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Validation of the Doctoral Writing Knowledge and Efficacy Inventory

Lee M. Stadtlander, Ph.D. and Amy E. Sickel, Ph.D.

Abstract

There has not been a validated measure of doctoral level writing knowledge nor one of doctoral writing self efficacy. In this study we developed and validated the Doctoral Writing Knowledge and Efficacy Inventory. The inventory showed validity, being correlated with writing apprehension, perceived writing self efficacy, and stage of dissertation.

Problem

There is currently not a valid measure of doctoral level writing knowledge nor one of doctoral writing self efficacy.

Purpose

The purpose of the present study was to develop and validate a doctoral level survey for examining writing knowledge and writing self efficacy..

Relevant Literature

A common element for all doctoral students, regardless of the doctoral program or institution, is the challenge of scholarly writing with their doctoral dissertation (may be called a "doctoral thesis" in some institutions; Gardner & Barnes, 2014). A doctoral dissertation refers to an original piece of empirical research done in partial fulfillment of the requirements of doctoral programs (e.g., Ed.D., Ph.D.; Cone & Foster, 2006; Walder et al., 2008).

Educational researchers (Ali & Kohun, 2007; Council of Graduate Schools, 2009; Patterson & McFadden, 2009; Sutton, 2014) report that attrition at the doctoral level is approximately 50%; Terrell et al. (2012) noted that attrition in all doctoral programs is roughly 40% to 50%, but slightly higher (10%-20%) for online doctoral programs. This attrition may result in loss of revenue for the institution; students with high student loan debt, and no degree; and loss of institutional credibility.

Literature Cont'd

Social cognitive theory has established the importance of self-efficacy beliefs: one's confidence in one's ability to perform tasks required to cope with situations and achieve specific goals. People with high self-efficacy are more likely to take on challenges, try harder, and persist longer than those with low self-efficacy (Bandura, 1989). Students with high writing efficacy tend to write better and be less apprehensive about writing than those with low writing efficacy (McCarthy et al., 1985; Pajares & Valiante, 1999). Previous research, in this area, has tended to examine the K-12 and undergraduate level of writing efficacy (Sanders-Reio et al., 2014); few studies have addressed the issue on a doctoral level. Writing knowledge is an additional correlate with writing task completion (Bromley et al., 2016), and appears to have rarely been studied in doctoral student populations. There is currently not a validated measure of doctoral level writing knowledge or one of doctoral level writing efficacy.

Research Questions

1. Does the Doctoral Writing Knowledge and Efficacy Inventory (DWKEI) show construct validity through correlations with Perceived Self-Regulatory Efficacy for Writing scale (modified from Zimmerman & Bandura, 1994), Writing Apprehension Scale (modified from Daly & Miller, 1975), and the Research Appraisal Inventory (Stadtlander, Giles, & Sickel, 2013)?
2. Does the DWKEI show criterion validity through correlations with stage of dissertation or time in dissertation?

Procedures

To develop the Doctoral Writing and Knowledge Efficacy Inventory (DWKEI), the researchers developed a list of topics relevant to writing a dissertation based on Walden's *Dissertation Guidebook*. 80 multiple choice questions were then developed based upon these topics. 5 faculty experts provided feedback and suggestions on the questions. Following approval from Walden's IRB, A pilot study was run with 4 doctoral level students. All participants received a \$10 gift card as a thank you.

Procedures Cont'd

The DWKEI consists of 2 parts, a 42 question knowledge portion and a 24 self efficacy portion with 5 anchor points 1 strongly disagree; 2 disagree; 3 neutral; 4 agree; and 5 strongly agree. The DWKEI was posted in survey monkey along with the Perceived Self-Regulatory Efficacy for Writing scale (modified from Zimmerman & Bandura, 1994) Writing Apprehension Scale (modified from Daly & Miller, 1975) and the Research Appraisal Inventory (Stadtlander et al., 2013), which were used as additional indications of validity.

Doctoral students and faculty were sought through the Walden participant pool, LinkedIn, and Stadtlander's dissertation blog (<http://phdrealities.blogspot.com/>) to complete the validation study on survey monkey. 117 individuals started the survey, 82 completed it for a completion rate of 67%. 2 surveys with less than 10 minutes completion time were removed, resulting in a total of 80 participants in the analyses. 62 females (77.5%) and 17 males (21.3%) participated. Ages ranged between 25-73 ($M = 48.9$). 11 individuals had completed their Ph.D.s, 5 were faculty.

Data Analysis

Responses to the 42 knowledge questions on the DWKEI were scored and the total for each individual was calculated, resulting in a range of 12-41 correct ($M = 31.3$, $SD = 5.74$). Cronbach's alpha for the knowledge portion was 0.82. The 24 self efficacy questions were totaled with a range of 53-120 (120 points possible), Cronbach's alpha for the self efficacy portion was 0.94.

Findings

Statistically significant correlations were found between the knowledge portion of the DWKEI and the Perceived Self-Regulatory Efficacy for Writing scale ($r(80) = -.25$, $p = .03$); thus as writing score increased so did writing self efficacy. A significant relationship was evident with the Writing Apprehension Scale ($r(80) = .42$, $p = .02$), whereby as writing scores increased, writing apprehension decreased. Writing score was significantly correlated with stage of dissertation ($r(80) = .26$, $p = .02$), number of terms in dissertation was not significant.

Findings Cont'd

The self efficacy portion of the DWKEI was correlated with terms in dissertation ($r(80) = .33$, $p = .01$); stage of dissertation ($r(80) = .23$, $p = .05$); writing score ($r(80) = .34$, $p = .01$); Perceived Efficacy for Writing ($r(80) = -.48$, $p = .001$); writing apprehension ($r(80) = .39$, $p = .001$); and research skills ($r(80) = .49$, $p = .001$).

Limitations

Participants were recruited through an advertisement in the Walden participant pool and social media sites. Presumably only people interested in the topic were willing to participate. It had a high incompleteness rate (37%), presumably due to the length of the surveys. It is possible that people with marginal writing skills became frustrated and dropped out. The inventory is Walden-centric, and may not apply to other programs.

Conclusions

These preliminary results indicate that the DWKEI has construct and criterion validity. Additional research is recommended using different populations. The extent to which the results apply to dissertation students outside of Walden is unknown.

Social Change Implications

A validated doctoral writing inventory provides a reliable method of evaluating student writing, and areas of needed improvement. While additional research is indicated with the DWKEI, it shows promise as such an instrument.

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