The Role of Explicit Standards in Self-Assessment among Clinical Psychology Students

by

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Abstract

Self-assessment is an important tool for evaluating behaviour and for gaining self-knowledge. However, self-assessment is prone to biases that contaminate the accuracy of the evaluation. The aim of this study was to evaluate whether the presence of a *standard* – an objective description of a standard of competent practice – within self-assessment measures would reduce such biases and enhance the validity of self-assessment. Psychology graduate students were randomly assigned to complete self-assessments of research and clinical supervision competency that either included, or did not include, a standard. The presence of a standard had no effect on self-assessment means, but amount of training was associated with perceived competence within the same domain among those who completed the survey with the standard. The findings suggest that the inclusion of a standard has a complex effect on self-assessment scores that does not simply reduce self-enhancement effects but nonetheless improves the construct validity of the measure.

Keywords: self-assessment, standard, training, competencies, clinical supervision, research

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The Role of Explicit Standards in Self-Assessment among Clinical Psychology Students

Self-assessment is a widely used method of measuring an individual's ability or standing on a given construct. Despite its common use, people's self-perceptions often deviate from how others perceive them and how they actually behave. Research on self-assessment has shown that individuals' appraisals of their ability in a given domain often bear little relationship to how they perform on tests of that ability or on others' assessments of their ability (Carter & Dunning, 2008). Self-assessment, therefore, became a much-debated method of evaluation (Bell & Federman, 2010) owing to the mixed findings on its accuracy. Within the domain of knowledge, for example, Sitzmann, Ely, Brown, and Bauer (2010) conducted a meta-analysis where the authors examined the accuracy of self-assessment and found that 18% of the studies had mixed conclusions, over half (56%) of the studies reported that self-assessment was an inaccurate method, and 26% of the studies regarded self-assessment as an accurate means of measuring knowledge. Bell and Federman (2010), however, argued that the mixed findings regarding the accuracy of self-assessment were construct, context, and temporally dependent. Bearing in mind the above-mentioned conditions on achieving accurate self-assessment, accurate self-assessment instruments therefore may be difficult to construct. In this study, my primary goal was to examine whether reduced item ambiguity would enhance the validity of self-assessment.

Despite the challenges in achieving accurate self-assessment, having more accurate self-assessments would offer several key benefits. Specifically, knowledge about the self may help people to become aware of their strengths and weaknesses, which in turn may aid in their future improvement. Developing a better understanding of self-

assessment is crucial for several reasons. First, research suggests that the act of self-assessment promotes reflective thinking that leads to critical thinking, both of which are important factors for knowledge maintenance and transfer (Ulmer, 2001). Second, self-assessment is a key element of self-regulation and is the basis from which people initiate self-corrective learning and improved performance to attain their goals (Bandura, 1997). Third, self-assessment is the primary method used in most professions (e.g., law, engineering, medicine, and education) to assess ongoing professional competence. Accurate self-assessment is important for professional self-regulation, as it is crucial in ensuring client welfare. Last but not least, self-assessment, among all types of assessment, has shown to significantly raise people's motivation to achieve, and hence, would enhance professional growth (Chappuis & Stiggins, 2002; Rolheiser & Ross, 2001).

In order to improve the validity of self-assessment, it is first necessary to understand its limitations. My literature search suggests two major limitations that contribute to the inaccuracy of self-assessment results. First, a general self-enhancement effect can occur, in which people, regardless of actual ability, tend to inflate their ability when self-assessing. For instance, students' perceived competence is often higher than their actual competence. This phenomenon of overconfidence was well demonstrated in a study where psychology students completed their thesis three weeks later than their expected date, and one week later than their predicted worst-case scenario (Buehler, Griffin, & Ross, 1994). This is an example of overestimation, in which one errs in locating one's performance relative to an objective criterion (Moore & Healy, 2008). There are common biases that often accompany self-assessment that reflect self-enhancement. One such bias is the "better-than-average" effect, in which a large majority

of people rate themselves to be above average on a particular ability – a mathematical impossibility (Breitenbecher, Yurak, & Vredenburg, 1995). This is an example of over-placement, in which one errs in locating one's performance relative to a comparison group (Moore & Healy, 2008). A well-known instance of this effect is Svenson's (1981) finding that 93% of American drivers rate themselves as better than the average American driver. Similarly, most students rate themselves as more intelligent than the average student (Hoorens, 1993). As noted in the research literature, vagueness allows self-deception in that imprecision about the target ability permits people to operationalize the target ability in ways that play to their strengths (Sloman, Fernbach, & Hagmayer, 2010). For example, in the area of personality, Dunning, Meyerowitz, and Holzberg (1989) showed that people were more likely to present with self-serving ratings when the description of the trait was more ambiguous (e.g., how sensitive are you) than when the description was more specific (e.g., how punctual are you). Nier (2004) explained that when there is room for interpretation, people tend to construct idiosyncratic definitions to maintain or enhance their positive self-image and disregard unfavorable possibilities. In sum, self-enhancement effects could be expected to contribute to increases in errors of overestimation or over-placement as evident in self-assessment ratings being higher than criterion scores or ratings of "peers" or "others".

A second major source of self-assessment invalidity is that people simply do not show good calibration of their actual and self-assessed abilities. This usually results from the ill-defined nature of the assessed construct. In Dunning, Heath, and Suls's 2004 article, the authors outlined four specific informational deficits: 1) double curse of incompetence; 2) unknown errors of omission; 3) uncertain lessons from feedback; and 4)

ill-defined nature of competence. They suggested that the inaccuracies of self-assessed scores can be reduced, however, if the assessed construct was more precisely and objectively defined. In educational settings, for example, the correlation between students' self-assessed and actual knowledge and skill was often weak to moderate (Carter & Dunning, 2008). Evidence showed that self-report on more objective measures such as those that involved a specific set of rules or criteria significantly improved people's accuracy of self-ratings, especially in the domains of knowledge and skills (Ackerman, Beier, & Bowen, 2002). Dunning, Heath, and Suls (2004) described that individuals who have limited abilities are often ignorant and unaware of the depth of certain domains of knowledge. This creates the illusion that they are fully competent and would therefore likely contribute to poor calibration of their abilities. Specifying the comparison target can also help to reduce self-appraisals. For example, if the evaluation of the self was compared to a specific individual or a set of qualities rather than when compared to aggregate terms such as "other supervisors," the "better-than-average" effect can often be reduced (Klar & Giladi, 1997).

Besides the above-mentioned errors that contribute to the inaccuracy of self-assessment, task difficulty, and skill level are also influential factors that may bias the results of self-assessment. Regarding task difficulty, research showed that on a difficult task, most people tend to over-estimate their performance but tend to under-place their performance relative to others, and the opposite is true with easy tasks (Moore & Healy, 2008). As for skill level, research documented that increased expertise in the assessed area could improve self-assessment accuracy (Davis, Mazmanian, Fordis, Harrison, Thorpe, & Perrier, 2006; Parker, Alford, & Passmore, 2004;). Further, it has been

suggested that the accuracy of self-assessment could either be underestimated or overestimated depending on the amount of training and expertise one possesses such that individuals with more training would assess their abilities with more scrutiny. Works done in the medical field demonstrated this phenomenon well. Medical students were shown to evaluate themselves more critically compared to instructor ratings (Chur-Hansen, 2000), and dentists' self-ratings on their work were more severe compared to peer-ratings (Milgrom, Weinstein, Ratener, Read, & Morrison, 1978). These results suggest that skill level plays an important role in assessment accuracy. Generally, more training is associated with more accurate self-assessment until the skill level is well above average – a point when trainees tend to underestimate their abilities despite their expertise (Davis, Mazmanian, Fordis, Harrison, Thorpe, & Perrier, 2006). Altogether, these various pitfalls of self-assessment suggest that the potential inaccuracies of this method of evaluation could be mitigated by the inclusion of precise definitions of the assessed constructs and a clear statement of what constitutes competence.

The purpose of this study was to evaluate the utility of more specific descriptions of competencies for enhancing the validity of self-assessment. The specific areas of competence examined will be in research and clinical supervision in psychology students. To assess the value of greater specificity about competencies, two versions of self-assessment measures were created: a high and low specificity version. For the high-specificity version, a *standard* of competent practice for each research and supervision competency domain was explicitly described and incorporated in the questionnaires. The purpose of these *standards* was to precisely define the construct being assessed and to provide an objective benchmark of competency against which individuals may evaluate

their level of competence. This implementation of a *standard* acts as a concrete reference for raters and directly addressed Dunning, Heath, and Suls's (2004) informational deficit (Story 2003; Story, Davis, & Hawks, 2004). Furthermore, the *standards* help to ensure that all assessors, regardless of their knowledge of the domain, have a clear understanding of the domain in question. In the low-specificity version, such *standards* were not included.

Support for the potential value of including standards in self-assessment procedures can be found in Ackerman, Beier, and Bowen's (2002) study, which revealed that over-placement was more likely to occur when the comparison group was not concretely defined, and when the construct being assessed was unfamiliar to the raters. The same study also found that in the domains of abilities and knowledge, self-report could produce similar results as objective measures, because many individuals had a relatively reasonable sense of their strengths and weaknesses. Furthermore, literature that had criticized the reliability and validity of self-assessment often had its own methodological flaws, such as using expert ratings as the "gold standard" (Palmer, Henry, & Rohe, 1985). Expert ratings are not necessarily closer to the "true ratings," as inter-rater reliability levels between experts are often only modest. This is perhaps because even experts are susceptible to the same vague criterion effects as self-assessors (Harrington, Murnaghan, & Regehr, 1997). That is to say, self-assessment that uses specific descriptions of competency domains and standards may also enhance inter-rater reliability, which is a pre-requisite to demonstrating validity. The employment of the *standard* may therefore help achieve the goal of the research to improve the validity of competency assessment. This boost to the precision of my competency measure would in

turn be expected to enhance construct validity. In an earlier study conducted by Johnson and Stewart (2008), the authors designed a nine-item supervisory self-efficacy scale, where respondents were simply asked to provide a self-rating for their efficaciousness when adopting certain supervisory roles. The questions were framed in a relatively global fashion. The results showed a large proportion of participants self-rated their supervisory efficacy at the maximum score possible, which in reality is doubtful. Thus, given the aforementioned advantages of the use of high-specificity *standards*, I believed it would offer a promising means of using self-assessment to provide valid measures of research and supervisory competency.

As mentioned above, two competency areas – clinical supervision and research – were used to evaluate the effects of the two self-assessment methods. It was important to survey two competency areas instead of only one, because this helps to show whether the effects of the *standards* would generalize across different competency domains. The present research builds on my past work (Wang, Johnson, & Stewart, 2011) on self-assessment in clinical supervision; this report offers greater breadth in this area of competency because the work within this competency is more developed. Clinical supervision is now recognized as a distinct, multifaceted functional competency area among professional psychologists that necessitates attention and training (Rodolfa, Bent, Eisman, Nelson, Rehm, & Ritchie, 2005). Competent clinical supervisors are crucial for ensuring client welfare and adequate health services, as well as cultivating competent future psychologists (Falender et al., 2004; Westefeld, 2009). Recently, in recognizing supervision's importance to the professional development of clinical psychologists, accrediting bodies such as the American Psychological Association (APA) and the

Canadian Psychological Association (CPA) now require psychology graduate and internship programs to offer clinical supervision training to clinical graduate students (APA, 2006; CPA, 2011). Furthermore, the CPA has outlined a set of specific ethical guidelines to aid in the development of this newly recognized special competency area (CPA, 2009b). The guidelines clearly state that supervising psychologists have an ethical responsibility to become competent supervisors. The importance of supervision is illustrated by the fact that it is the second most frequent activity of clinical psychologists (Norcross, Prochaska, & Farber, 1993), and that students receive over 1550 hours of supervised clinical experience prior to their predoctoral internship (CPA, 2009a). Moreover, in a recent Australian survey, students rated supervision as the most effective form of clinical training (Scott, Pachana, & Sofranoff, 2011). The quality of clinical supervision directly impacts the training of clinical psychology students as well as client welfare. Furthermore, since development and maintenance of competence in clinical supervision is dependent upon self-awareness, self-reflection marks the importance of valid self-assessment in clinical supervision (Ward, Gruppen, & Regehr, 2004).

To date, although there was abundant literature regarding various supervision techniques and methods, despite the strong expectation that training should improve level of supervision competency, there is a dearth of research examining the relationship between training and the development of clinical supervision competence. Based on the literature review, only one study explicitly revealed a positive association between increased training and increased perceived competence in clinical supervision (Milne, 2002), and another inferred this association without explicitly testing for the effect (Lyon, Heppler, Leavitt, & Fisher, 2008). However, the association between training and level of

competence has been repeatedly demonstrated in other competency domains, and hence, I expect that a valid measure would bring forth the effect in the domain of clinical supervision. In this study, therefore, I aimed to first evaluate the strength of the relationship between training and perceived competence in clinical supervision, and second, to examine whether this relationship is stronger with the implementation of a *standard*.

Currently, to comply with accreditation standards and to aid in the development of supervision competence in their students, many academic institutions in psychology have begun to incorporate clinical supervision training as part of their graduate programs and internship curricula. The inclusion of clinical supervision training among these programs, however, has thus far only partially been established. In fact, according to previous surveys, only 20% of practicing supervisors had received formal training in clinical supervision (Peake, Nussbaum, & Tindell, 2002), and formal clinical supervision training was only listed as a required course in 41% of schools' syllabi (Hazel, Laviolette, & Lineman, 2010). Studies conducted on the relationship between supervision training and supervision competence indicated that training in supervision appeared to support the development of supervision competence (Johnson & Stewart, 2008; Milne & James, 2002; Watkins 2011). For example, in a study conducted by Milne (2010), clinical supervisors were given a training guide to help further their supervision skills. At the end of the study, all supervisors spoke in favour of having had such training. However, the study did not further test actual increase in skills and knowledge in the supervisors. In Australia, it is required that all supervisors must go through an approved supervision program at least once every 5 years (Psychology Board of Australia, 2010). Such supervision training has

resulted in an increased knowledge of supervision among supervisors (O'Donovan, Halford, & Walters, 2011). Finally, findings from Social Work literatures indicate supervision training to be feasible and effective in improving supervision competencies (Tebes et al., 2011). A Canadian survey revealed that most practicing supervisors in Canada had only received supervision training post-doctorally through continuing education in the forms of workshops, conferences, self-education (i.e., reading a book on supervision), or peer consultation (Wang, Johnson, & Stewart, 2011). In other words, supervisors only received the essential training in clinical supervision after they began conducting supervision. In order to systematically develop supervision competence at the pre-doctoral level, an increasing number of training institutions have included supervision into their curriculum for clinical psychology graduate students. Currently, however, clinical supervision training had been criticized for its lack of specificity and inability to translate into practice (Gonsalvez, Oades, & Freestone, 2002), as well as lacking a consistent standard in supervision practice across academic and internship programs in psychology (Hadjistavropoulos, Kehler, & Hadjistavropoulos, 2010). Such inconsistency in curricula may further contaminate self-assessment results as it offers a variety of interpretations to "competent clinical supervisors."

Hadjistavropoulos, Kehler, and Hadjistavropoulos (2010) took a very important step in examining the current state of supervision training, where the authors surveyed 20 directors of clinical training (DCTs) across clinical psychology programs in Canada. These DCTs answered questions on the course of clinical supervision, practical supervision experience, and the methods of training in clinical supervision. They were also asked about their perception of some of the strengths and challenges in providing

supervision training. The main results revealed that there was great variability in the training approaches used and that a consensus was missing with regards to the best approach for training students to become competent supervisors. Although the study captured current supervision training practices, the study merely reported on the manner in which the inclusion of systematic supervision training is met among professional psychology programs but failed to examine how the amount of training contributed to the development of clinical supervision competence among students. Therefore, the effectiveness of the amount of training remains uncertain. Furthermore, the study only surveyed DCTs, who took part in the development of their program's supervision training course. Therefore, their evaluation of the strengths and weaknesses of their program's supervision training may be biased.

With the limited amount of literature on training and perceived supervision competence, Johnson and Stewart (2000) found that practicing supervisors who had had relatively extensive supervision training, either in their graduate program or during internship, felt significantly more prepared to supervise. This result was more refined in Johnson and Stewart's (2008) study where the authors specifically identified that graduate training in supervision was substantially related to perceived supervision competence at graduation but had no unique association with current perceptions of supervisory competence. Furthermore, although empirical evidence is lacking, Holloway and Neufeldt (1994) commented on the important association between supervision quality and treatment efficacy. These results together suggested that supervision training is important and needs to be ongoing to support the current required level of supervision competence. Interestingly, most supervisors report that regardless of their level of prior

training in supervision, or familiarity with supervision research, they felt underprepared for conducting supervision (Gizara and Forrest, 2004). However, the study failed to describe the extent of supervision training among the sample of supervisors included in the study; and based on my knowledge it is likely that these supervisors had little systematic training in clinical supervision. Contrary to Gizara and Forrest's findings, Robiner, Saltzman, Hoberman, and Schirvar (1997) revealed that familiarity with supervision literature may be a feasible way to increase supervisors' self-rating of supervision competence.

To the best of my knowledge, only one study has examined the association between supervision training and felt supervisory competence among trainees (Lyon, Heppler, Leavitt, & Fisher, 2008). The study surveyed 233 interns either in clinical or counseling psychology. As expected, with the lack of supervision training in graduate programs, there were more interns who have supervised a trainee than interns who have completed a supervision course. Signifying the importance of supervision training in developing supervisory competence, interns rated supervision training to be more important than providing and receiving supervision. Furthermore, the study revealed a few key findings. First, experiential training in supervision (i.e., in-vivo practice) is a critical component in the development of competent clinical supervisors. Second, the total number of supervision training activities was positively correlated with the development of perceived supervisory competence. Third, individuals who received more supervision of supervision had higher perceived levels of supervisory competence. Finally, perceived supervision competence does not seem to be developed simply through providing more supervision to other trainees. Overall, the study concluded that

supervision training activities are useful tools in the development of perceived supervision competence. Overall, the findings highlight and bolster an important conceptualization of what effective supervision training involves.

One of the secondary aims of the current study was to gauge the relationship between the amount of supervision training and perceived supervisory competence. Most studies on this topic used a very input-driven method of investigation, where the focus was on the requisite supervision coursework and practice based on the assumption that competency is present if training has occurred. Currently, there has been a culture shift in competency assessment transitioning from input to output (Falender & Shafranske, 2012; Roe, 2002), with the focus redirected to the resultant competencies of the supervisee. It was reasoned that the output-driven method is more appropriate in achieving a direct measure of the level of competence, and the relationship between training and competency level can be more explicitly established when both constructs are measured. Regulatory bodies chose the competency-based model over other models because it integrates, and was built upon, many supervision models proposed throughout the years (Falender & Shafranske, 2007). These models include the common factors (Morgan & Sprenkle, 2007), developmental (Stoltenberg & McNeil, 2010), and interpersonal models (Ladany, Friedlander, & Nelson, 2005), to name just a few. In addition, evidence indicates that the competency-based practice of supervision is applicable to a variety of orientations of practice, including but not limited to, cognitive-behavioural, psychodynamic, and humanistic-existential (Kaslow, Falender, & Grus, 2012).

With the intention to conduct outcome-focused research on how students develop supervisory competencies it was necessary to first specify what the competencies

intrinsic to supervision are and to have a suitable means of measuring them. Much effort had been put forth in identifying a set of competencies that are key to the development of supervision competence. In November 2002, a group of psychologists, diverse in their background and training were selected to were chosen to participate in the supervision competency group based on their expertise in the area of clinical supervision, took an important step and denoted six core competency areas in clinical supervision (Falender et al., 2004). Adequate *knowledge* and understanding of existing research, practicing models, and ethics were noted to form the first area of competency. Supervision *skills*, as in the ability to execute adaptive practicing, to develop and maintain effective and pleasant working relationships, as well as providing meaningful feedback was defined as the second area of competency. Supervisors being dedicated and devoted to their supervisory role both in time and effort and being committed to the improvement of their supervisory skills and knowledge was referred to as the third area of competency – *values*. Supervision does not occur in isolation: *social context/overarching issues*, such as diversity and ethics, the larger systemic networks outside of the supervisor and supervisee, all play a role in ensuring the quality of supervision and thus form the fourth supervision competency area. Finally, this group of psychologists recognized the importance of *training and assessment of supervision competencies* as the fifth and sixth competency areas, respectively. Multiple items that tackled slightly different aspects of the six competency areas together formed a total of 43 items. Rings, Genuchi, Hall, Angelo, and Cornish (2009) viewed these six core competency areas derived from expert consensus with skepticism and sought to validate their importance. Seven items were deleted from the original 43-item list due to redundancy. One hundred and eight four

predoctoral psychology internship training directors were asked to rate the importance of each of the items. The results obtained indicated that, for the most part, participants showed considerable agreement on the importance of the items. The establishment of these core competency areas was an important first step, but further work is required to operationalize these items to create an assessment tool. Borders and Bernard (1991) developed a very comprehensive behavioural list of suggested criteria for assessing supervision. However, at over 200 items, the list was unwieldy and diluted the key areas of supervision competence. Currently, besides Borders's list, there are few tools for assessing supervision competence.

To address the need for a comprehensive and flexible tool, the Self-Assessment Survey for Supervisory Competencies (SASS-C; Wang, Johnson, & Stewart, 2011) was developed. The SASS-C is a comprehensive measure that captures knowledge, skills, and commitment in 17 domains of supervision competence derived from expert consensus statements (Borders, 2010; Falender et al., 2004; Rings Genuchi, Hall, Angelo, & Cornish, 2009). For a fuller description of this instrument, please refer to the subsequent *Measures* section of this document. To validate the scale, a sample of 125 current practicing clinical supervisors in Canada was surveyed, and the results revealed significant correlations between supervision training and specific areas of supervisory competencies (Wang, Johnson, & Stewart, 2011). The current study further investigated the relationship between training and self-assessed supervisory competencies among clinical psychology students using the SASS-C.

The second target competency was students' perceived competence in conducting research. Here, too, I sought to determine whether the implementation of a standard of

practice that minimizes interpretation ambiguity would lead to a more accurate self-assessment score. Accreditation bodies have long required the implementation of curricula that would provide the necessary training for students to become competent researchers. To the best of my knowledge, although the area of research competence has long been established by accreditation bodies such as APA (2009), CPA (2011), and the Association of State and Provincial Psychology Boards (ASPPB 2012), there has been no research conducted to examine students' felt competence in the area of research. Therefore, I developed a new set of questions – the Self-Assessment Survey of Research Competency (SSAR-C) – to investigate students' perceived competence in conducting research. The content for the questions was constructed based on accreditation guidelines (APA, 2009; CPA, 2011), as well as suggested research procedures (Creswell, 2009). These are described in detail in the *Measures* section of this thesis.

In sum, the present experimental study sought to evaluate whether questions with specific criteria would yield a more valid self-assessment than those without specific criteria. Specifically, I compared high- and low-specificity versions of the questionnaire with respect to supervisory and research competencies.

Research Hypotheses

Keeping in mind that previous research had shown that supervision training was associated with having a higher level of competence in clinical supervision (Milne 2010; O'Donovan, Halford, & Walters, 2011; Tebes, et al., 2011), and likewise in the area of research (Kanna et al., 2006), the following research hypotheses were proposed:

Hypothesis 1: Based on previous literature suggesting that questions that allow for interpretation ambiguity would likely yield inflated self-ratings, I predicted that

higher criterion specificity would lead to more modest self-assessments. I expected this result to manifest through the following two ways:

a) On measures of both research and supervision competence, participants who receive the high-specificity version will exhibit a lower assessment score compared to those who received the low-specificity version.

b) Consistent with research on the "better-than-average" effect, I hypothesized that students' ratings on the rather globally defined supervision self-efficacy items on the Supervisory Self-Efficacy Scales (SSES; i.e. supervisory roles: teacher's role, counsellor's role, and consultant's role) would be higher than their scores on the more precisely defined SASS-C items in the high-specificity version.

Hypothesis 2: Students who have received more training are expected to report higher levels of competence on overall measures of clinical supervision and research competence than those who have received less training. The association between amount of training and self-assessed competence was expected to be larger in the high-specificity condition.

Research Design

This quantitative study was a true experiment. Graduate students in accredited clinical psychology training programs across Canada and the U.S. were invited to complete the survey and were randomly assigned to receive one of two versions. The study compared the self-assessed ratings between the low-specificity and the high-specificity versions of the survey. To ensure equal distribution of the versions, and to

avoid potential selection bias, the survey was programmed such that the software randomly chose one of the two versions when accessed.

Methods

Participants

One hundred and twenty clinical psychology students that are currently enrolled in a graduate program accredited either by CPA and/or APA at an academic institute in Canada (n = 52) or the United States (n = 67; one participant's country was unknown) participated in the study. The average age of all participants was 28.12 years, and 88.3% (n = 106) were female. Forty-one participants provided a response to all SASR-C and SASS-C items in the survey, and 73 individuals gave a response to 80% or more of the competency items.

Survey (see Appendix A)

Demographic Questions. Students were asked to indicate their age, sex, level of English comprehension, year of graduate training, type of program (Masters, Ph.D., or Psy.D.), completion of internship, and theoretical orientation of the program (i.e., cognitive-behavioural, humanistic, psychodynamic, etc.).

Research-Related Questions. Students were asked to indicate whether they have completed graduate level statistic courses, research design courses, and a master's and/or Ph.D. thesis. Students were also asked to indicate the number of quantitative research studies they have published or presented. A single research training score was calculated by summing the number of positive responses given to the completion of graduate level statistics courses, research design courses, and a master's thesis and/or Ph.D. thesis.

Supervision-Related Questions. Students were also asked to indicate the number of practica completed, amount and types of supervision training, supervision experience, and their perceived preparedness for supervision. If any of the supervision training options were selected, the respondent was questioned about whether the course was required for the degree. If the student had taken a course on supervision, the student was questioned about the teaching method(s) adopted for the course – whether the course employed one or multiple of the following: didactic (i.e., lectures, readings and discussions), simulated experience (i.e., role-playing, rehearsal of supervision), and in vivo supervision practice (supervised supervision). These students were also asked the number of hours of instructor contact and whether their course instructor provided feedback for their simulated experience and in vivo supervision practice. If the student had indicated that he/she had supervision experience, the student was then questioned about the supervision setting, and the number of hours of supervision in their supervisory role. A single supervision training score was created by summing the number of positive responses given to the various required and optional supervision training methods listed in the survey (see Appendix A, items 16 and 17). This single supervision training score reflects the total number of types of supervision training.

Supervision Self-efficacy Scales (Johnson & Stewart, 2008). The SSES is a nine-item scale that asks participants to self-assess on three supervisory roles (three items each): the teacher, the counsellor, and the consultant. For each role, participants are asked to rate their level of skill, degree of comfort, and degree of confidence on a five-point scale from 1 = *low* to 5 = *high*. The original study demonstrated excellent internal consistency among each efficacy scale, ranging from $.90 \leq \alpha \leq .94$. There were moderate

positive intercorrelations within the three efficacy scales. Although the SSES has not been validated within the student population, it has been included in the current study for the following reasons: 1) These measures have been demonstrated to have adequate convergent and divergent validity with the SASS-C, and 2) The SSES is another set of questions that tackles the abilities of supervision with rather ambiguous descriptions that can be used for comparative purposes with the high-specificity version of the SASS-C (Wang, Johnson, & Stewart, 2011).

Self-Assessment Survey of Research Competencies. Based on accreditation bodies' guidelines (APA, 2009; CPA, 2011) as well as suggested research procedures (Creswell, 2009), an original 11-item Self-Assessment Survey for Research Competencies (SASR-C) questionnaire was devised to evaluate students' perceived competence in conducting research. The SASR-C was constructed by breaking down the sequence of conducting a complete research project into a discrete series of tasks from generating a researchable question to writing and communicating findings. Each element in this questionnaire represents a crucial component of research. To keep the language similar to the SASS-C, each of these research tasks were referred to as a research domain. However, these research competencies questions do not have the three subdomain questions like the SASS-C items. Two versions of the questionnaires were created: the high-specificity version, where a set of specific criteria – the *standard* – is included; and a low-specificity version, where the *standard* is not implemented. For example, the first domain – Research question, the high-specificity version, would state: "I can readily come up with a good researchable question," and the *standard*: "A good researchable question entails an idea that adds to the pool of knowledge available" would follow suit

before the rating scale. In the low specificity version, the rating scale alone followed the statement "I can readily come up with a good researchable question" (i.e., no standard was presented). Participants were asked to rate their levels of agreement on the same 100-point agree-disagree scale implemented for the SASS-C (see below) on each of the 11 research competency domains in the SASR-C in comparison to the standard (see Appendix A).

Self-Assessment Survey of Supervisory Competencies (Wang, Johnson, & Stewart, 2011). The SASS-C is a 51-item, multi-dimensional measure of perceived supervisory competencies. The authors developed the SASS-C in accordance with Falender and Shafranske's (2007) conceptualization of the three main components of competency: knowledge, skills, and values. The standard version of the SASS-C does not presume prior knowledge about supervision and therefore allows individuals with widely varying levels of knowledge and experience of clinical supervision to assess their current competence. The scale includes 17 domains of clinical supervision drawn from consensus statements regarding supervision competencies (Borders, 2010; Falender et al., 2004; Rings, Genuchi, Hall, Angelo, & Cornish, 2009). Similar to the high-specificity version of the SASR-C survey, in order to provide an objective criterion of competence, each competency domain included a *standard* – a clear, general description of what competence in the domain involves. Three statements that operationalize the standard for the components of knowledge, skill, and commitment supplement the standard. This level of specificity may help minimize self-serving biases as well as the influence of lack of knowledge of the domain (Dunning, Heath, & Suls, 2004; van de Mortel, 2008). In contrast, the *standard* of competent practice was absent for the low-specificity version.

Participants were asked to rate their levels of agreement on whether their *knowledge* of, *skills* in, and *commitment* to, supervision are at the level of the standard. For example, the first domain of clinical supervision – Roles of clinical supervisors; the high-specificity version states the *standard*: Supervision requires flexibility on the part of the supervisor, who must be able to occupy a number of distinct roles in supervision, commonly including those of teacher, counsellor, and consultant, before stating the knowledge, skill, and commitment items. In the low-specificity version, the survey proceeds to the knowledge, skill, and commitment items without stating the *standard*.

For each of the items, participants were asked to rate their level of agreement on a 100-point scale, where 0 = *completely disagree*, 25 = *moderately disagree*, 50 = *neither agree nor disagree*, 75 = *moderately agree*, and 100 = *completely agree*. For example, under the domain of *Models of Supervision*, participants chose from one of the above options for knowledge: "*I can readily describe and explain various models of supervision;*" skill: "*I can effectively use various models of supervision to guide my supervision practice;*" and commitment: "*I routinely monitor the appropriateness of my model of supervision to help me provide effective supervision.*" As this example illustrates, the standards indicate what is expected of competent supervision practice. This level of practice need not imply superior or expert level of supervision, but rather denote what constitutes an adequate level of practice. Therefore, a self-rating of 100 does not indicate "perfect" or "expert" supervision, but rather fully competent supervision, which may be well short of "expert".

Finally, I have modified the survey based on feedback I received from the clinical supervisors who participated in my first study. Although Group Supervision is defined as

a specific domain of competence in clinical supervision, a common theme that emerged from the supervisors' feedback was that they did not conduct group supervision and these supervisors felt that it was unfair to include their lower competency rating in their total scores. I decided to keep the domain Group Supervision since it is still a unique area of supervision, but have added the question "*Do you use group supervision?*" For those who answer "*No*", their scores on this item were not included in their totals; however, they were asked to give their ratings based on how competent they believe they will be in this domain if they were to conduct it. Although, because the issue pertaining to Group Supervision may be less important for students, as they likely have not had enough experience with supervision to know if they will regularly use group supervision yet or not, I decided to give students the option (see Appendix A).

Procedure

Participants were recruited by one of the following two means. First, a single-stage sampling procedure was employed to gain contact with directors of clinical training or psychology department heads, or their administrative assistant. A list of accredited (either by CPA and/or APA) Canadian and American psychology graduate program websites was obtained from the official public websites of the CPA and the APA. From these, the director of clinical training or the department head of psychology or their administrative assistant, was identified and their email addresses were obtained. An invitation email with the survey link was sent to these individuals, asking them to forward the invitation to clinical graduate students registered in their program (see Appendix B). Second, I posted a recruitment advertisement along with the survey link on research forums such as the Canadian Psychological Association's Recruit Research

Participants Portal and Psychological Research on the Net (see Appendix C). The recruitment script stated that the study intends to evaluate graduate students' level of research and clinical supervision competence, provided guidelines for eligibility of participation, and gave the approximate time for survey completion. To enhance response rate, I sent a round of reminder emails to those whom I contacted via the first method two weeks after the initial invitation email.

Once the participant entered the survey, the welcome page was immediately followed by a declaration of informed consent. During the informed consent, all participants were assured of their confidentiality, provided with a brief explanation of procedures through Qualtrics on the protection of collection and storage of data, and informed that they were free to withdraw from the survey at any point. If the participant did not give consent to proceed with the survey, he/she was exited from the survey and thanked for his/her interest. If consent was given, the participant proceeded to the subsequent questions in the survey. Following the consent form, the survey questions proceeded in the same sequence as was introduced in the measures section, beginning with general demographic questions, and ending with the SASR-C and SASS-C measure. The version of the survey was not selected until after the completion of the SSES items. Originally, I planned to test more hypotheses regarding the relationship between training and perceived competence; since I felt that, given that the high-specificity version would likely yield more accurate results, it was most appropriate to test those hypotheses within the high-specificity version of the survey. Therefore, based on the power analysis, I programmed the software to randomly draw at a five-to-one ratio for the high-specificity and low-specificity versions of the survey, respectively. However, recruitment of

participants presented some challenges, and I was forced to drop those hypotheses. At this point I put the data collection of the high-specificity version on pause and collected data with the low-specificity version until the two versions of the survey had an equal number of participants. Then, I programmed the software to randomly draw either version of the survey with an equal chance. Eight people withdrew from the study before continuing onto the competency questions, and therefore, I could not determine the version they received. Of those participants that did provide at least one answer to a competency question, I determined that approximately 54.5% of these participants were given the low-specificity version and 45.5% of the participants received the high-specificity version. Participants who received the low-specificity version for the SASR-C also received the low-specificity version of the SASS-C, while the rest received the high-specificity version of the two questionnaires. All questions in the survey were soft required, meaning that if the participant did not provide a response to any of the questions, the survey prompted the participant for an answer but did not require one.

For those who wished to receive a copy of the overall findings of the study, a space was provided for them to leave their email address. Lastly, participants were thanked for taking the survey.

Data Preparation

All questionnaire responses were downloaded into SPSS from Qualtrics after the termination of the data collection. First, variables that were not useful (e.g., the date and location of when and where the survey was completed) were excluded and deleted. I then created a new variable called “condition” in order to pool the two versions of the survey together. To deal with missing data and missing cases, surveys were categorized into

three categories based on the number of competency items completed: 1) less than 50%; 2) 50% to 80%; and 3) 80% to 100%. A correlation was conducted between the degree of completion and amount of training to determine which people were more likely to drop out of the survey. Three variables were chosen to examine this: 1) number of years in graduate training; 2) number of types of research training, which was computed by summing the number of positive responses to the number of statistics courses taken, the number of research design courses taken, completion of a Master's thesis, and completion of a Ph.D. thesis; and 3) number of types of supervision training, which was a sum of positive responses to Questions 16 and 17 in the survey (see Appendix A). Participants' surveys were regarded as partially complete if the participant completed 80% of the competency items. Since only mean scores were used for analyses, no imputations were conducted for those who partially completed the survey. The mean scores for participants who only partially completed the survey were computed based on the number of responses those students provided to the competency items. Participants who fully completed the survey were compared with those that partially completed the survey on demographic characteristics. There were a total of 120 participants that attempted the survey. Out of the total sample size of 120, eight people dropped out of the study before reaching the competency questions. For the 112 participants that provided a response to at least one of the competency items, 61 (50.8%) individuals received the low-specificity version. Degree of completion was examined based on the number of answers provided to the 62 competency items. Twenty-seven individuals completed less than half of the survey, 20 people completed more than 50% but less than 80% of the survey, and 73 people provided a response to 80% or more of all competency items. Degree of survey

completion and training were positively correlated for all three training variables: 1) number of years in graduate training ($r = .325$, $p < .001$); 2) number of types of research training ($r = 0.157$, $p = .087$); and 3) number of types of supervision training ($r = 0.344$, $p < .001$). These results indicate that participants with more training were more likely to complete the survey.

To examine the robustness of the findings across the two groups of cases, the planned analyses were conducted twice: 1) for fully completed surveys only and 2) for partially and fully completed surveys. For ease of explanation and labeling, in this report I refer to questionnaires that were fully completed as "full," and questionnaires that were at least 80% complete as "partial" – unless specified, this also included people who fully completed the survey. Before conducting the hypothesis testing, first, descriptive statistics were examined and organized in a table for all study measures, including means and standard deviations. This was also done separately for participants who fully completed the survey and those who partially completed the survey. Questionnaires of those respondents that failed to complete 80% of the survey were eliminated from examination for the proposed hypotheses. Participants who had occasional missing data in the demographics or supervision training and experience section were kept for analyses. If the missing data was key to a specific analysis, then that particular individual's questionnaire was excluded for that particular analysis only. Thus, the sample size varied across the different analyses that were implemented for the study.

Results

Table 1 displays the demographic characteristics of participants who fully completed the survey (n = 41) and those who completed more than 80% of the survey but did not fully complete the survey (n = 32).

Table 1

Descriptives of Sample

	Full (n = 41)	Partial (n = 32)
% Female	36 (87.8)	29 (90.6)
	M (*SD*)	*M* (*SD*)
Age	29.12 (4.59)	28.00 (5.03)
Number of types of research training	4.95 (2.40)	4.34 (2.04)
Number of types of supervision training	4.02 (2.93)	1.90 (1.75)
Score for all Competency items	72.19 (11.32)	62.44 (11.62)
Score for SASR-C items	83.26 (9.92)	77.48 (13.43)
Score for SASS-C items	69.80 (12.57)	58.80 (13.50)
Score for all Knowledge items	71.16 (13.15)	60.00 (16.31)
Score for all Skill items	68.62 (12.71)	56.93 (13.67)
Score for all Commitment items	69.62 (13.33)	59.14 (14.00)

Consistent with the trend that students who had more experience and training were more likely to complete the survey, the participants who fully completed the survey were older, and the average scores obtained from the fully completed surveys were higher. Overall, participants across the two examined degrees of survey completion had similar amounts of training in research; although a greater difference was found for amount of supervision training. The differences in average scores between the fully completed surveys and the partially completed surveys were also more prominent for the supervision competencies compared to research.

Hypothesis 1a)

To test whether students who received the high-specificity version had scores that were significantly more modest than students who received the low-specificity version, and thus yielding a more accurate self-rating, the means between the two groups of participants were compared. The average score of the students in the two groups was calculated for the SASR-C, the SASS-C, as well as each of the SASS-C components, and *t*-tests were used to determine whether there were significant differences between the two groups. Table 2 provides the mean scores obtained from each version separately as well as the *t*-values. Owing to the observed differences between survey completers and survey near-completers (see Table 1) the analysis was conducted for participants who gave a response to all competency items and again for participants who provided a response to 80% or more of the competency items. Generally, the average scores in the high-specificity version were lower than those in the low-specificity version with the exception of Average score for all Knowledge items in the partially complete sample and all Skill items in the fully complete sample, where the mean score was minutely higher in the low-

specificity version. The results demonstrated that the average scores among participants who received the low-specificity version were not significantly lower than the average scores among participants who received the low-specificity version. The results did not support my hypothesis.

Table 2

Comparison of Mean Scores between Participants in the High-Specificity Version and the Low-Specificity Version

	Full			Partial		
	M		*t*	*M*		*t*
Version	High (n = 19)	Low (n =18)		High (n = 29)	Low (n = 37)	
Competency items score	72.33	73.34	-0.27	67.77	68.45	0.21
SASR-C items score	82.18	84.97	-0.83	79.93	80.65	-0.24
SASS-C items score	70.20	70.83	-0.15	65.03	65.60	-0.16
Knowledge items score	71.21	71.90	-0.15	66.55	66.37	0.05
Skill items score	69.74	69.12	0.15	63.67	64.03	-0.10
Commitment items score	69.66	71.49	0.42	64.59	66.31	-0.47

Hypothesis 1b)

To test whether students' ratings on the more globally defined supervision self-efficacy items were indeed higher than their scores on the more precisely defined SASS-C items, the proportion of participants who scored at ceiling for the self-efficacy items were evaluated against the proportion of participants who scored at ceiling for the SASS-C items. A chi-square test was conducted to test the significance of the difference between these proportions. The study conducted by Johnson and Stewart (2008) showed that a handful of participants received the highest possible rating on the self-efficacy items among clinicians, and I reasoned that it is likely that students may be less confident than clinicians to rate themselves with a full score on all efficacy or all competency items. Therefore, participants who received scores between 90% and 100% were categorized into the "ceiling" group. Among participants who fully completed the survey, eight (19.5%) participants scored between 90% and 100% on the SASS-C, and four (9.8%) participants scored in the "ceiling" group on the SSES. The chi-square test suggests that the proportion of participants that scored in the "ceiling" group on the SASS-C was significantly higher than that on the SSES, $\chi^2(1, N = 41) = 8.690, p = .003$. As for when the test was conducted among respondents who at least partially completed the survey, 10 (13.7%) individuals scored between 90% and 100% on the SASS-C, and six (8.2%) respondents scored within the aforementioned range. A similar effect was obtained such that the proportion of participants that scored above 90% of the possible maximum score on the SASS-C was significantly higher than on the SSES, $\chi^2(1, N = 73) = 26.814, p < .001$. These effects are in the opposite direction from what was predicted in the hypothesis. The results did not support my hypothesis.

Hypothesis 2

It was hypothesized that the association between the amount of training and self-assessed competence would be larger in the high-specificity condition. This hypothesis was tested separately for research and supervision. The sum of the number of different types of training was used to represent each participant's amount of training in either research or supervision. The amount of training was then correlated with the corresponding total score for either research or supervision within each survey condition (i.e., high- and low-specificity). The correlation coefficient obtained between the amount of research training and the total score for SASR-C from each condition was then compared using a *z*-test, and a similar procedure was used for supervision.

Table 3

Association between Training and Perceived Competence Compared Across Two Versions of the Survey.

	Full			Partial		
	Survey version		*z*	Survey version		*z*
	High *r*	Low *r*		High *r*	Low *r*	
Research	.77 ***	.35	1.79	.62 ***	.13	2.27 *
Supervision	.61 **	-.074	2.18 *	.63 ***	.24	1.90

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3 illustrates the correlation between the amount of research or supervision training and self-assessed competency. As shown in the table, an increased amount of training was positively correlated with level of perceived competence, and this effect was much stronger in the high-specificity version across all conditions. Training and competence were not significantly correlated in the low-specificity version. Although not all *z*-values were significant, the insignificant *z*-values for research training and level of research competence among the fully completed surveys, and for supervision training and level of supervision competence among partially completed surveys approached significance at $p = .074$ and $p = .057$ respectively. The hypothesis was partially supported since not all conditions met statistical significance.

Discussion

Two of the proposed hypotheses were partially supported – Hypothesis 1a) and 2 – by the finding that the amount of training more strongly correlated with self-assessed competence in the high-specificity condition compared to the low-specificity condition. Results provided evidence among students who fully completed the survey in the area of supervision that having had more supervision training was positively related to higher perceived competence. Although the presence of the *standard* did not affect the overall means of participants' scores as was tested in Hypothesis 1a), the results obtained from Hypothesis 2 showed that the participants' perceived competence closely aligned with the amount of training received (which could be considered a proxy marker of their actual competency). Hence, the implementation of the *standard* may have at least marginally improved the accuracy of self-assessment. However, the effect discovered did not persist when students who partially completed the survey were included. A similar effect was

found in the area of research, in that the correlation between the amount of research training and perceived research competence in the high-specificity condition was significantly stronger than in the low-specificity condition among students who partially completed the survey; however, the relationship was not significantly stronger among students who fully completed the survey.

Hypotheses 1a) and 1b) were not directly supported by the results obtained from the hypothesis testing. I found that participants who received the high-specificity version did not have lowered competency scores on research or supervision. Even though, for most measured scores, students' perceived competencies were lower among those who received the high-specificity version, the differences were not statistically significant. Despite the non-significant results, my hypothesis predicted the effect in the correct direction, which provides some evidence for the use of a *standard*. I also failed to find the students' ratings on the rather globally defined supervision self-efficacy items to be higher than their scores on the more precisely defined SASS-C items. The results found that there were larger proportions of students who scored in the "ceiling" range on the SASS-C compared to that of SSES. Not only were the results non-significant, the trend is counter to my prediction. However, although these results failed to reach significance, as mentioned previously, the results obtained from Hypothesis 2 may be extended to offer some evidence for the use of the *standard*.

Much literature suggests that training is an important factor that greatly affects the accuracy of self-assessment. My study has underscored the importance of training and its relationship to the accuracy of self-assessment. Previous literature suggests that individuals with more training tend to have more and better metacognitive abilities than

less trained individuals (Kruger & Dunning, 1999). Together, these suggest that training is not only beneficial in developing expertise in a particular area, but can also promote stronger ability to self-assess. I can suspect that individuals who are able to more accurately recognize areas of weakness are more motivated to improve and pursue further training. It was also interesting to observe a higher survey dropout rate among students with less training. My results may be biased given that my analyses were conducted only among people who have at least partially completed the survey. That is to say, my sample may be over-represented by those with more training. Therefore, I can infer that the effect found pertaining to training and self-assessment may have been underestimated in the current study. Although the majority of research to date is concerned with overestimation, underestimation may also occur in the population with advanced training. The analyses and results from this study are insufficient to gauge whether students overestimated or underestimated their research and supervision competence.

Countering the current literature, the effect of reduced ambiguity failed to produce more conservative ratings on the competency items. This prediction was made based on the previous literature (Ackerman, Beier, & Bowen, 2002; Dunning, Heath, Suls, 2004; Sloman, Fernbach, & Hagmayer, 2010) suggesting that lesser ambiguity, or higher specificity restricts room for idiosyncratic interpretation, and the participants would therefore provide more accurate self-measures. This inconsistency between my findings and previous literature regarding item ambiguity does not mean that item ambiguity does not affect self-assessment accuracy. My findings may have occurred for several reasons. First, item specificity alone is not responsible for the entirety of self-assessment inaccuracy; other factors such as familiarity with knowledge breadth (Ackerman, Beier,

& Bowen, 2002) and cognitive optimism (Kruger & Dunning, 2002) may all contaminate the accuracy of assessment results. Second, the non-significant difference between average scores of the high-specificity version of the survey compared to the low-specificity version may be due to the inability to self-compare. I suspect that if participants were not pre-assigned to one of the two conditions of the survey but were enrolled in both conditions, through a within-subjects design, my hypothesized effect may be more successfully shown. That is, if I asked students to provide a rating of their competence while presenting the low-specificity items and then ask students to rate their level of competence after showing them the *standard*, the participants may then more accurately gauge their competence and lower their rating after reading the *standard*. Lastly, my hypothesis was not supported possibly due to uncontrollable reasons with my data (please refer to the Limitations section below).

With regards to what was hypothesized for hypothesis 1b), the effect of item ambiguity was not shown between SSES and the high-specificity version of SASS-C. This may have resulted because the SSES and the SASS-C measured different constructs. The SSES is an instrument that measures self-efficacy. According to Bandura (2001) self-efficacy is the best confidence measure, which is a measure of one's ability to execute a particular task. The SASS-C was intended to measure perceived competence, which is a measure of the ability of an individual to perform an activity. The difference is that efficacy measures confidence in ability, whereas competence measures actual ability. Therefore, the comparison between the two measures may have been biased. Kruger and Dunning (1999) suggested that actual competence trumps self-confidence, where higher competence is associated with lowered self-efficacy and vice versa: "the miscalibration

of the incompetent stems from an error about the self, whereas the miscalibration of the highly competent stems from an error about others" (p. 1127). In the business literature, some suggest that people who are less confident are more successful (DePaulo & Pfeifer, 2006; McClelland, 2011). Given that the sample employed for this study consisted of graduate students with high levels of training, who are considered people with some success compared to the average person, my results may have therefore suffered as a result of the above-mentioned effect. But it is also important to recognize that my participants are less trained compared to practicing psychologists. Given that the SSES has very strong psychometric properties, with adequate construct validity, the hypothetical nature of its questions, wherein students were forced to adopt a mature psychologist role, may have reduced their level of confidence, hence yielding a lowered confidence rating.

I also observed lower scores among supervision competence items compared to research competence items. Although this was not part of my hypothesis, it nonetheless showed an interesting trend. Students' tendency to provide lower ratings on supervision items may speak further to the importance of experience and training. Clinical supervision is an area that is specific to graduate students enrolled in clinical psychology programs. Research, however, is not exclusive to graduate students, nor is it limited to clinical psychology students. Furthermore, the area of research has been recognized as an important competency area for longer than clinical supervision, and curricula have established ways to develop research competence for their students. Given such, participants should have had more experience with research compared to clinical supervision and hence should feel more competent conducting research than providing

clinical supervision. This explains the slightly higher competency scores in the area of research compared to clinical supervision and speaks strongly for the need to provide more supervision training for clinical graduate students.

The present study examined a very narrow population. Previous literature on self-assessment was mainly conducted involving the general population or university students. Psychology graduate students may be well acquainted with the literature on self-assessment and may recognize the possibility of inaccurate self-appraisal. According to the clinical psychology curriculum required by both CPA and APA, it is obligatory for graduate students in clinical psychology to receive training in clinical assessment, and some assessment tools are in the self-report form. I can perhaps assume that clinical psychology graduate students are well versed with the limits to self-assessment. Hence, graduate students in clinical psychology may be less vulnerable to the common biases posed by self-assessment compared to the general population. Therefore, the participants in this study may have been mindful of the known limits of self-assessment and were more cautious while completing the survey. The selected population may have minimized the effect of item ambiguity. This possible problem concerning the selected population may be worth further investigation. On a related note, some studies support a positive relationship between self-assessment accuracy and number of attempts to accurately self-assess (Edwards, 2007; Ross 2006). Those studies noted that the more times an individual self-assessed on a particular construct, the more accurate his/her assessment became. Furthermore, Fitzgerald, Gruppen, and White (2000) also noted that self-assessment is a metacognitive skill that can be trained and that this training is independent from the domains being trained in. These results suggest that any training in self-assessment may

be beneficial in achieving more accurate measures. I infer that there may be a synergistic effect regarding self-assessment accuracy if one can be trained to objectively utilize self-rating scales as well as receive more training in the domain of interest. Clinical psychology graduate students frequently encounter self-report instruments and often need to critically evaluate the outcomes. Frequent contact with self-assessment may also be an important form of metacognitive training and therefore could have minimized the effect of item ambiguity.

Self-rating is beneficial in motivating for improvement regardless of the accuracy of the assessment. Although efforts can be put forward in minimizing the effects of self-inflating biases, these biases may never be completely eliminated. However, individuals should periodically self-assess to monitor for change in perceived competence despite the potential biases accompanied with self-assessment instruments. Individuals may find it helpful to self-assess before, in the interim, and at the end of training. The *standards* were constructed in such a way that it uses specific behaviourally-measurable criteria, which should reduce the amount of self-constructed definition. The criteria proposed in the assessment tools may act as goals to be achieved by trainees – these criteria may guide trainees to pay extra attention and develop specific skills while receiving training. Interim training assessment may help trainees to boost confidence since, presumably by this time trainees would have acquired some knowledge and skill in the training domain. Finally, assessment at the end of training may help trainees to reflect on the learned knowledge and skills to note any possible weaknesses that call for further training. Even if trainees overestimated their level of competence at the beginning of training, the interim self-assessment may point to their naiveté and allow them to acknowledge their ignorance of

the realm of knowledge. Ongoing periodic monitoring post-training may also be beneficial, in that practicing clinicians and researchers would be constantly reminded of the standard of practice. Therefore, regardless of whether the current study reached accurate assessment scores, the measures used in this study should still be considered an appropriate instrument for assessing training and competence in the areas of research and clinical supervision. Comparison with the self is more important than accurate assessment results if self-evaluation can be frequently conducted, indicating the importance of periodic self-assessment. Andrade and Du (2007) showed that students who are experienced with self-assessment report higher quality of learning, work, course grades, and motivation. Andrade and Du's study also suggested that self-assessment may have benefits over and beyond peer- and expert-assessment. When the self conducts the assessment, the expectation is idiosyncratic and is more tailored to the need and interest of the self. When others conduct the assessment, there may be incongruence between expectation from the self and expectation from the other, and the individual being assessed often struggles to effectively appropriate the expectation to suitably apply it to him/herself. Of course, when opportunity allows, shared expectation co-developed between self and other is most beneficial (Tan, 2004). Finally, once an individual is able to self-recognize existing weaknesses, he/she is more likely to proactively pursue further training. In the literature on clinical supervision, for example, Proctor (1996) indicated that supervision is best practiced if the supervisee is able to use and seek supervision proactively.

Limitations

The primary limitation to the current study was the sample size. In order to detect a medium effect size, an a-priori power analysis revealed that a minimum of 62 participants in each condition had to be met. Unfortunately, I was unable to reach this goal, so power suffered as a result. Perhaps response rates are dependent upon the topic surveyed as well as the method of the survey. In the domain of clinical supervision, previous literature indicated that the response rates among clinical psychology student participants were as low as 30% (McMinn, Tabor, Trihub, Taylor, & Dominguez, 2009). When research was the focus of survey, graduate students' response rate was close to 60% (Perl & Kahn, 1983). Furthermore, the great number of online survey requests may have buried my study request, hence reducing the response rate of the current study. While a larger sample size would have been ideal, clinical graduate students are under a great deal of training demands and this may have trumped their desire to participate in this research. Another important limitation pertaining to the sample is that the participants were limited to clinical psychology graduate students. The effects obtained from this study may greatly restrict generalizability to other samples. However, the intention of this study is to improve the accuracy of self-assessment among clinical psychology students, and, especially in the domains of clinical supervision and research, so this sample was most appropriate. Last but not least, because students' supervision experience is a pre-existing individual difference variable, it was not possible to randomly assign levels of supervision training. Random sampling, therefore, could not be achieved because no direct invitations to individual students could be made. All invitations were forwarded to students either through the department head or the director of clinical training, resulting in a convenience sample of those who responded.

Another limitation may have occurred regarding the scale used. Only five selections were possible and verbal feedback received from local students suggested that they often felt "in-between" the rating points. Perhaps the current scale could be used as a rating guide, while providing students the possibility of entering their self-rating of any number between "0" and "100."

The analyses and conclusion of this study were conducted and drawn based on the assumption that all surveys were carefully completed. However, a thorough quality control evaluation was not conducted. From a quick glance at the participants' amount of time taken to complete the surveys, the time ranged anywhere between eight minutes to over a day. I was unable to calculate a mean for the time taken for students to complete the survey as some participants answered part of the survey and completed the rest of the survey the next day. The pilot study of the survey indicated that one is able to thoroughly read the items and complete the survey in approximately 20 to a maximum 30 minutes if one were to receive the high-specificity version. It is much more understandable for participants to take longer than the suggested time, as this may be foreign knowledge that requires more thinking in providing an answer. However, one should wonder about those surveys that were completed within a short period of time.

The final limitation concerns the length of the survey. Although a relationship between the amount of training and perceived competence was detected, I cannot conclusively state that the length of the survey did not at all deter participants from fully completing the survey.

Conclusion

The present study, although failing to find the effect pertaining to item ambiguity, provides preliminary support that high-specificity items were able to demonstrate a strong relationship between the amount of training and perceived competence. The study also showed that participants with more training were able to persist in completing the survey, which demonstrates more dedication and curiosity in the surveyed domains of practice. Finally, even though item-ambiguity did not produce a significant difference in perceived competence among graduate students in clinical psychology, the high-specificity items provided a behavioural benchmark for the standard of practice. The extent of the benefit and the degree of influence of high-specificity items in self-assessment is unknown and is worthy of further investigation.

Implications

Self-assessment is a commonly used method of evaluation, and results obtained from this study have important implications for improving students' education. The moderately strong association found between training and perceived competence in the high-specificity versions of the survey speaks for the importance of training. Furthermore, I can infer from the association found between training and survey completion that more exposure to knowledge about certain domains increases curiosity and commitment. Hence, exposure to a broad array as well as breadth of knowledge may cultivate interest in students to further pursue their professional development. Education systems should try to provide more opportunities and means of knowledge delivery to students in order to boost students' interest. Furthermore, when more knowledge is acquired, people were more able to gauge more accurately their level of competence and acknowledge their weaknesses.

Although I did not consistently find an effect regarding item ambiguity, the abundance of self-assessment research suggests that more descriptive items tend to yield results that better indicate actual competence; therefore, instrument developers should consider incorporating a standard of practice into their assessment measures. Although in the current study, I am uncertain whether the incorporation of the standard served the purpose of producing more accurate assessment scores, the standard nonetheless provides an important behavioural guide for students to guard against inadequate practice. Given that self-comparison on perceived competence is sufficient for students to realize their weakness and note improvements, periodic self-assessment is therefore extremely important.

From my experience as a graduate student, relevant systematic self-assessment measures are not always readily available to students. Training institutions may wish to consider developing self-assessment instruments on relevant training domains for students to periodically self-assess their levels of competence. The implementation of the recommended self-assessment instruments could potentially improve the quality of training and skill development in contexts not only limited to research and clinical supervision.

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Appendices

Appendix A

Self-Assessment Survey of Research and Supervisory Competencies for Students

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Welcome

Welcome to the Research and Supervision survey!
This survey will take less than 30 to complete.
Note that in this survey the term "supervision" refers only to *clinical* supervision (not research supervision).
Thank you for your assistance, we greatly appreciate it!

Consent Form

DECLARATION OF INFORMED CONSENT

UNIVERSITY OF MANITOBA

Research Study Title: Self-Assessment Survey of Research and Supervisory Competencies for Students
Principal Investigators: Ms. Yunqiao Wang, wang8@cc.umanitoba.ca
Advisor: Dr. Ed Johnson, Associate Professor of Psychology, Ed_johnson@umanitoba.ca/204-474-9006

Research Study Title: Self-Assessment Survey of Research and Supervisory Competencies for Students
Principal Investigators: Ms. Yunqiao Wang, wang8@cc.umanitoba.ca
Advisor: Dr. Ed Johnson, Associate Professor of Psychology, Ed_johnson@umanitoba.ca/204-474-9006

This consent form, which you can print using the print function on your browser for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This on-line study, “Self-Assessment Survey of Research and Supervisory Competencies for Students,” is designed to permit individuals with widely varying levels of knowledge

and experience of clinical supervision and research to assess their current competence levels in 17 domains of clinical supervision and 11 domains of research. Personnel who are graduate students in an academic clinical psychology program in Canada and the United States will be recruited to complete this "Self-Assessment Survey of Research and Supervisory Competencies for Students." There is also a small number of questions that ask about the usefulness and value of the survey, along with a survey of demographic variables related to gender, language, licensure and practice information, education and experience in providing supervision, and a short instrument looking at supervisory self-efficacy. The entire survey should take approximately 45 to 60 minutes.

Participants' names will not be located on or near their responses on the questionnaire. If participants wish to receive a copy of the aggregated results, they may provide an email or mailing address. This information is downloaded into a data file that is always kept separate from the data file. Only aggregate data will be used at conferences and to submit the findings for publication in a peer-reviewed publication. Individual data, along with any individual identifiable information will be destroyed when the study is complete (anticipated June 2013). The anonymous data set would be kept indefinitely. A summary of the results will be sent to interested participants by September 2013.

There are no risks to completing this survey that would be greater than what you might experience in your everyday conduct. A possible benefit of participation is that you will learn about the different forms of supervision and research competencies during the course of the survey.

By clicking "Yes, I consent" you indicate that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time (simply close the survey window, which terminates the connection and prevents your data from being sent).

If you have any questions regarding this research survey, please feel free to contact:

Yunqiao Wang: wang8@cc.umanitoba.ca or Dr. Ed Johnson: ed_johnson@umanitoba.ca/204-474-9006

This research has been approved by the Psychology/Sociology Research Ethics Board. If you have any concerns or complaints about this project, you may contact any of the above-named persons or the Human Ethics Secretariat at 204474-7122, or email margaret_bowman@umanitoba.ca.

If you would like a printed copy of this page, please use the print option for your browser.

( ) Yes, I consent ( ) No, I do not consent

Confirmation

Are you sure you would like to exit the survey?

( ) Yes, please exit the survey

( ) No, I would like to consent to my participation, please return me to the consent page

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Age

1) Please indicate your age in years.

_____

Gender

2) What is your gender?*

( ) Male ( ) Female

Written English comprehension

3) Is English your first language?*

( ) Yes ( ) No

4) If English is not your first language, please rate how strong your understanding of written English is:

( ) Very weak ( ) Somewhat weak ( ) Adequate

( ) Fairly good ( ) Very good

Year of Graduate Training

5) Indicate the year of your graduate training.*

( ) MA 1 ( ) MA 2 ( ) PhD 1

( ) PhD 2 ( ) PhD 3 ( ) PhD 4

( ) PhD 5 ( ) PhD 6 ( ) PhD 7+

( ) Post Doc

Type of program

6) Please indicate the type of program you are currently enrolled in

( ) Master's only ( ) Master's and Ph.D. ( ) Ph.D.

( ) Psy.D.

Completion of internship

7) Have you completed your internship year?

( ) No ( ) Yes

Theoretical Orientation

8) Which of the following theoretical orientation would you most closely identify yourself with?

( ) Behavioural ( ) Biological

( ) Cognitive Behavioural ( ) Eclectic ( ) Humanistic/Existential

( ) Integrative ( ) Interpersonal ( ) Psychodynamic

( ) Systems ( ) Do Not Know ( ) Other

Research experience

9) How many gradaute level statistics courses have you taken?

( ) 0 ( ) 1 ( ) 2

( ) 3 ( ) 4 ( ) 5+

10) How many quantitative research design courses have you taken?

( ) 0 ( ) 1 ( ) 2

( ) 3 ( ) 4 ( ) 5+

11) Have you completed a quantitative Master's thesis?

( ) Yes ( ) No

12) Have you completed quantitative Ph.D. thesis?

( ) Yes ( ) No

13) Please indicate the number of quantitative studies you have presented or published as first author and how many as a co-author.

_____

Practica Experience

14) How many clinical practica experiences have you had (please count the current practica you are in)?*

( ) Zero ( ) One ( ) Two

( ) Three ( ) Four ( ) Five

( ) Six ( ) Seven ( ) Eight

( ) Nine ( ) Ten or more

Supervision Training

15) Have you received any *required* (needed for your degree) formal training (e.g., coursework, supervised supervision) in either the theory or practice of clinical supervision as part of your professional education and training?

( ) Yes ( ) No

16) If you did receive such required training, please indicate the form that this training took. Check all that apply.

[ ] Coursework in supervision without discussion with teacher/peers

[ ] Coursework in supervision with discussion with teacher/peers

[ ] In-service/colloquia without discussion with teacher/peers

[ ] In-service/colloquia with discussion with teacher/peers

[ ] Workshop on supervision with discussion opportunities

[ ] Workshop on supervision without discussion opportunities

[ ] Required readings with discussion with teacher/peers

[ ] Required readings without discussion with teacher/peers

[ ] Candidacy/comprehensive exams on clinical supervision

[ ] Supervised experience of providing supervision without observation based feedback

[ ] Supervised experience of providing supervision with observation based feedback

[ ] Other

17) Aside from any required training in supervision you may have received, please indicate any and all types of optional training in supervision you have sought out at any time:*

[ ] Coursework in supervision without discussion with teacher/peers

[ ] Coursework in supervision with discussion with teacher/peers

[ ] Supervision Practicum without observation based feedback

[ ] Supervision Practicum with observation based feedback

[ ] Workshop on supervision without discussion with teacher/peers

[ ] Workshop on supervision with discussion with teacher/peers

[ ] Conference Session without discussion opportunities

[ ] Conference Session with discussion opportunities

[ ] On-line Learning

[ ] Self-education activities associated with conducting research or teaching about supervision

[ ] Supervision of Supervision without observation based feedback

[ ] Supervision of Supervision with observation based feedback

[ ] Read instructional articles or books

[ ] Other

18) Considering the time and effort invested in all the methods employed, please indicate how much education or training in supervision you have obtained?

( ) None ( ) A little ( ) Some

( ) A fair amount ( ) A lot

19) During the time when you received supervision training. Please indicate the approximate number of hours per week of instructor contact you had.

_____

Supervision Experience

20) Have you ever conducted supervision*

( ) Yes ( ) No

21) Please select all the different types of settings in which you have ever conducted supervision (check all that apply).

[ ] Clinical Training Program
[ ] Counselling Training Program
[ ] Hospital Setting
[ ] Student Counselling Centre
[ ] Private Practice
[ ] Community Clinic
[ ] Correctional Facility
[ ] Research Centre
[ ] School
[ ] Armed Forces
[ ] Business/Industry
[ ] Social services agency
[ ] Government
[ ] Other

22) Please indicate the number of hours of supervision you have done in your supervisory role.

_____

23) Please think back to when you conducted supervision. How much did you try to emulate a previous supervisor?

( ) Not at all ( ) A little ( ) Somewhat
( ) A lot ( ) Completely

24) How much did you try to to develop a style of doing supervision that fits what you think works best?

( ) Not at all ( ) A little ( ) Somewhat
( ) A lot ( ) Completely

Preparation for Supervision

25) How would you rate how prepared you feel to conduct supervision?*

( ) Not at all prepared
( ) Slightly prepared
( ) Somewhat prepared
( ) Adequately prepared
( ) Well prepared

Supervision Self-efficacy Instructions

Even if you have never conducted supervision, please estimate how well you think you will do considering the following supervision roles.

Teaching Role

26) When it is necessary to adopt a teaching role in supervision (e.g., to introduce a new technique), please rate your *level of skill* when working in that role.*

( ) 1 Low
( ) 2
( ) 3 Moderate
( ) 4
( ) 5 High

27) When it is necessary to adopt a teaching role in supervision (e.g., to introduce a new technique), please rate your *degree of comfort* when working in that role.*

( ) 1 Low
( ) 2
( ) 3 Moderate
( ) 4
( ) 5 High

28) When it is necessary to adopt a teaching role in supervision (e.g., to introduce a new technique), please rate your *degree of confidence* when working in that role.*

( ) 1 Low
( ) 2
( ) 3 Moderate
( ) 4
( ) 5 High

Counsellor Role

29) When it is necessary to adopt a counsellor role in supervision (e.g., to help a supervisee work through a personal reaction to a client which is directly impacting on his or her ability to provide effective treatment), please rate your *level of skill* when working in that role.*

( ) 1 Low
( ) 2
( ) 3 Moderate

( ) 4 ( ) 5 High

30) When it is necessary to adopt a counsellor role in supervision (e.g., to help a supervisee work through a personal reaction to a client which is directly impacting on his or her ability to provide effective treatment), please rate your *degree of comfort* when working in that role.*

( ) 1 Low ( ) 2 ( ) 3 Moderate

( ) 4 ( ) 5 High

31) When it is necessary to adopt a counsellor role in supervision (e.g., to help a supervisee work through a personal reaction to a client which is directly impacting on his or her ability to provide effective treatment), please rate your *degree of confidence* when working in that role.*

( ) 1 Low ( ) 2 ( ) 3 Moderate

( ) 4 ( ) 5 High

Consultant Role

32)When it is necessary to adopt a consultant role in supervision (e.g., to facilitate problem-solving in an advanced trainee), please rate your *level of skill* when working in that role.*

( ) 1 Low ( ) 2 ( ) 3 Moderate

( ) 4 ( ) 5 High

33) When it is necessary to adopt a consultant role in supervision (e.g., to facilitate problem-solving in an advanced trainee), please rate your *degree of comfort* when working in that role.*

( ) 1 Low ( ) 2 ( ) 3 Moderate

( ) 4 ( ) 5 High

34) When it is necessary to adopt a consultant role in supervision (e.g., to facilitate problem-solving in an advanced trainee), please rate your *degree of confidence* when working in that role.*

( ) 1 Low ( ) 2 ( ) 3 Moderate

( ) 4 ( ) 5 High

Self-Assessment Survey for Research and Supervisory Competencies Scale Description and Instructions (The *standards* as well as texts in square brackets [] will only appear in the high-specificity version)

In the next several pages of the survey you will be completing the Self-Assessment Survey of Research and Supervisory Competencies. Please take a moment now to familiarize yourself with the purpose, structure, and procedures of the scale.

Description of the scale. The Self-Assessment Survey for Research and Supervisory Competencies was designed to permit individuals with widely varying levels of knowledge and experience of research and supervision to assess their current competency levels in 11 domains of research and 17 domains of supervision. [For each domain, a brief description is provided of the standard of practice expected for competent research or supervision in that domain. For each supervision domain, the statement about the standard is then followed with three items that assess (a) one's *knowledge* about the standard; (b) one's *skill* to practice up to the standard, and (c) one's *commitment* to adhere to the standard. The domains selected and standards of competencies were based on consensus statements about supervision competencies in the supervision literature.]

Instructions. [For each domain begin by reviewing the brief statement describing the expected standard of practice. For research, keep this standard in mind while reviewing and rating your level of agreement with the statements. For clinical supervision, keep this standard in mind while reviewing and rating your level of agreement with the statements that your *knowledge* of, *skill* in, and *commitment* to, supervising are at the level of the standard.] In order to obtain a comprehensive assessment of supervisory competencies, please self-assess in all domains - even if you have no experience in a particular domain or are not currently supervising in a domain (e.g., group supervision). In order to obtain a valid and useful gauge of your current level of competency as a clinical supervisor you are encouraged to be candid in acknowledging limitations in your knowledge, skill, or commitment of supervision. For instance, while responding to the items experienced supervisors might recall particularly challenging supervisory assignments as well as more successful ones. Use the dropdown menu below each question to choose your self-rating.

Scoring. Your scores will be automatically computed at the end of the survey and you will have an opportunity to print them for your records.

Self-Assessment Survey of Research Competencies

Domain 1: Research question

35) I can readily come up with a good researchable question

Standard: A good researchable question entails an idea that adds to the pool of knowledge available.

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 2: Literature review

36) I can effectively review the literature

Standard: Researchers need to be able to search the research database to effectively locate relevant research, to comprehend and evaluate the material, and to coordinate the literature with the research question by identifying existing gaps in the literature.

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 3: Hypotheses

37) I am able to develop testable hypotheses

Standard: Competent researchers need to have the ability to write a clear, unambiguous, and simple statement of research hypotheses. These hypotheses need to address the central questions of the theory being examined and be testable using the data that is to be collected.

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 4: Experimental design

38) I can appropriately select a suitable experimental design

Standard: Researchers need to be able to select a design that enables the hypotheses proposed to be tested in ways that are relevant to the inferences/conclusions that he/she is meaning to draw. An appropriate design is free from as many threats to internal and external validity as possible that the researcher intends to control.

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 5: Research measures

39) I can effectively choose appropriate measures for my research

Standard: Research data can only be effectively collected if the selected measures properly assess the intended constructs. Therefore, researchers need to have good knowledge about the strengths and weaknesses of existing measures.

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 6: Research proposal

40) I can readily organize ideas into a research proposal

Standard: Researchers must have a good understanding of the major sections and logical sequence of them in a research proposal. Researchers also need to be able to write a proposal in a clear and concise manner.

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 7: Ethics

41) I am able to conduct research that meets ethical standards

Standard: Researchers need to have sufficient knowledge of ethical standards to conform research procedures to them.

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 8: Data collection

42) I am knowledgeable about research procedures for collecting data

Standard: Whether or not the researcher collects his/her own data, he/she should know how to ensure data collection procedures are suitable to produce reliable and accurate results in the area of research being conducted.

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 9: Analysis

43) I am able to properly analyze the data for hypothesis testing

Standard: Researchers need to be able to select statistics to test their hypotheses, which are appropriate to the data set (i.e., the dataset meets the assumptions of the statistics).

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 10: Results interpretation

44) I can accurately interpret the study results

Standard: “Accurately interpret results” refers to the researcher’s ability to correctly interpret the statistical findings, understand their import for the hypotheses, understand the magnitude of the effect, and their theoretical, practical, and/or clinical significance.

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 11: Writing and communicating

45) I can readily write-up and communicate the findings obtained from my research

Standard: Researchers must be able to clearly and effectively communicate what their study findings show and how these results fit into, and affect, our existing knowledge.

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Self-Assessment Survey of Supervisory Competencies

Domain 1: Roles of clinical supervisors

Standard: Supervision requires flexibility on the part of the supervisor, who must be able to occupy a number of distinct roles in supervision, commonly including those of teacher, counsellor, and consultant.

46) Knowledge: I can readily describe and explain the scope and purpose of various roles that a supervisor needs to occupy in supervision.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

47) Skill: I can effectively employ the various supervisory roles with my supervisees.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

48) Commitment: I routinely make time for and balance my use of the various supervisory roles as needed.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 2: Functions of Clinical Supervisors

Standard: Supervision requires that supervisors perform a range of functions related to training/education of supervisees, monitoring their performance as clinicians and/or employees, evaluating performance, and making decisions regarding their readiness to progress (gatekeeping).

49) Knowledge: I can readily describe and explain the scope and purpose of the supervisory functions [involved in training/education, administration, clinical oversight, evaluation, and gatekeeping].*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

50) Skill: I can effectively carry out the responsibilities associated with each of the above supervisory functions.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

51) Commitment: I routinely make time for and balance my activity across each of these functions as needed.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 3: Models of Supervision

Standard: Supervision can follow many different models, depending on theoretical orientation, supervisee needs, training resources, and other factors (e.g., psychotherapy-based supervision, role-based approaches). Regardless of the specific model(s) adopted, supervisors should be incorporating appropriate models of supervision into their supervisory practice.

52) Knowledge: I can readily describe and explain various models of supervision.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

53) Skill: I can effectively use various models of supervision to guide my supervision practice.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

54) Commitment: I routinely monitor the appropriateness of my model of supervision to help me provide effective supervision.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 4: Supervisee Development

Standard: In the following items, terms related to "supervisee development" are intended to refer to a developmental progression from novice through advanced, along with a characteristic sequence of associated learning needs and challenges. This developmental perspective collectively informs supervisors' understanding of their supervisees, including assessment and evaluation practices.

55) Knowledge: I can readily describe and explain how supervisees' learning needs and abilities change over the course of their professional development.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

56) Skill: I can use my knowledge of supervisee development to guide my supervision practice in ways that are adapted to my supervisee's developmental learning needs and abilities.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

57) Commitment: I routinely conduct supervision in ways that are adapted to my supervisee's developmental learning needs and abilities.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 5: Supervision Methods

Standard: In the following items, the term "methods" is intended to broadly encompass such things as choice of the source of clinical data (e.g., supervisee report, supervisee transcription/notes, audio and/or video tape & live observation) as well as other supervisory techniques and approaches (e.g., use of role playing, modeling). Supervisors must select and employ from the available methods those that are most appropriately suited to their supervisees' training needs.

58) Knowledge: I can readily describe the benefits and limitations of different supervisory methods.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

59) Skill: Within the constraints of methods available in any setting, I can select and apply methods appropriate for any supervisee.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

60) Commitment: I am committed to selecting appropriate methods to optimize my supervision.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 6: Supervisory Relationship Dynamics

Standard: In the following items, the phrase "challenging supervisory relationship dynamics" refers to sources of strain or rupture in the supervisory relationship such as values conflict, countertransference, and problems with integrity, conscientiousness, or boundaries that may arise from either the supervisee or supervisor. Supervisors are primarily responsible for the quality of the supervisory alliance as well as addressing any problems that arise from an unsatisfactory supervisory relationship.

61) Knowledge: I can readily describe common challenging supervisory relationship dynamics that affect the quality of the supervisory alliance.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

62) Skill: I can identify and address challenging supervisory relationship dynamics in an effort to maintain a productive supervisory alliance.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree

( ) 50 - Neither Agree Nor Disagree ( ) 75 - Moderately Agree

( ) 100 - Completely Agree

63) Commitment: I routinely monitor the quality of the supervisory relationship and take responsibility for identifying and addressing challenging dynamics when needed.*

( ) 0 - Completely Disagree ( ) 25 - Moderately Disagree

( ) 50 - Neither Agree Nor Disagree ( ) 75 - Moderately Agree

( ) 100 - Completely Agree

Domain 7: Cultural/Diversity Issues in Supervision

Standard: Supervision occurs in a context defined in part by the participants' cultures, as well as other aspects of diversity including age, gender, and sexual orientation, among other factors. Supervisors must be sensitive to issues of culture/diversity and ensure that their practice is not compromised by a failure to respond appropriately to these issues.

64) Knowledge: I can readily describe and explain how issues of culture and diversity can affect the supervisory relationship in positive or negative ways.*

( ) 0 - Completely Disagree ( ) 25 - Moderately Disagree

( ) 50 - Neither Agree Nor Disagree ( ) 75 - Moderately Agree

( ) 100 - Completely Agree

65) Skill: I am able to create a supervisory atmosphere of openness to identifying and exploring issues of culture and diversity.*

( ) 0 - Completely Disagree ( ) 25 - Moderately Disagree

( ) 50 - Neither Agree Nor Disagree ( ) 75 - Moderately Agree

( ) 100 - Completely Agree

66) Commitment: I am committed to routinely identifying and exploring issues of culture and diversity in supervision.*

( ) 0 - Completely Disagree ( ) 25 - Moderately Disagree

( ) 50 - Neither Agree Nor Disagree ( ) 75 - Moderately Agree

( ) 100 - Completely Agree

Domain 8: Group Supervision

Standard: Group supervision is a distinct modality in which the interaction of group members and the dynamics of group process are central to the supervision experience, and a balance is sought between individual and group growth and development. Supervisors who employ group supervision in their supervision practice must be aware of the specific features that distinguish this modality from individual supervision.

67) Do you use group supervision?*

[ ] Yes [ ] No

68) Knowledge: I can readily describe and explain the features that make group supervision a distinct supervision modality.*

( ) 0 - Completely Disagree ( ) 25 - Moderately Disagree

( ) 50 - Neither Agree Nor Disagree ( ) 75 - Moderately Agree

( ) 100 - Completely Agree

69) Skill: I can effectively conduct group supervision in a manner consistent with the distinct features described above.*

( ) 0 - Completely Disagree ( ) 25 - Moderately Disagree

( ) 50 - Neither Agree Nor Disagree ( ) 75 - Moderately Agree

( ) 100 - Completely Agree

70) Commitment: When conducting group supervision, I routinely do so in a manner consistent with the distinct features described above.*

( ) 0 - Completely Disagree ( ) 25 - Moderately Disagree

( ) 50 - Neither Agree Nor Disagree ( ) 75 - Moderately Agree

( ) 100 - Completely Agree

Domain 9: Ethical, Legal, and Professional Regulatory Issues

Standard: The supervisory relationship as well as the clinical services for which the supervisor is ultimately responsible are both subject to ethical guidelines, professional standards of practice, and the law, which we collectively refer to below as "professional standards." Supervisors are responsible for ensuring that all relevant professional standards are appropriately incorporated into both their supervision practice and their supervisees' clinical work.

71) Knowledge: I am knowledgeable about current professional standards.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

72) Skill: During supervision, I am able to identify, address, and facilitate learning about, and adherence to, professional standards.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

73) Commitment: I routinely adhere to professional standards for all aspects of supervision.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 10: Formative and Summative Feedback Methods

Standard: Formative feedback is evaluation that is provided throughout supervision to facilitate professional learning and development. Summative evaluation of supervisee performance, including the supervisee's response to formative feedback, is formal and comprehensive and is provided at the conclusion of supervision. The supervision literature provides guidance about how formative and summative evaluation should be related to one another and employed. Supervisors are responsible for effectively and appropriately employing formative and summative evaluation methods throughout their supervision practice.

74) Knowledge: I can readily distinguish formative and summative feedback methods and can describe how they are optimally related and employed.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

75) Skill: I can provide formative and summative feedback in optimal ways.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

76) Commitment: I routinely assess and reflect on my evaluation methods to optimize my use of them.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 11: Supervisory Climate

Standard. Supervisors are responsible for creating an atmosphere of trust and safety in which both supportive and challenging feedback can exchanged between supervisor and supervisee. We refer to this below as an "open supervisory climate".

77) Knowledge: I can readily describe how to create an open supervisory climate [in order to facilitate the exchange of supportive and challenging feedback].*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

78) Skill: I am able to create an open supervisory climate [in which supportive and challenging feedback between the supervisor and the supervisee is encouraged and valued].*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

79) Commitment: I closely monitor and routinely work to optimize the supervisory climate.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 12: Supervisory Self-Assessment

Standard. Like all competencies, supervisory skills and knowledge require regular self-assessment to identify the limits of one's competencies and to enable further development.

80) Knowledge: I can readily describe and explain the extent and limits of my competence as a supervisor.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

81) Skill: I am able to objectively assess my own performance [as a supervisor and identify my strengths and shortcomings].*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

82) Commitment: I routinely engage in self-assessment of my supervisory competencies.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 13: Administrative Supervision Skills

Standard. In the following items, the term "administrative supervision" is intended to refer to those supervisory activities that involve managerial responsibilities related to trainees' or staff members' clinical or employment activities, including meeting accountability standards for quality of care, amount of service provided, and consistency with the organizational mandate. Supervisors who have administrative authority over their supervisees recognize and respond appropriately to the additional responsibilities they incur with this added role in their supervision practice.

83) Knowledge: I can readily describe and explain the scope and purpose of my various administrative supervisory responsibilities.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

84) Skill: I can effectively meet my administrative supervisory responsibilities.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree

( ) 50 - Neither Agree Nor Disagree ( ) 75 - Moderately Agree

( ) 100 - Completely Agree

85) Commitment: I routinely monitor and seek to optimize my effectiveness in carrying out my administrative supervisory responsibilities.*

( ) 0 - Completely Disagree ( ) 25 - Moderately Disagree

( ) 50 - Neither Agree Nor Disagree ( ) 75 - Moderately Agree

( ) 100 - Completely Agree

Domain 14: Clinical Supervision Research and Scholarship

Standard. As with all professional competencies, an ongoing engagement with research and scholarship pertaining to clinical supervision is essential to the maintenance of professional competency as a supervisor.

86) Knowledge: I am familiar with research and scholarship in clinical supervision.*

( ) 0 - Completely Disagree ( ) 25 - Moderately Disagree

( ) 50 - Neither Agree Nor Disagree ( ) 75 - Moderately Agree

( ) 100 - Completely Agree

87) Skill: I am able to integrate knowledge from clinical supervision research and scholarship into my supervision practice.*

( ) 0 - Completely Disagree ( ) 25 - Moderately Disagree

( ) 50 - Neither Agree Nor Disagree ( ) 75 - Moderately Agree

( ) 100 - Completely Agree

88) Commitment: I routinely access research and scholarship in clinical supervision and integrate this knowledge into my supervisory practice.*

( ) 0 - Completely Disagree ( ) 25 - Moderately Disagree

( ) 50 - Neither Agree Nor Disagree ( ) 75 - Moderately Agree

( ) 100 - Completely Agree

Domain 15: Responsible Professionalism

Standard. Clinical supervisors are ethically obligated to only supervise in circumstances where they themselves are competent to provide service to the client(s).

89) Knowledge: I can readily delineate my areas of professional competence as a clinician.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

90) Skill: I am able to limit my supervision to cases where I am fully competent [or obtain outside consultation when issues arise outside my area of competence] as a supervisor.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

91) Commitment: I routinely recognize and respect the limits of my professional competence in my role as a supervisor.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 16: Balancing Clinical Demands and Training Needs

Standard. Supervision of developing professionals involves striking an appropriate balance between quality of care requirements and the training needs of the supervisee.

92) Knowledge: I can readily describe and explain how I promote supervisee growth and self-assessment while ensuring quality of care.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

93) Skill: I can effectively balance considerations of supervisee training with quality of care needs.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

94) Commitment: I routinely empower my supervisees as professionals in training while ensuring clinical needs are addressed.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Domain 17: Social Context of Supervision

Standard. In the following items, the phrase "overarching social context of supervision" is intended to refer to the dynamic environment within which the supervisory relationship is embedded, including a range of systemic factors. Attention to the overarching social context of supervision, including interpersonal, organizational, and political factors, is essential to optimal supervision practice.

95) Knowledge: I can readily describe and explain how the overarching social context can influence supervisory practice.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

96) Skill: I can effectively apply my knowledge of the overarching social context to address issues in supervision.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

97) Commitment: I routinely make time to discuss and work through issues in supervision related to the overarching social context.*

( ) 0 - Completely Disagree
( ) 25 - Moderately Disagree
( ) 50 - Neither Agree Nor Disagree
( ) 75 - Moderately Agree
( ) 100 - Completely Agree

Results

98) Would you like to receive a copy of the overall findings of the study?*

( ) Yes ( ) No

99) If Yes, please provide us with your e-mail address

_____

---

100) Would you like to submit your email address to enter a draw for a $25 Starbudcks gift card?

( ) Yes ( ) No

101) Please provide us with your e-mail address

_____

Thank You!

Thank you for taking our survey. Your response is very important to us.

Appendix B

Recruitment Script for Program Directors/Department Heads/Administrative Assistants

Dear Program Director/Department Head/Administrative Assistant,

My name is Yunqiao Wang, and I am a graduate student in the Department of Psychology at the University of Manitoba. I am conducting a study on self-assessment of supervisory competencies among clinical psychology students as part of my Master's thesis. My research supervisor at the University of Manitoba, Drs. Edward Johnson and I are writing to **ask for your assistance in forwarding this email to <u>any and all</u> clinical psychology students in your program to invite them to participate in this study.** The survey is designed to permit individuals with widely varying levels of knowledge and experience of clinical supervision and research to assess their current competence levels in 17 domains of clinical supervision and 11 domains of research. The survey consists of six subsections: 1) demographics (i.e., gender, language, year of training, etc.), 2) supervision-related demographics (i.e., amount and types of supervision training, supervision experience, etc.), 3) supervision self-efficacy, 4) research competence, 5) supervision competence, and 6) feedback and comments. The survey should take approximately 30-minutes.

If you would like to participate in our survey, please click on the following link:

[Survey Link]

Thank you for considering our request. If you have any questions about the study please feel free to contact any one of us at the addresses given below.

Sincerely,

Yunqiao Wang

Research Study Title: Self-Assessment: A Critical Examination of Training and Perceived Competence in Research and Clinical Supervision Among Clinical Psychology Students **Research Institute:** The University of Manitoba (Department of Psychology)
Principal Investigator: Yunqiao Wang, email: wang8@cc.umanitoba.ca
Research Supervisor: Dr. Ed Johnson, phone: 204-474-9006, email:

ed_johnson@umanitoba.ca

Appendix C

Recruitment Script for Research Portals and Forums

Research Opportunity!

My name is Yunqiao Wang, and I am a graduate student in the Department of Psychology at the University of Manitoba.

I am conducting a study on self-assessment of research and supervisory competencies among clinical psychology students as part of my Master's thesis. My research supervisor at the University of Manitoba, Dr. Edward Johnson and I are writing to **ask for your assistance in forwarding this email to <u>any and all</u> clinical psychology students in your program to invite them to participate in this study.**

Have you ever wondered what makes competencies are needed to carry out good research or clinical supervision? Are you curious about how you would rate yourself on those competencies? If so, participate in the survey and find out! AND, by doing so you will be entered to win one of eight $25 Starbucks gift cards!

The survey is designed to permit individuals with widely varying levels of knowledge and experience of clinical supervision and research to assess their current competence levels in 11 domains of research and 17 domains of clinical supervision. **We** . I **want you to participate** ***even if you have not had any experience in these areas!*** The survey consists of six subsections: 1) demographics (i.e., gender, language, year of training, etc.), 2) supervision-related demographics (i.e., amount and types of supervision training, supervision experience, etc.), 3) supervision self-efficacy, 4) research competence, and 5) supervision competence. The survey should take less than 30 minutes.

If you would like to participate in our survey, please go to the following web URL:

[Survey Link]

Thank you for considering our request. If you have any questions about the study please feel free to contact any one of us at the addresses given below.

Sincerely,

Yunqiao Wang

Research Study Title: Self-Assessment Survey of Research and Supervisory Competencies for Students
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