. Preliminary evidence regarding the reliability, validity and sensitivity to change of this measure are presented. The authors discuss changes in MSW students' self-efficacy over the course of the foundation year.

The calls for improvement in educational outcomes assessment continue (e.g., Baskind, Shank, & Ferraro, 2001; Gambrill, 2000, 2001; Hull, Mather, Christopherson & Young, 1994;). The need for improvement seems to be mentioned most frequently in relation to accreditation (e.g., Lubinescu, Ratcliff & Gaffney, 2001; Murray, 2001). Given diverse settings, program goals, pedagogical approaches and student populations, social work educators should have a variety of measures to choose from in order to meet both their accreditation and local assessment needs. The social cognitive theory construct of self-efficacy has been widely used in educational research outside of social work. In recent years there has been an increase in its use in measuring outcomes in social work education.

Self-efficacy

In his social cognitive theory (SCT), Bandura (1977; 1982; 1986; 1995; 1997a) emphasized the construct of self-efficacy which he described as "*beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments*" (1997a, p. 3). Bandura and colleagues (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001) further note that:

Among the mechanisms of human agency, none is more focal or pervading than people's perceived self-efficacy. Unless people believe they can produce desired outcomes by their actions, they have little incentive to act or to persevere in the face of difficulties. . . . Perceived self-efficacy occupies a central

role in the causal structure of social cognitive theory because efficacy beliefs affect adaptation and change not only in their own right, but through their impact on other determinants. . . . Meta-analyses of the magnitude of effect sizes corroborate the predictiveness of perceived self-efficacy across age and diverse spheres of functioning . . . Research with adults confirms that beliefs of personal efficacy play a highly influential role in occupational development and pursuits . . . The higher people's perceived efficacy to fulfill educational requirements and occupational roles, the wider the career options they seriously consider pursuing, the greater the interest they have in them, the better they prepare themselves educationally for different occupational careers, and the greater their staying power in challenging career pursuits. People simply eliminate from consideration occupations they believe to be beyond their capabilities, however attractive the occupations may be. Efficacy beliefs predict occupational choices and level of mastery of educational requirements for those pursuits when variations in actual ability, prior level of academic achievement, scholastic aptitude and vocational interests are controlled (p. 187-188).

While ratings of self-efficacy have repeatedly been reported to be predictive of a wide range of future

behaviors both within and outside of the academic realm (e.g., Holden, Moncher, Schinke, & Barker, 1990; Holden, 1991; Multon, Brown, & Lent, 1991; Schunk, 1995; Zimmerman, 1995), there have been some instances of non-support of the predictive validity of the construct (e.g., Chen, Casper, & Cortina, 2001; Friedlander, Keller, Peca-Baker, & Olk, 1986; Johnson, Baker, Kopala, Kiselica, & Thompson, 1989). Relevant to the research presented below, the meta-analysis of Stajkovic and Luthans (1998) examined the relationship between self-efficacy estimates and work related performances. Although the authors note that most of the 109 studies were correlational in nature, the results do add some support to the utility of the construct for professional education in that they found a statistically significant positive correlation between self-efficacy and performance (and many of these studies assessed self-efficacy prior to the work performance, as noted by A. Stajkovic, personal communication, July 23, 2002). In moderator analyses, these researchers found that both task complexity and study setting moderated this self-efficacy–performance relationship, with larger effects being observed at lower levels of task complexity and larger effects being found in simulated/laboratory settings (as opposed to actual field settings). Regardless of these categorizations, self-efficacy was a statistically significant predictor of work performance for each combined subcategory (c.f., Sadri & Robertson, 1993).

Self-efficacy has been used as an educational outcome in investigations in the area of counseling. The following list

is restricted to social work practice parallels, taken in part from the review by Larson and Daniels (1998).

- assessment of interpersonal skill training for therapeutic recreation students (Munson, Zoernink, & Stadulis, 1986)
- assessment of decision-making counseling skill training for therapeutic recreation students (Munson, Stadulis, & Munson, 1986)
- assessing the impact of a master's program in counseling (Johnson et al. 1989)
- development and use of the Counseling Self-Estimate Inventory (Larson et al., 1992)
- assessment of nonverbal sensitivity training for counselor trainees (Grace, Kivlighan, & Kuncze, 1995)
- contrasting liberal feminist and conventional approaches to career counseling (Juntunen, 1996)
- contrasting the effect of two types of clinical peer supervision for school counselors (Crutchfield & Borders, 1997)
- testing of the Integrated Developmental Model of counselor development (Leach, Stoltenberg, McNeill, & Eichenfield, 1997)
- assessment of the impact of practicum in career counseling (Heppner, Multon, Gysbers, Ellis, & Zook (1998)
- contrasting the effect of video versus role play in counselor education (Larson et al., 1999)

In their review of the counseling self-efficacy (CSE) literature, Larson and Daniels (1998) concluded that:

As predicted by [social cognitive theory], it appears that CSE is moderately positively related to outcome expectations, self-evaluations, and negatively moderately related to anxiety. . . . there is some evidence that CSE is positively related to counselor performance as measured by trained raters, although minimal relationships were reported in a few studies. . . . The relation of CSE to supervisors' ratings of counselor performance is unclear. (p. 191, 195)

Heppner et al. (1998) attempted to clarify the self-efficacy-performance connection in the area of career counseling. They found a mixed pattern of relationships between career counseling self-efficacy and process and outcome variables (low statistical power may have been an issue) and conclude that the apparent assumptions on the part of some researchers that "more self-efficacy is better" is questionable (p. 401). They further conclude that a more nuanced view of training outcomes might be achieved if trainees provided retrospective ratings of pretest efficacy, a process we have employed in our series of studies of social work self-efficacy.

As can be seen from this selective review, there is a theory of human behavior (SCT) with substantial empirical support. There is a history of the use of the key SCT construct self-efficacy as an educational outcome in areas related to social work. There is

increasing, although still limited, use of the construct in social work in general (154 citations referring to the construct in *Social Work Abstracts* vs. 9091 in *PsychInfo* in July 2002) as well as evidence supporting its utility as a social work educational outcome measure (e.g., Cuzzi, Holden, Chernack, Rutter, & Rosenberg, 1997; Cuzzi, Holden, Rutter, Rosenberg, & Chernack, 1996; Holden, Barker, Meenaghan, & Rosenberg, 1999; Holden, Meenaghan, Anastas, & Metrey, 2002). Based on an internal CSWE study, Baskind, Shank & Ferraro (2001) note that in the period February 1998–October 1999, 96% ($n=70$) of programs that were reviewed for reaffirmation had to provide interim reports focused on aspects of outcome evaluation related to Evaluative Standard 1 (Council on Social Work Education, 1994). These observations are echoed in the findings from Garcia and Floyd's (2002) study of program difficulty with Evaluation Standards 1.4 and 1.5 (these authors note that the program assessment requirements are essentially unchanged in the new EPAS). Given this situation the need for the development of outcomes assessment in social work education seems clear.

This article describes the ongoing development of a self-efficacy scale that is designed to assess social work students' progress. The research reported here focused on creating a measure that will provide data closely tied to the educational policy program objectives specified by the Council on Social Work Education (2001).

Method

Participants

This convenience sample consisted of students in Foundation year classes in the 2001-02 academic year at New York University (pretest $N=260$; posttest $N=229$; all students present in the course section on the administration day were invited to participate; usable response rates were 88% and 81%, respectively). Because these were anonymous surveys and because of the ethical concerns involved in studying students, no demographic data were collected that could lead to potential identification.

Measures

Social Worker Empowerment Scale (SWE). Frans' (1993) SWE was developed "to measure social workers' perceptions of personal and professional power" (p. 312). The SWE is a 34 item, self-report measure with preliminary evidence supporting its psychometric properties. Frans reported internal reliability estimates for the SWE from two studies (Cronbach's alphas of .88 and .89) and, as one would expect, a large correlation with an empowerment index ($r=.58$). The Cronbach's alpha for the SWE in this study was .91. The SWE's readability estimate is Flesch-Kincaid Grade Level: 6.5. The SWE was only used in the pretest of this study.

Foundation Practice Self-Efficacy (FPSE) scale. The FPSE was developed as part of our ongoing assessment efforts and in direct response to CSWE's new Educational Policy and Accreditation Standards (EPAS) (CSWE, 2001). In terms of content validity, the items for the FPSE were created based on the EPAS. The items resulting from this new approach can be seen in Table 1. The

CSWE objectives are displayed in the first column and the FPSE items are presented in the second column. Given the complexity of four of the objectives, multiple items were used to assess each of them. The 31-item FPSE was developed following Bandura's (1997b) suggested approach and has an 11-point response format (0=*cannot do at all*; 50=*moderately certain can do*; 100=*certain can do*). The scale could have been shorter if we had combined into one those items covering diverse populations (18–31). It was decided to proceed with this individual item approach and then review the data from multiple studies before making such a decision regarding the combining of these items.

The FPSE has an appropriate readability estimate (Flesch-Kincaid Grade Level: 9.5, c.f. Ley & Florio, 1996) and usually takes 10–15 minutes to complete. The scale was quite internally consistent in this study (Cronbach's alphas=.97 for the pre-, post-, and thentest data). To examine the construct validity of the FPSE, it was compared with the SWE because previous literature has discussed the conceptual connections between self-efficacy and empowerment (e.g., Gutierrez, 1990; Ozer & Bandura, 1990). Based on this work and our prior research, it was predicted a priori that the FPSE would have a large positive correlation ($r=.50$, Cohen, 1988) with the SWE. The observed correlation between these scales at pretest was $r=.57$.

Procedure

This was a single group, pretest-posttest study. The second administration contained a retrospective

pretest for the FPSE, which is referred to as the *thentest*, to assess the presence of *response shift bias* (e.g., Howard & Dailey, 1979; Howard, Daily, & Gulanick, 1979; Howard et al., 1979; Riley & Greene, 1993; Robinson & Doueck, 1994; Sprangers, 1988). This bias occurs when a respondent's understanding of the construct being assessed via self-report changes over the course of the study and this change in understanding obscures changes in the construct being assessed. Evidence of this bias has been found in a number of studies in social work (e.g., Holden, Cuzzi, Rutter, Rosenberg, & Chernack, 1996; Holden, Cuzzi, Rutter, Chernack & Rosenberg, 1997; Holden et al., 2002;). At the second administration, participants answered the same pretest questions, first according to their perception of themselves now (posttest) and then according to their current perception of themselves at pretest (thentest).

To maintain anonymity and counteract pressures to respond in a socially desirable manner (Paulhus, 1991), participants created a personal identification number in predetermined format. This number, which only the respondent could link to themselves, was then used to match posttest to pretest responses. Although this precludes the collection and use of much demographic information, it does allow respondents anonymity which we believe to be more important for the research purposes in this study.

Findings

Table 1 provides descriptive data for the individual items on the FPSE. Mean scores for individual items range

from 40.0 to 82.3. As can be seen by the bolded cell entries in Table 1, at pretest students reported being most confident in their abilities to practice without discrimination and with respect, knowledge, and skills related to clients':

- ▶ marital status ($M=82.3$)
- ▶ sex ($M=80.2$)
- ▶ gender ($M=79.7$)

Students were *least confident* in their abilities to:

- ▶ formulate social policies ($M=40.0$)
- ▶ influence social policy ($M=42.2$)
- ▶ analyze social policies ($M=49.6$)
- ▶ evaluate research studies ($M=49.6$)

Over the course of the academic year students increased their self-efficacy on all 31 FPSE items from pretest to posttest. The largest pre-post changes were on the items:

- ▶ apply the knowledge and skills of a generalist social work perspective to practice with systems of all sizes ($M=23.2$)
- ▶ use theoretical frameworks supported by empirical evidence to understand individual development and behavior across the life span and the interactions among individuals and between individuals and families, groups, organizations, and communities ($M=20.8$)
- ▶ evaluate research studies ($M=19.7$)

The results in Table 1 indicate the possible presence of response shift bias in the data. The mean scores on the thentest were always lower than the mean scores on the pretest (students were not looking at their pretest ratings when they took the thentest). The

largest differences observed for the pretest–thentest comparisons were for the items:

- ▶ apply critical thinking skills within the context of professional social work practice ($M=-14.6$)
- ▶ use supervision appropriately in your social work practice ($M=-14.6$)
- ▶ understand the value base of the profession and can practice accordingly ($M=-14.1$)

Finally, one might be interested in the items where the most and least combined change occurred. Both types of change are important in social work education – becoming more confident in one’s abilities and becoming less confident (retrospectively) about capabilities at prior points in time. The last column in Table 1 (combined change) is simply the addition of the absolute values in the two preceding columns. As can be seen, the most combined change occurred for the following items:

- ▶ evaluate your own practice interventions ($M=32.1$)
- ▶ use theoretical frameworks supported by empirical evidence to understand individual development and behavior across the life span and the interactions among individuals and between individuals and families, groups, organizations, and communities ($M=31.2$)
- ▶ apply the knowledge and skills of a generalist social work perspective to practice with systems of all sizes ($M=30.3$)

Conversely, the least combined change occurred for the items describing

practicing without discrimination and with respect, knowledge and skills related to clients:

- ▶ marital status ($M=10.7$)
- ▶ gender ($M=11.4$)
- ▶ sex ($M=11.7$)

In terms of general changes, Table 2 portrays the pretest–posttest–thentest means for the total FPSE. Pretest–posttest, posttest–thentest and thentest–pretest analyses were conducted. Given the non-normality of these three total scale score distributions, the contrasts were conducted using Wilcoxon signed rank tests (Siegel & Castellan, 1988). To maintain an analysis-wise alpha level of .05 for the three contrasts, a Bonferroni adjustment was used (Cliff, 1987). This meant that each of the three contrasts was tested at an alpha level of .01666.

As can be seen in Table 2, each of these three contrasts was statistically significant. Students increased their self-efficacy regarding foundation practice from the beginning to the end of the foundation year (whether the actual pretest or the thentest was used in the analysis). In addition, at the end of the foundation year students thought they should have been significantly less confident in their abilities at the beginning of the year (pretest versus thentest).

In order to place the pre-post changes in context the most conservative change estimate (the actual pre-post change) was converted into an effect size estimate - Cohen’s U_3 (Cohen, 1988). U_3 refers to the percentage of scores on the pretest that are exceeded by the median score on the posttest. U_3 ranges from 0-100. If

$U_3 = 50$ there would have been no pre-post change. In this case U_3 's greater than 50 represent positive change (increase in self-efficacy from pretest to posttest). A U_3 equal to 100 would mean that the median at posttest exceeded all of the pretest scores. The U_3 of 80 observed in this study (see Table 2) can be contrasted with two U_3 's from Lipsey and Wilson's (1993) meta-analysis of 302 meta-analyses of studies of psychological, educational and behavioral interventions. The average U_3 for the 302 meta-analyses covered by Lipsey and Wilson was 69.1 and the U_3 for the subset of studies that were one-group, pretest-posttest studies (the design used in the present study) was 76.5. The effect size observed in this study exceeded both of the estimates from the Lipsey and Wilson meta-analysis and was comparable to the U_3 's reported in our prior work (88.8. & 83.3 for change over a 2-year master's program; Holden et al., 2002).

Discussion

This project's overall goal was the development of an empirically and theoretically grounded survey that would be useful for social work education. Evidence was obtained that supports the psychometric properties of data gathered using the FPSE. The Cronbach's alphas were all quite high. It can be argued that the FPSE has content validity in that the items were directly connected to the EPAS objectives. Preliminary evidence of concurrent criterion validity was found in the predicted correlation with the SWE. Student self-efficacy varied substantially across items and across students at the beginning of the year. Statistically

significant increases in self-efficacy for the overall scale were observed. There was also evidence of response shift bias in student ratings. The effect size observed in this study is somewhat larger than the effect sizes observed in other relevant studies and somewhat smaller than the effect sizes found in studies of a 2-year masters program using a similar scale (Holden, Meenaghan, Anastas & Metrey, 2002).

These results should be interpreted with caution due to the study's limitations in regards to both internal and external validity. These results are based on a small, non-random, convenience sample of social work students, from a single school of social work, at a single point in time, in a single city, using self-report measures, with the data being analyzed and interpreted by a single group of investigators. In addition, single-group, pre-post designs do not allow for strong causal inferences. Replications of these results are obviously needed (Bornstein, 1990; Rosenthal, 1990).

As we have found in the past and as Heppner et al. (1998) predicted, retrospective ratings of pretest self-efficacy do provide a more nuanced view of training outcome. The changes in students' self-efficacy found in this and our earlier studies are what one wants to see in the training of social intervention agents. One wants them to enter a program somewhat overconfident (as would be expected given that they have chosen a career in which they think they can be successful) so that they will have confidence to continue in their studies when they face obstacles rather than drop out. It also

seems logical to want them to be somewhat overconfident when they graduate and to have a retrospective view that they should not have been as confident when they began their graduate education.

These findings should also be considered in relation to findings suggesting that self-efficacy is not as strong of a predictor of complex task performance. Stajkovic and Luthans (1998) hypothesize that individuals' self-efficacy may become more predictive of complex tasks as they gain familiarity with those tasks. In other words, the relationship between pretest self-efficacy estimates in our sample and subsequent performance would likely be smaller than the relationship between posttest self-efficacy estimates and subsequent performance, because students had experienced a year of course and fieldwork that provided them with better understanding of the various tasks.

It is interesting that the largest change scores were on individual scale items reflecting a range of curriculum areas: applying the generalist social work perspective to practice; using theory and empirical evidence to understand behavior across the life span and evaluating research studies (these were closely followed by evaluating one's own interventions and applying advocacy and social change to advance social and economic justice). Conversely, students NYU did not increase their self-efficacy very much on the range of diversity items despite an emphasis on these issues in the school's curriculum. Whether these findings reflect a lack of impact in these areas,

ceiling effects, or social desirability effects (or some combination) remains to be determined by further research.

Does examining combined change scores help one understand these results? It appears that a ceiling effect may be operating on these combined change scores. All of the diversity ratings which were high at pretest (>72.3) had lower change scores (<15.0). The combined change scores may be more useful for items with means more toward the middle of the range of scores. For instance, items 11 (apply research findings to practice) and 12 (evaluate your own practice interventions) had similar pretest means (55.5 and 58.8, respectively). Yet, the combined change was substantially larger for item 12 than for item 11 (32.1 versus 23.2).

Further research on the FPSE in general and on these uses of the thentest are in order. For instance, the current wording of the items may not be optimal. Our goal for these initial administrations was to keep the wording of the items as close as possible to the EPAS objectives. Further research may reveal more useful wording. Similarly, it might turn out that little information is lost by combining items 18–31 into a general diversity item, although we would argue that this should not be done unless the evidence is very conclusive.

Conclusion

Obviously, the distal outcomes that matter most in social work education are how effectively and ethically clients are served (Gambrill, 2000; 2001). Even without the data we assume that self-efficacy is not a perfect

predictor of future effective and ethical practice. Neither (to our knowledge) are other self-report measures (of cognition, affect or behavior), or ratings of trainee performance (e.g., grades, recommendations, observations of real or simulated interventions; c.f., Bogo, Regehr, Hughes, Power, & Globerman, 2002). Nor (again to the best of our knowledge) are post graduate training or credentialing perfect predictors of future effective and ethical practice.

Positive client outcomes caused by ethically practiced social work are a gold standard. While the CSWE-sponsored student client outcomes project (Gambrill, 2002) may turn out to be a rousing success, it will take substantial time and money to arrive at the point where social work educational institutions regularly assess the impact of their education on actual client outcomes related to specific student interventions for all students. What should the profession do until reliable and valid measures of the wide variety of social work client outcomes (that are reasonably priced and relatively easy to use) are available? In this intervening time (this assumes such an outcome will ever be achieved), many social work programs and schools will seek more feasible methods of systematic outcome assessment in order to satisfy university, CSWE and other accreditation demands for accountability. The FPSE represents a potentially practical, reliable, and valid approach in this situation.

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Table 1. Mean Pretest and Mean Change Scores for Students Responding to the FPSE Questionnaire (pretest $N=260$; posttest & thentest $N=229$).

Educational Policy 3.0: Foundation Program Objective (CSWE, 2001)s	FPSE Item: <i>How confident are you that you can. . . .</i>	Pretest Mean	SD	Pre-post change	Pre-then change	Comb. change
1. Apply critical thinking skills within the context of professional social work practice.	1. apply critical thinking skills within the context of professional social work practice?	63.1	22.6	12.8	-14.6	27.4
2. Understand the value base of the profession and its ethical standards and principles, and practice accordingly.	2. understand the value base of the profession and can practice accordingly?	68.7	21.8	12.1	-14.1	26.2
4. Understand the forms and mechanisms of oppression and discrimination and apply strategies of advocacy and social change that advance social and economic justice.	3. understand the forms and mechanisms of oppression and discrimination and can apply strategies of advocacy and social change that advance social and economic justice?	56.1	24.7	19.4	-2.7	22.1
5. Understand and interpret the history of the social work profession and its contemporary structures and issues.	4. understand both the history of the social work profession and its contemporary structures and issues, and can use that knowledge effectively in your practice?	52.3	24.1	19.0	-9.5	28.5
M6. Apply the knowledge and skills of a generalist social work perspective to practice with systems of all sizes.	5. apply the knowledge and skills of a generalist social work perspective to practice with systems of all sizes?	50.0	25.8	23.2	-7.1	30.3

7. Use theoretical frameworks supported by empirical evidence to understand individual development and behavior across the life span and the interactions among individuals and between individuals and families, groups, organizations, and communities.	6. use theoretical frameworks supported by empirical evidence to understand individual development and behavior across the life span and the interactions among individuals and between individuals and families, groups, organizations, and communities?	54.8	27.5	20.8	-10.4	31.2
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Table 1. Cont'd.

8. Analyze, formulate, and influence social policies.	7. analyze social policies?	49.6	26.6	16.3	-6.6	22.9
	8. formulate social policies?	40.0	27.0	16.4	-3.7	20.1
	9. influence social policies?	42.2	26.5	17.8	-2.1	19.9
9. Evaluate research studies, apply research findings to practice, and evaluate their own practice interventions.	10. evaluate research studies?	49.6	26.3	19.7	-2.4	22.1
	11. apply research findings to practice?	55.5	25.8	16.4	-6.8	23.2
	12. evaluate your own practice interventions?	58.8	24.8	19.6	-12.5	32.1
10. Use communication skills differentially across client populations, colleagues, and communities.	13. use communication skills differentially across client populations, colleagues, and communities?	66.3	23.2	13.6	-11.1	24.7
11. Use supervision and consultation appropriate to social work practice.	14. use supervision appropriately in your social work practice?	70.9	21.8	10.1	-14.6	24.7
	15. use consultation appropriately in your social work practice?	66.9	22.9	12.3	-12.7	25.0

Table 1 Cont' d.

12. Function within the structure of organizations and service delivery systems and seek necessary organizational change.	16. function effectively within the structure of organizations and service delivery systems?	67.4	22.0	11.8	-7.0	18.8
	17. effectively seek necessary organizational change within organizations and service delivery systems?	55.3	24.4	15.5	-4.1	19.6
	<i>How confident are you that you can practice without discrimination and with respect, knowledge, and skills related to clients'. . . .</i>					
3. Practice without discrimination and with respect, knowledge, and skills related to clients' age, class, color, culture, disability, ethnicity, family structure, gender, marital status, national origin, race, religion, sex, and sexual orientation.	18. age?	76.0	20.4	6.1	-7.9	14.0
	19. class?	73.7	20.5	9.1	-5.7	14.8
	20. color?	76.8	20.1	8.0	-5.7	13.7
	21. culture?	72.3	22.2	10.0	-5.0	15.0
	22. disability?	72.7	21.5	6.5	-6.9	13.4

Table 1 Cont'd.

	23. ethnicity?	75.2	20.9	8.8	-5.1	13.9
	24. family structure?	77.1	18.5	3.2	-10.4	13.6
	25. gender?	79.7	18.8	4.2	-7.2	11.4
	26. marital status?	82.3	17.6	2.9	-7.8	10.7
	27. national origin?	77.9	19.6	5.9	-5.9	11.8
	28. race?	76.8	20.6	7.6	-5.0	12.6
	29. religion?	73.9	20.6	8.0	-4.5	12.5
	30. sex?	80.2	18.7	4.1	-7.6	11.7
	31. sexual orientation?	76.3	22.9	7.2	-7.2	14.4

Note. FPSE=Foundation Practice Self-Efficacy. Higher scores indicate higher levels of self-efficacy. Total $N=260$, 229 for pretest and posttest/thentest respectively. Missing data or inability to match a participant's pretest and posttest or thentest scores reduced the n for some comparisons.

Table 2. Summary Statistics of Student Responses to the FPSE Questionnaire

FPSE	Pretest	Posttest	Thentest
M	65.8	77.8*	58.6**
95% CI	63.8–67.8	76.1–79.4	56.4–60.9
Min.–Max.	11.3–99.7	14.7–100	11.3–100
Cronbach's alpha ¹	.97	.97	.97
Cohen's U ₃ ²	--	80	--

Note. FPSE=Foundation Practice Self-Efficacy. CI=Confidence Interval. Higher scores indicate higher levels of self-efficacy. Total N=260, 229, for pretest and posttest respectively, although missing data or inability to match a participants pretest and posttest scores reduced the n's for some comparisons.

* Significant pretest versus posttest comparison, $p < .01666$ (2 tailed), Wilcoxon signed rank test, $n=190$.

** Significant thentest versus posttest comparison, $p < .01666$ (2 tailed), Wilcoxon signed rank test, $n=229$. Significant thentest versus pretest comparison, $p < .01666$ (2 tailed), Wilcoxon signed rank test, $n=188$

¹ Indicates internal reliability.

² Indicates pretest–posttest change effect size estimate