

**Short-term changes in occupational therapy students'
self-efficacy for therapeutic use of self**

Authors:

Ratna A. Hussain¹, Tove Carstensen², Farzaneh Yazdani³,

Brian Ellingham¹ & Tore Bonsaksen^{1,4}

¹Oslo and Akershus University College of Applied Sciences, Oslo, Norway

²Norwegian University of Science and Technology, Trondheim, Norway

³Oxford Brookes University, Oxford, United Kingdom

⁴VID Specialized University, Sandnes, Norway

Submission to *British Journal of Occupational Therapy*

Ethics: The study was approved by the Norwegian Data Protection Official for Research on August 31, 2016 (project number 49433). Data concerning health or illness were not collected, therefore approval from the regional health ethics committee was not required. The data were collected September 2016 and January 2017 (Oslo students), and December 2016 and March 2017 (Trondheim students).

Corresponding author: Tore Bonsaksen, Oslo and Akershus University College of Applied Sciences, Department of Occupational Therapy, Prosthetics and Orthotics, Faculty of Health Sciences, Postbox 4 St. Olavs Plass, 0130 Oslo, NORWAY. E-mail tore.bonsaksen@hioa.no

Abstract

Background: Self-efficacy concerned with the therapeutic use of self is important for occupational therapists, and students need to develop the skills and the self-efficacy required to meet interpersonal challenges in practice. This study examined short-term changes in occupational therapy students' self-efficacy for using therapeutic modes, for recognizing clients' interpersonal characteristics, and for managing interpersonal events. Factors associated with such changes were also examined.

Methods: A sample of 89 Norwegian occupational therapy students from two universities was used, and the students completed three questionnaires 2-3 weeks after a workshop and at three months follow-up. Changes on the outcome measures were analyzed with *t*-tests for dependent samples, and factors associated with the outcome changes were analyzed with linear regression analyses.

Results: During the follow-up period, the students improved their self-efficacy scores on all three outcome measures. Higher age was associated with more improvement on two of the outcome measures.

Conclusion: The occupational therapy students improved their self-efficacy for therapeutic use of self during the brief follow-up period. Thus, the time in education, either university-based or practice-based, seems to add to students' self-efficacy for clinical skills in this area. Higher age appears to be a resource for gaining more self-efficacy from attending educational courses.

Keywords: intentional relationship model, longitudinal study, self-efficacy,

Key findings: 1) After attending a workshop, students improved their self-efficacy in all three areas of therapeutic use of self during a three months follow-up period. 2) Improvements in self-efficacy for therapeutic use of self increased with increasing age among the students.

What the study has added: Three self-efficacy measures related to the therapeutic use of self were recently developed, and this is first longitudinal study to use them to detect changes in students' self-efficacy in these areas.

Introduction

The Occupational Therapy Practice Framework (American Occupational Therapy Association 2014) identifies the therapeutic use of self as an essential aspect of the occupational therapy process, and there are long historical roots for emphasizing it (Kielhofner 2009). The term is used to refer to the therapist's conscious effort to promote their interaction with the client (Cole and McLean 2003; Punwar and Peloquin 2000). Mosey (1986; p. 199) stated that the conscious use of self is "the use of oneself in such a way that one becomes an effective tool in the evaluation and intervention process". Similarly, Hagedorn described it as "the exploitation of personal characteristics, which are of benefit to the therapeutic relationship" (Hagedorn 2000; p.61). A large number of publications points to an established consensus within the profession that success in promoting client participation outcomes partly relies on the quality of the client-therapist relationship (Allison and Strong 1994; Cole and McLean 2003; Eklund and Hallberg 2001; Palmadottir, 2006; Peloquin 1990, 2003).

In recent years, the Intentional Relationship Model (IRM; Taylor 2008) has been gradually incorporated into occupational therapy practice. Although therapeutic relationships have long been described as important for the occupational therapy process and its outcomes, this model is the first to provide a coherent conceptual framework for describing the therapeutic use of self within occupational therapy practice (Solman and Clouston 2016). So far, however, only a limited amount of research has used the IRM as its theoretical framework. The model posits that it is the therapist's responsibility to establish a positive relationship with the client, and to respond appropriately when interpersonal challenges occur within that relationship. The IRM is used to increase awareness of the client-therapist relationship as a therapeutic tool, and to develop and fine-tune skills for client-therapist interaction by using different therapeutic modes according to the client's needs. A therapeutic mode is the particular interpersonal style used by the therapist when interacting with a client.

Therapeutic modes therefore denote relatively distinct ways of relating to a client (Bonsaksen, Vøllestad and Taylor 2013). The client's needs in relationship to the therapist depend on his or her interpersonal characteristics, both those based on his or her personality (enduring interpersonal characteristics) as well as those evoked under the current circumstances (situational interpersonal characteristics). As a result, effective use of the therapeutic relationship requires the therapist to choose and respond within an appropriate therapeutic mode, and to adjust his or her way of responding as a way of managing the interpersonal events that inevitably will occur within the relationship. The course of the therapeutic relationship will depend on the therapist's appropriate responding to such interpersonal events, and this will affect the client's subsequent outcomes from therapy (Taylor 2008).

To be able to use skills related to establishing, maintaining and managing the therapeutic relationship effectively in occupational therapy practice, the therapist needs a certain level of belief in his or her ability to perform these skills. The concept of self-efficacy refers to a person's belief in his or her ability to perform successfully a task or behavior (Bandura 1997). Individuals with high self-efficacy for a given task tend to try harder at completing the task, and may feel more positively towards it. Hence, self-efficacy beliefs are a powerful motivational influence on the choices people make in challenging situations. Applying the self-efficacy concept onto the therapeutic use of self, one might argue that occupational therapists would be more effective in their clinical practice if they have high self-efficacy for relationally oriented skills. Thus, the challenge is both to educate students and novice therapists about the appropriate use of self, to build their capacity and skills for using the self, and to assist them in building self-efficacy for using it. This process would include raising self-efficacy for three areas in particular: the ability to use the different therapeutic modes, the ability to identify clients' interpersonal characteristics and needs, and

the ability to manage the interpersonal events that inevitably will arise in the therapeutic relationship as therapy progresses.

The intentional use of the therapeutic relationship is regularly taught in workshops at two occupational therapy education programs in Norway. The aim of the workshops is to assist the students in building skills related to the therapeutic use of self, and to raise their self-efficacy beliefs concerning their ability to perform these skills in subsequent practice. Previous studies (Bonsaksen and Carstensen 2017; Bonsaksen, Yazdani, Ellingham et al. 2018; Ritter, Yazdani, Carstensen et al. 2018) have investigated the psychometric properties of a recently developed instrument for assessing self-efficacy for the use of self in occupational therapy practice. One study also found that students who performed better academically had higher levels of self-efficacy for therapeutic mode use (Opseth et al. 2017), suggesting that academically well-performing students also have higher levels of self-efficacy for therapeutic skills performance, compared to students with poorer academic results.

To date, however, there are no available studies to inform about whether or how students change their self-efficacy beliefs related to the use of self, following an IRM workshop, and whether individual student characteristics like age, gender, work status, academic performance, and prior higher education are associated with the change in self-efficacy. Moreover, as the two groups of students took part in different educational activities in the time following the workshop (practice placement versus university based studies), there is a need to investigate whether changes were different between students from the two universities.

Aim of the study

The study aimed to investigate short-term changes in occupational therapy students' self-efficacy for therapeutic mode use, for recognizing clients' interpersonal characteristics, and for managing the interpersonal events of therapy. We also aimed to assess whether

demographic variables (age, gender, work status, prior higher education, and academic performance) and university program were associated with their changes.

Method

Design

In order to detect changes in the students' self-efficacy over time, a longitudinal observational study was conducted. The baseline measurement occasion was 2-3 weeks after the workshops (see below for description), and the follow-up measurement was approximately three months after the baseline measurement. In the time between the two rounds of completing the questionnaires, the students followed the regular study programs at the two different universities in Norway. The two universities had an established collaboration, and were therefore selected by convenience. Both programs were undergraduate programs. For the students from Oslo, the time between measurements implied working in practice placement, related either to mental health care or to physical health care. For the students from Trondheim, the time between the two measurement occasions was allocated to taking a course at the university campus.

IRM workshops

Workshops on the IRM were conducted in the classroom with the students from both universities, the groups consisting of second-year students. Due to differences between the study programs, the IRM workshop with the students in Oslo had three hours' duration, while the workshop with the students in Trondheim had six hours' duration. The two workshops had similarities and differences. Both workshops included introduction to the IRM model, including its main concepts. Similarly, both workshops included teacher demonstrations, student role plays using the therapeutic modes, and a concluding plenary discussion.

The role plays with the students in Trondheim were more extensive, due to the longer total duration of the workshop. The students in Trondheim also used pre-planned case vignettes around which the role plays were conducted. Groups of students worked with one case story at a time, and with one therapeutic mode to be practiced intensively. One of the students played the role of client, whereas another student played the therapist role, trying to use the selected mode as consistently as possible. Eventually, other group members would take over the role of therapist. The student groups changed tables after a while, with a new case story and a new mode to practice.

The students in Oslo were also organized into groups. These student groups developed their own case stories as short film script. In each of the film scripts, one therapeutic mode should be used. One of the group members video-filmed the sequence. As part of the plenary session that took part at the conclusion of the workshop, examples of these videos were shown to all students, and the discussion centered around identifying the mode or modes used, interpersonal events occurring, and ideas about how – and why – the therapist might take another approach than the one shown in the video. An overview of the content and organization of the two workshops is provided in Table 1.

[TABLE 1 ABOUT HERE]

Participants

Students were included in the study by convenience if they i) were second-year students enrolled in one of the involved occupational therapy education programs, and ii) provided informed consent to participate in the study. There were no exclusion criteria. Originally, 111 occupational therapy students opted to participate in the study, representing the education programs in Oslo ($n = 47$) and Trondheim ($n = 64$). At three months follow-up assessment, 89

students (35 from Oslo, 54 from Trondheim) had valid scores on the employed variables at both measurement times, and these students constituted the current study sample. Among the students from Oslo, 17 students (48.6 %) had practice placement in mental health care during the follow-up period and 18 students (51.4 %) had practice placement related to physical health care.

Measures

Self-efficacy for therapeutic use of self

The original “self-efficacy for therapeutic use of self” questionnaire was developed in the United Kingdom by Yazdani and Tune in 2016, based on Taylor’s (2008) original conceptual model. To our knowledge, this questionnaire is the only one developed with a view to measuring self-efficacy for therapeutic use of self, which was the focus of this study. The questionnaire consists of three parts, and the instrument is provided in Appendix 1. Part I asks respondents to rate their level of confidence that they have the required skills to use each of the therapeutic modes. Following the introductory text: “When I work with clients I am confident in my ability to...”, each of the modes are listed as scale items. In accordance with Taylor (2008), the modes are denoted as advocate, problem-solve, instruct, encourage, empathize, and collaborate. This study employed the Norwegian version of the questionnaire. The Norwegian version of Part I, the *self-efficacy for therapeutic mode use* (N-SETMU; Bonsaksen and Carstensen 2017) has been found to have a one-factor structure (factor loadings between 0.68-0.81) with good internal consistency between its six items (Cronbach’s $\alpha = 0.82$).

Part II asks respondents to rate their level of confidence that they have the required skills to recognize client’s interpersonal characteristics in therapeutic encounters. Following the introductory text: “I am confident in my ability to recognize my clients’...” twelve characteristics are listed as scale items. In line with Taylor’s (2008) description, these are

denoted as preference for communication style, capacity for trust, need for control, capacity to assert needs, response to change or challenge, affect, predisposition to giving feedback, predisposition to receiving feedback, response to human diversity, orientation towards relating, preference for touch, and capacity for reciprocity. The Norwegian version of Part II, the *self-efficacy for recognizing interpersonal characteristics* (N-SERIC; Ritter et al. 2018) was found to have a one-factor structure (factor loadings between 0.75-0.89) with very high internal consistency between its twelve items (Cronbach's $\alpha = 0.96$).

Part III asks respondents to rate their level of confidence that they have the required skills to manage the interpersonal challenges that may rise in therapeutic encounters.

Following the introductory text: "When I work with clients I am confident in my ability to manage...", 11 types of challenges are listed as the scale items. Following Taylor (2008), these challenges are expression of strong emotion, intimate self-disclosures, power dilemmas, non-verbal cues, crisis points, resistance and reluctance, boundary testing, empathic breaks, emotionally charged tasks and situations, limitations of therapy, and contextual inconsistencies. The Norwegian version of Part III, the *self-efficacy for managing interpersonal events* (N-SEMIE; Bonsaksen, Yazdani, et al. 2018) was found to have a one-factor structure (factor loadings between 0.72-0.84) with very high internal consistency between the items (Cronbach's $\alpha = 0.94$).

The instrument was translated from English to Norwegian using a forward and back-translation procedure. A person proficient in both languages performed the back-translation. The instrument developer checked the content and conceptual clarity of the back-translation by comparing it with the original version of the questionnaire. After checking the back-translation, no further amendments were performed with the Norwegian version. All items on each part of the questionnaire are rated on a 1-10 scale, where a score of "1" indicates the lowest possible level of self-efficacy and a score of "10" the highest possible level.

Demographic variables

In addition to the questionnaire, the participants provided information about age, gender (male = 0, female = 1), and work status (not in paid work = 0, in paid work = 1). The participants also provided information about previous and current education experience: prior education (no prior higher education experience = 0, prior experience from higher education = 1) and academic performance (average grade based on completed exams). Academic performance was coded in accordance with the general grading system in Norwegian higher education (The Norwegian Association of Higher Education Institutions 2011): fail = 1, sufficient = 2, satisfactory = 3, good = 4, very good = 5, and excellent = 6. University affiliation was registered and coded as “0” (indicating studying in Oslo) and “1” (indicating studying in Trondheim). All data were collected by self-report questionnaires. One research group member from each of the sites, who was known to the students, informed about the study and collected the completed questionnaires.

Data analysis

All statistical analyses were performed with the IBM SPSS for Windows software, version 24 (IBM Corporation 2016). Descriptive analyses were performed using frequencies and percentages for categorical variables, and means and standard deviations for continuous variables. Differences between students at the two universities were examined with χ^2 -tests for categorical variables and with independent samples *t*-tests for continuous variables. Differences in mean scores on the outcome variables between the two measurement occasions were analyzed with dependent *t*-tests. To examine factors associated with change in the outcome scale scores, linear regression analyses were used. Independent variables were included in two blocks: 1) baseline score of the relevant outcome scale; and 2) age, gender, work status, prior higher education, average exam grade, and university. The fit of the regression models was assessed by examining the outcome variance proportions explained by

the models. The level of statistical significance was set at $p < 0.05$, and effect sizes were reported as standardized β weights.

Ethics

The study was conducted according to ethical guidelines for research (World Medical Association 2008). The lead researcher informed the participants about the aims and procedures of the study, and all participants provided a written consent form. The participant information emphasized that the collected data would be analyzed at the group level and that identification of participants would be impossible. In addition, it was emphasized that participation in the study was optional. No benefits were related to individuals' participation, and conversely, no disadvantages were related to non-participation. The study received approval from the Norwegian Data Protection Official for Research (project number 49433).

Results

Sample characteristics

The characteristics of the study participants ($n = 89$) are displayed in Table 2. The mean age of the students was 24.3 years ($SD = 6.1$ years), and there was a predominance of female students ($n = 73$, 82.0 %) in the sample. The age and average exam grades of the students from Oslo were significantly higher, compared to the age and grades of the students from Trondheim.

[TABLE 2 ABOUT HERE]

Changes in self-efficacy for therapeutic use of self

Table 3 displays the results from analyses of change in the outcome scale scores for the total sample. The participants improved their self-efficacy for the therapeutic use of self in all areas across the follow-up period (all $p < 0.001$).

[TABLE 3 ABOUT HERE]

Factors associated with the changes

Table 4 shows the results from the three linear regression analyses. All regression models were statistically significant, explaining between 32.7 % and 50.1 % of the outcome variance. Most of the explained outcome variance was due to the inclusion of the baseline score levels in the first block of each of the regression models. Controlling for baseline levels, higher age was associated with higher follow-up scores on the N-SETMU ($\beta = 0.22, p < 0.05$) and on the N-SEMIE ($\beta = 0.19, p < 0.05$). Thus, the improvement in self-efficacy in these areas increased linearly with increasing age of the participants. Controlling for the same variables, none of the demographic variables were significantly associated with the N-SERIC score at follow-up. However, a borderline significant association was shown between studying in Oslo and having higher N-SERIC scores at follow-up ($\beta = -0.20, p = 0.05$).

[TABLE 4 ABOUT HERE]

Discussion

This study sought to investigate the short-term changes in occupational therapy students' self-efficacy for therapeutic use of self, and to assess whether demographic variables were associated with the changes. The findings from the study indicate that the occupational therapy students improved their self-efficacy for therapeutic use of self in all three areas: self-

efficacy for therapeutic modes use, for recognizing the clients' interpersonal characteristics, and for managing interpersonal events. On two of the three outcome scales, the results also showed that improvements in self-efficacy for therapeutic use of self increased linearly with higher age among the participants.

Changes in self-efficacy

This study uses the Intentional relationship Model (IRM) as a conceptual framework for describing the therapeutic relationship and the therapeutic use of self. The model is used to increase awareness of client-therapist relationships as a therapeutic tool, and to develop and fine-tune skills for clinical interaction (Taylor 2008). In this study, the student group as a whole increased their self-efficacy for using self intentionally during the three-month follow-up period, as they increased their scores significantly on all of the three outcome measures (see Table 3).

Bandura's (1997) self-efficacy theory may assist in understanding why these changes occurred. The theory posits four main sources of self-efficacy beliefs, namely mastery experience, physiological and emotional arousal, vicarious experience (social modeling), and verbal persuasion. According to Bandura (1997), the most powerful source of self-efficacy is actual mastery experience. Actual mastery in performance of activities, for example from successfully performing as assessment or an intervention with a client in a clinical practice situation, implies directly to the student that he or she can do it. Moreover, mastery experiences often give rise to positive emotional arousal related to the perceived success, which in turn may increase the student's sense of efficacy. Vicarious experience may come into play in cases where supervisors or other professionals demonstrate, by their own performance, how the student can perform a specific clinical assignment. By observing someone else perform successfully, the student can envision himself in the role of the other, and increase his self-efficacy through the vicarious experience of the other's success. Finally,

Bandura (1997) posits that verbal persuasion is a source of self-efficacy. Therefore, clinical practice supervisors or others may have contributed to the student's self-efficacy by giving positive, affirmative feedback.

The study investigated the students' self-efficacy for skills that are strongly connected to clinical practice. Therefore, we might have expected the students from Oslo, who were in practice placement during the follow-up period, to have a favorable development compared to the students from Trondheim, who studied at campus during the same period. Interestingly, university was not significantly associated with the outcomes, meaning that students in both education programs increased their self-efficacy for therapeutic use of self in a similar way. Thus, with a view to raising this particular set of self-efficacy beliefs in the students, the results indicate that campus-based teaching may be of similar value as clinical practice training. It may indicate that teachers in the classroom may have equal opportunity for demonstrating skills, with a similar effect on students' self-efficacy, as clinical supervisors may have in clinical practice situations. In a similar way, university teachers can be successful self-efficacy builders by structuring learning situations in a way likely to bring about success for the student, for example in the form of supervised or guided role-plays (Lewis et al. 2013). This may be especially important early in the learning process when the student frequently needs to acquire new skills. Repeated success provides students with a firm foundation to support their motivation for practicing the skill set in future clinical practice.

Factors associated with changes in self-efficacy

A cross-sectional study showed that self-efficacy for therapeutic mode use, as measured at baseline, increased with higher average exam grades among the students (Opseth et al. 2017). In contrast, the current study showed no evidence that higher average exam grades were associated with more increase on any of the self-efficacy measures concerned with the therapeutic use of self, compared to those with lower grades (see Table 4). Therefore, those

with better grades may have higher self-efficacy for skills related to therapeutic use of self (Opseth et al. 2017), but the increases that occurred in the follow-up period was similar for the students, regardless of their previous academic records.

A previous study found no association between age and general self-efficacy in a Norwegian sample of occupational therapy students across three study-year cohorts (Bonsaksen 2015). However, the results of the current study showed that higher age among the students was linearly associated with more increase in self-efficacy scores (N-SETMU and N-SEMIE) during follow-up. Thus, compared to younger students' self-efficacy development in this area, students of higher age appear to benefit more from whatever university-based course or clinical practice studies in which they participate. Studies from various educational disciplines have argued that older students tend to be more intrinsically motivated and employ more productive approaches to studying (e.g., Beccaria, Kek, Huijser et al. 2014; Shanahan, 2004; Zeegers, 2001), and that they perform better academically (e.g., Bonsaksen, Brown, Lim et al. 2017; Zeegers, 2001), in comparison to younger students. Thus, at least in some respects, it appears that older students are twice blessed: Compared to younger students, they have a better starting point, and they may benefit more from the educational activities in which they participate. It seems logical that higher age among students may be associated with a range of factors that contribute to produce beneficial cycles related to increased learning, mastery and self-efficacy beliefs (Bonsaksen, Sadeghi, and Thørrisen 2017). These factors may include prior higher education experience, more life experience in general, more targeted study motivation, as well as more strategic and focused study habits (Beccaria et al. 2014; Shanahan 2004).

There was a borderline significant trend, but with a moderate effect size, suggesting that the students from Oslo, who had clinical practice during the follow-up period, may have experienced more increase on the N-SERIC measure, compared to the students from

Trondheim, who had a university-based curriculum in the same period. It can be noted that the N-SERIC measures self-efficacy for skills used in observing and interpreting the client's interpersonal customs and preferences (Ritter et al. 2018), whereas the N-SETMU (Bonsaksen and Carstensen 2017) and the N-SEMIE (Bonsaksen, Yazdani, et al. 2018) rather measures skills for actual doing in clinical practice. Therefore, it may be that experience from clinical practice contributes more than university-based teaching to increasing the students' self-efficacy for observational skills. On the other hand, it contributes no more (and no less) than university-based teaching when it comes to increasing self-efficacy for skills in building therapeutic relationships: that is, skills for interacting within different therapeutic modes, and skills for managing the challenging interpersonal events that inevitably take place in therapy.

Strengths and limitations

Due to the study having an observational design, the findings may have been influenced by observation bias – the students knew they were being studied and may have felt that some responses were more desirable (i.e., high self-efficacy scores) than others. Thus, the sample mean scores may reflect a higher level of self-efficacy for therapeutic use of self than the students' actual level. However, this potential bias would probably affect the two groups of students in the same way, and would therefore not threaten the validity of our findings of no university-specific effects.

At the first measurement occasion, the study participants had recently undergone a study module within which the IRM and the six therapeutic modes had been introduced and practiced. In addition, parts of Taylor's textbook (Taylor 2008) was on the students' syllabus. However, their skills training was relatively brief, and their understanding of the questionnaire concepts is likely to have varied considerably. During follow-up, what we know is that the students in Oslo had practice placement training, some in physical health and some in mental health, whereas the students from Trondheim took part in a campus-based course.

Thus, when considering our finding that the students at the two universities developed in a largely similar way, the underlying premise is that the students from Oslo had placements in different fields of practice. However, some types of practices – for example in mental health facilities where there is a particular focus on relational work – may be able to provide students with more improvements in self-efficacy for therapeutic use of self, compared to what can be achieved from campus-based teaching. We do not have access to information concerning the students' study activities or other experiences during the follow-up period that may have had an impact on their questionnaire responses. Nor do we have access to additional information about the characteristics of the students, which may have influenced the study results.

The study was conducted with a relatively small sample. Nunnally (1978), however, suggested a 10:1 ratio between subjects and variables in multivariate analysis. The present sample consisted of 89 participants, and the regression analysis included seven variables. Thus, according to Nunnally's criterion, the sample was appropriate in size. The sample was also quite homogeneous with a view to age, gender and ethnicity, largely comprised by young female students with ethnic Norwegian background. Thus, one should be careful in generalizing to the larger population across geographical and cultural contexts. However, the age and gender distribution of the current sample was similar to those shown in another study from the Norwegian context (Bonsaksen, Kvarsnes and Dahl 2016). The sample was recruited by convenience, which limits the generalizability of the results. However, the participants were recruited from two different universities, which adds to the external validity of the results. Future studies should investigate the extent to which these changes are sustained over a longer period.

Conclusion

This study found that occupational therapy students improved their self-efficacy for therapeutic use of self during a three-month follow-up period. Interestingly, the improvements

were largely similar for students from the two different universities, despite their participation in different educational activities during follow-up. This indicates that both university teaching and clinical practice training can contribute to building students' self-efficacy for therapeutic use of self. Moreover, it was found that self-efficacy improvement increased with higher age among the students. Higher age therefore appears to be a resource for the students' ability to benefit from the time in occupational therapy education, regardless of the type of training they receive.

Reference list

- Allison H and Strong J (1994). Verbal strategies used by occupational therapists in direct client encounters. *Occupational Therapy Journal of Research*, 14(2), 112-129.
- American Occupational Therapy Association (2014). Occupational Therapy Practice Framework: Domain and Process (3rd ed.). *American Journal of Occupational Therapy*, 68(Supplement_1), S1-S48.
- Bandura A (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman and Company.
- Beccaria L, Kek M, Huijser H, Rose J and Kimmins L (2014). The interrelationships between student approaches to learning and group work. *Nurse Education Today*, 34(7), 1094-1103.
- Bonsaksen T (2015). Predictors of general self-efficacy and self-esteem in occupational therapy students: A cross-sectional study. *Occupational Therapy in Mental Health*, 31(3), 298-310.
- Bonsaksen T, Brown T, Lim HB and Fong K (2017). Approaches to studying predict academic performance in undergraduate occupational therapy students: a cross-cultural study. *BMC Medical Education*, 17(76). doi:10.1186/s12909-017-0914-3
- Bonsaksen T and Carstensen T (2017). Psychometric properties of the Norwegian *self-efficacy for therapeutic mode use* (N-SETMU) (early online). *Scandinavian Journal of Occupational Therapy*. doi:10.1080/11038128.2017.1316421
- Bonsaksen T, Kvarsnes H and Dahl M (2016). Who wants to go to occupational therapy school? Characteristics of Norwegian occupational therapy students. *Scandinavian Journal of Occupational Therapy*, 23(4), 297-303.
- Bonsaksen T, Sadeghi T and Thørrisen MM (2017). Associations between self-esteem, general self-efficacy, and approaches to studying in occupational therapy students: A

- cross-sectional study (early online). *Occupational Therapy and Mental Health*.
doi:10.1080/0164212X.2017.1295006
- Bonsaksen T, Vøllestad K and Taylor RR (2013). The Intentional Relationship Model - Use of the therapeutic relationship in occupational therapy practice. *Ergoterapeuten*, 56(5), 26-31.
- Bonsaksen T, Yazdani F, Ellingham B and Carstensen T (2018). Psychometric properties of the Norwegian *self-efficacy for managing interpersonal events* (N-SEMIE; submitted manuscript).
- Cole MB and McLean V (2003). Therapeutic relationships re-defined. *Occupational Therapy in Mental Health*, 19(2), 33-56.
- Eklund M and Hallberg IR. (2001). Psychiatric occupational therapists' verbal interaction with their clients. *Occupational Therapy International*, 8(1), 1-16.
- Hagedorn R (2000). *Tools for Practice in Occupational Therapy: A Structured Approach to Core Skills and Processes*. Edinburgh: Churchill Livingstone.
- IBM Corporation (2016). SPSS for Windows, version 24. Armonk, NY: IBM Corp.
- Kielhofner G (2009). *Conceptual Foundations of Occupational Therapy Practice* (4th ed.). Philadelphia: FA Davis Company.
- Lewis D, O'Boyle-Duggan M, Chapman J, Dee P, Sellner K and Gorman S (2013). 'Putting Words into Action' project: using role play in skills training. *British Journal of Nursing*, 22(11), 638-644.
- Mosey A (1986). *Psychosocial components of occupational therapy*. New York, NY: Raven Press.
- Nunally JO (1978). *Psychometric theory*. New York, NY: McGraw-Hill.

Opseth TM, Carstensen T, Yazdani F, Ellingham B, Thørrisen MM and Bonsaksen T (2017).

Self-efficacy for therapeutic mode use among occupational therapy students

(submitted manuscript).

Palmadottir G (2006). Client-therapist relationships: Experiences of occupational therapy clients in rehabilitation. *British Journal of Occupational Therapy*, 69(9), 394-401.

Peloquin SM (1990). The patient-therapist relationship in occupational therapy:

Understanding visions and images. *American Journal of Occupational Therapy*, 44(1), 13-21.

Peloquin SM (2003). The therapeutic relationship: Manifestations and challenges in

occupational therapy. In EB Crepeau, ES Cohn and BAB Schell (Eds.), *Willard & Spackman's Occupational Therapy* (10th ed., pp. 157-170). Philadelphia: Lippincott Williams & Wilkins.

Punwar AJ and Peloquin SM (2000). *Occupational Therapy: Principles and Practice*.

Baltimore, MD: Lippincott Williams & Wilkins.

Ritter VC, Yazdani F, Carstensen T, Thørrisen MM and Bonsaksen T (2018). Psychometric properties of an instrument derived from the Intentional Relationship Model: the self-efficacy for recognizing clients' interpersonal characteristics (N-SERIC) (in press).

Open Journal of Occupational Therapy.

Shanahan MM (2004). Does age at entry have an impact on academic performance in

occupational therapy education? *British Journal of Occupational Therapy*, 67(10), 439-446.

Solman B and Clouston T (2016). Occupational therapy and the therapeutic use of self.

British Journal of Occupational Therapy, 79(8), 514-516.

Taylor RR (2008). *The Intentional Relationship. Occupational Therapy and the Use of Self*.

Philadelphia: FA Davis.

The Norwegian Association of Higher Education Institutions. (2011). The grading system - general, qualitative descriptions. Accessed 30 July 2015, from http://www.uhr.no/documents/Karaktersystemet_generelle_kvalitative_beskrivelser.pdf

World Medical Association (2008). *WMA Declaration of Helsinki - Ethical Principles for Medical Research Involving Human Subjects*: World Medical Association.

Zeegers P (2001). Approaches to learning in science: A longitudinal study. *British Journal of Educational Psychology*, 71(1), 115-132.

Table 1

The IRM workshops: content, duration, teaching methods and location

	Oslo	Trondheim
Content	Introduction to the IRM: The therapeutic modes, interpersonal characteristics, interpersonal events and their management	Introduction to the IRM: The therapeutic modes, interpersonal characteristics, interpersonal events and their management
Duration	3 hours	6 hours
Teaching methods	Lecture Teacher demonstrations Students developed their own case stories Role-playing therapeutic modes Video-filming of short sessions Plenary session: questions and discussion	Lecture Teacher demonstrations Students used pre-planned case stories Role-playing therapeutic modes Group discussion Plenary discussion: questions and discussion
Location	Classroom and group rooms	Classroom

Table 2

Sample characteristics (n = 89)

Variables	All <i>n</i> = 89	Oslo <i>n</i> = 35, 39.3 %	Trondheim <i>n</i> = 54, 60.7 %	
<i>Age</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>p</i>
Years of age	24.3 (6.1)	26.3 (8.3)	23.1 (3.6)	< 0.05
<i>Gender</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	
Male	16 (18.0)	6 (17.1)	10 (18.5)	0.87
Female	73 (82.0)	29 (82.9)	44 (81.5)	
<i>Work</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	
In paid work	53 (59.6)	21 (60.0)	32 (59.3)	0.95
Not in paid work	36 (40.4)	14 (40.0)	22 (40.7)	
<i>Education</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	
Average exam grade	4.3 (0.7)	4.5 (0.7)	4.1 (0.6)	< 0.05
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	
Prior higher education	44 (49.4)	17 (48.6)	27 (50.0)	0.90
No prior higher education	45 (50.6)	18 (51.4)	27 (50.0)	

Note. Average exam grade scale is 1-6, where 1 represents the lowest grade (fail) and 6 represents the highest grade.

Table 3

Changes in outcome scale scores from baseline to follow-up for the total sample (n = 89)

Variables	Score range	Baseline mean	Follow-up mean	<i>t</i>	<i>p</i>
		score (SD)	score (SD)		
N-SETMU	6-60	40.4 (6.9)	44.8 (7.2)	5.9	< 0.001
N-SERIC	12-120	72.6 (14.7)	79.5 (16.5)	4.3	< 0.001
N-SEMIE	11-110	64.7 (14.7)	70.3 (16.3)	4.1	< 0.001

Note. Statistical test is dependent *t*-test. N-SETMU: Norwegian version of Self-Efficacy for Therapeutic Mode Use; N-SERIC: Norwegian version of Self-Efficacy for Recognizing Interpersonal Characteristics; N-SEMIE: Norwegian version of Self-Efficacy for Managing Interpersonal Events

Table 4

Direct associations with outcome scale scores in the sample (n = 89)

Variables	N-SETMU at follow-up	N-SERIC at follow-up	N-SEMIE at follow-up
Baseline outcome scale score	0.49**	0.50**	0.61**
Explained variance	25.2 %	28.6 %	43.5 %
Age	0.22*	0.12	0.19*
Gender	-0.04	0.03	0.04
Work status	0.01	-0.01	-0.01
Prior higher education	-0.09	-0.07	-0.09
Average exam grade	-0.03	-0.05	0.04
University	-0.14	-0.20	-0.12
R² change	7.5 %	5.7 %	6.6 %
Explained variance	32.7 %	34.3 %	50.1 %

Note. The results as shown in the table are derived from linear regression analyses. Table content is standardized β weights, showing the independent variables' association with the dependent variables while controlling for all variables in the model. Coding: male gender = 0, female gender = 1; not in paid work = 0, in paid work = 1, not having prior higher education = 0, having prior higher education = 1, Oslo university = 0, Trondheim university = 1. For all other variables, higher scores indicate higher levels. N-SETMU: Norwegian version of Self-Efficacy for Therapeutic Mode Use; N-SERIC: Norwegian version of Self-Efficacy for Recognizing Interpersonal Characteristics; N-SEMIE: Norwegian version of Self-Efficacy for Managing Interpersonal Events.

* $p < 0.05$

** $p < 0.01$

Appendix 1

The self-efficacy for therapeutic use of self-scales

SELF-EFFICACY FOR THERAPEUTIC MODE USE

When I work with clients I am confident in my ability to:

- 1) Advocate
- 2) Problem-solve
- 3) Instruct
- 4) Encourage
- 5) Empathize
- 6) Collaborate

SELF-EFFICACY FOR RECOGNIZING INTERPERSONAL CHARACTERISTICS

I am confident in my ability to recognize my clients'

- 1) Preference for communication style
- 2) Capacity for trust
- 3) Need for control
- 4) Capacity to assert needs
- 5) Response to change or challenge
- 6) Affect
- 7) Predisposition to giving feedback
- 8) Predisposition to receiving feedback
- 9) Response to human diversity
- 10) Orientation towards relating
- 11) Preference for touch
- 12) Capacity for reciprocity

SELF-EFFICACY FOR MANAGING INTERPERSONAL EVENTS

When I work with clients I am confident in my ability to manage

- 1) expression of strong emotion
- 2) intimate self-disclosures
- 3) power dilemmas
- 4) non-verbal cues
- 5) crisis points
- 6) resistance and reluctance
- 7) boundary testing
- 8) empathic breaks
- 9) emotionally charged tasks and situations
- 10) limitations of therapy
- 11) contextual inconsistencies

Note. All items are scored between 1 (lowest possible self-efficacy) and 10 (highest possible self-efficacy).