

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

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Abstract

Background: Self-efficacy concerned with the therapeutic use of self is important for occupational therapists. Students need to develop the knowledge and skills required to meet such challenges, and need to develop self-efficacy for using them in practice. This study examined changes in occupational therapy students' self-efficacy for therapeutic use of self, following a brief workshop, and examined factors associated with such changes.

Methods: A sample of 89 Norwegian occupational therapy students 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 of the 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, time in education, be it 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, use of self

Key findings: 1) 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. 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 adopted as a conceptual framework for describing the therapeutic relationship and the therapeutic use of self within occupational therapy practice. 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. It 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 or approaches according to the client's needs. 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 way the therapist manages such events will determine the course of the therapeutic relationship, for better or worse, 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.

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. 2017; Ritter, Yazdani, Carstensen et al. 2017) have investigated the psychometric properties of a recently developed instrument for assessing self-efficacy for the use of self in occupational therapy practice (Yazdani and Tune 2016). One study also found that students

who performed better academically had higher levels of self-efficacy for therapeutic mode use (Opseth et al. 2017).

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 introductory IRM workshop, and whether individual student characteristics 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 (clinical fieldwork 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 use of self, and to assess whether demographic variables and university program were associated with their changes.

Method

Design

The study is a longitudinal observational study of occupational therapy students' self-efficacy for the therapeutic use of self in client-therapist interactions. The baseline measurement occasion was 2-3 weeks after the introductory 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. For the students from Oslo, that implied working in clinical 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 dedicated 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 student groups consisting of second-year. 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 on 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.

Participant recruitment

Students were included in the study if they i) were enrolled in one of the involved occupational therapy education programs, and ii) provided informed consent to participate in the study.

Measures

Self-efficacy for therapeutic use of self

The original “self-efficacy for therapeutic use of self” questionnaire was developed in the UK by Yazdani and Tune (2016) based on Taylor’s (2008) original conceptual model. This study employed the Norwegian version of the questionnaire, which consists of three parts. 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. 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. 2017)

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, Ellingham et al. 2017) 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 (Yazdani and Tune 2016). 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 of the collected data were self-reported.

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 1. 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 1 ABOUT HERE]

Changes in self-efficacy for therapeutic use of self

Table 2 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 2 ABOUT HERE]

Factors associated with the changes

Table 3 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 3 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 2).

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 an 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 clinical 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. This result indicates that campus-based teaching may be of similar value as clinical practice training, at least with a view to raising this particular set of self-efficacy beliefs in the students. 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 (e.g., supervised or guided role-plays). 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 previous 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). The current study showed no evidence that better academic performance was associated with more increase in any of the self-efficacy measures concerned with the therapeutic use of self, compared to those with lower academic performance. Therefore, those with better grades may have higher self-efficacy for skills related to therapeutic use of self, but the increases that occurred in the follow-up period was similar for all, regardless of 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 on the N-SETMU and N-SEMIE

scores 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. 2017), whereas the N-SETMU (Bonsaksen and Carstensen 2017) and the N-SEMIE (Bonsaksen et al. 2017) 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

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 clinical placement training, some in physical health and some in mental health, whereas the students from Trondheim took part in a campus-based course. Other than that, we do not have access to information concerning the students' study activities or other experiences that may have had an impact on their questionnaire responses.

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, largely comprised by young female students with ethnic Norwegian background. Thus, one should be careful in making generalizations 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.

Conclusion

This study found that occupational therapy students improved their self-efficacy for therapeutic use of self during a three-month follow-up period. Moreover, it was found that self-efficacy improvement increased with increasing age among the students. The results indicate that the students, during a quite brief follow-up period, increased their self-efficacy for therapeutic use of self. Higher age appears to be a resource for the students' ability to benefit from the time in occupational therapy training, be it a traditional university-based course or clinical practice training.

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Table 1

Sample characteristics (n = 89)

Variables	All N = 100	Oslo (n = 35, 39.3 %)	Trondheim (n = 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>			
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>			
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>			
Average exam grade	4.3 (0.7)	4.5 (0.7)	4.1 (0.6)	< 0.05
	<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 2

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

Variables	Score range	Baseline score (SD)	Follow-up score (SD)	<i>t</i>	<i>p</i>
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.

Table 3

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.

* $p < 0.05$

** $p < 0.01$