

# Motivation in Occupational Therapy

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### **Abstract**

Motivation is a highly relevant topic in occupational therapy because elevated levels of motivation have been found to positively impact therapy outcomes. The research which examines motivation identifies multiple categories in which motivation is measured. Some researchers focus on locus of control, while others turn to self efficacy as an indicator of motivation. Lastly, treatment expectancy and mastery motivation have been examined within motivation to understand their impacts on therapy outcomes.

Most of the literature on motivation reveals the crucial role it plays on therapy outcomes. Motivational enhancements, such as motivational interviewing and motivational enhancement therapy, have also been found to improve therapy outcomes as a result of raised motivation levels. Other motivational qualities are suggested for occupational therapists to incorporate into their practice such as positive feedback and setting realistic goals for patients. Knowledge of these motivational techniques can further the success of well-delivered occupational therapy. Therefore, graduate school curricula should include more focus on crucial psychological concepts, especially motivational interventions, to allow the future of occupational therapy to continue growing and impacting many lives.

## **Motivation in Occupational Therapy**

### **Occupational Therapy**

According to the U.S Bureau of Labor Statistics, occupational therapy is a growing job which is expanding at rapid rates. In 2020, there were 131,600 occupational therapy jobs in the United States. This number is expected to increase by 17% between the years 2020 and 2030. In May 2020, the average income for occupational therapists was \$86,280 (U.S. Bureau of Labor Statistics, 2021).

Occupational therapists use everyday activities to treat patients with impairments in physical or psychological function. Many occupational therapists focus on fine motor activities such as handwriting, shoe tying, and typing; however, occupational therapists also address the overall function of their patients. Occupational therapists can be found working in schools, hospitals, offices, nursing homes, patient homes and in various other locations. The demand for occupational therapy is high in many settings. In 2015, The New York Times reported that public schools in New York City increased the number of students referred to occupational therapy by thirty percent in a span of four years (Harris, 2015). Depending on the setting, the average working occupational therapist sees between five to eight patients a day (Healthcare, 2011). Upon multiplying the average number of patients treated daily with the number of occupational therapists in the United States in the year 2020, there is an estimated 855,400 people receiving occupational therapy every day.

Students studying to become occupational therapists can earn a master's degree or a doctoral degree, which has been more recently developed in occupational therapy programs. The greatest number of accredited schools are masters programs, however, many schools are switching to doctoral programs. The AOTA reported 21,348 students enrolled in occupational

therapy graduate programs in the academic year 2017-2018. These numbers have increased by about 10,000 since the year 2007, showing the immense popularity of this field (The American Occupational Therapy Association, 2018).

### **Psychology in Occupational Therapy**

Occupational therapists require keen understanding of psychological concepts and practices as they help others navigate their daily lives. People who struggle with everyday tasks can qualify to receive occupational therapy, rendering a broad and diverse patient group. Some patients have cognitive deficits while others face only physical challenges. For example, occupational therapists work with ALS patients to maintain maximum function. This could entail installing new systems into a wheelchair in order for a patient to type with his or her eyes, or introducing a new feeding system which lifts utensils to a patient's mouth. Occupational therapists also work in mental health settings, providing support groups to those who undergo psychological distress such as people facing alcohol addiction. They address both psychological and occupational aspects of their clients through helping them create plans for recovery, discussing coping strategies, and providing relevant information to aid in the recovery process. In all cases, an occupational therapist must intuit the patient's ability to participate in therapy which requires psychological insight.

### **Motivation in Occupational Therapy**

Like any therapy, a patient's attitude in occupational therapy can deeply impact the outcomes of therapy. Many studies address the impact of motivation on therapy outcomes, leading to suggestions for an ideal therapy approach and education in graduate schools for occupational therapy.

Through a literature review of the studies on motivation in occupational therapy, the numerous definitions and measures of motivation become apparent. The literature focuses on individual aspects of motivation instead of a more holistic approach, making it difficult to find consistent conclusions about the impact of motivation on occupational therapy outcomes. Studies focus on concepts within motivation such as locus of control, self efficacy, and outcome expectations to discover the role of motivation in different settings.

### **Locus of Control**

Locus of control refers to the extent by which a person feels in control of his or her life. This could refer to his or her psychological, physical, emotional, or behavioral state of being. There are many types of locus of control which explain a person's feeling of belief in further detail. Internal locus of control refers to the extent by which a person believes that his or her failures and successes are in his or her control. Contrastingly, external locus of control is how strongly a person believes that his or her successes and failures are out of his or her control and completely determined by external factors. Additionally, there is recovery locus of control which is a term specifically used in reference to the rehabilitation process. Recovery locus of control is defined as the perceived control patients in recovery have towards themselves (Zulkifly, 2015).

In a longitudinal study on motivation in stroke patients, motivation, assessed by locus of control, was found to have impacted the effectiveness of administered occupational therapy (Rapolienė et al., 2018). The participant base consisted of thirty patients between the ages of 44 and 90 who had experienced acute stroke. These patients were admitted to rehabilitation and a team of professionals made individualized programs for each patient. These rehabilitation programs included five occupational therapy sessions for 30-40 minutes a week for four weeks, totalling 20 sessions. The sessions focused on hand movement training, working on everyday

activities, and promoting motivation to perform said activities. In order to accomplish these goals, the occupational therapists provided emotional feedback to the patients and encouraged them to express their feelings. The therapists worked on coping mechanisms, as well as forming clear plans and goals for the patients. They also discussed how to have a meaningful life despite challenges with the patients and chose activities which provided a morale boost for the patients.

Measures were administered before beginning the first occupational therapy session and after concluding the twentieth session for each participant. The occupational therapists served as the researchers and administered all of the tests, using the Multidimensional Health Locus of Control (MHLC) to measure motivation and the Functional Independence Measure (FIM) to measure performance of daily activities.

The MHLC measures locus of control, which this study separates into internal and external motivation, by asking specific statements regarding one's health beliefs and perspective of who is in control of one's health (Wallston et al., 1978). The occupational therapists asked the patients to respond to these statements with their degree of agreement. The FIM records functional abilities to perform activities such as bathing, grooming, and eating (Granger et al., 1993). It consists of 18 activities of daily living including five which address cognitive abilities. The researchers scored the participants using the FIM from one (complete dependence on others) to seven (complete self-sufficiency) to indicate physical and cognitive abilities.

After completing the motivational and physical assessments following the twenty occupational therapy sessions, the researchers found an overall increase in FIM scores and internal motivation. Before the rehabilitation process, patients were scored higher on external motivation than internal motivation as indicated by the MHLC scores. However, over time, external motivation dropped while internal motivation increased. Additionally, a linear

correlation between age and motivation was discovered. The older patients in the participant group (although age is not specified) were rated lower on internal motivation than the younger participants at the beginning of rehabilitation. A moderate correlation was found between internal motivation at the beginning of rehabilitation and increased independence at the end, meaning patients with higher internal motivation at first experienced greater improvement in performance of daily activities than those with lower internal motivation scores.

This study reveals the positive impact of motivation on occupational therapy outcomes as seen by the extent to which initial internal motivation influenced physical performance after the therapy sessions. It also demonstrates the positive impact of motivational techniques provided within occupational therapy as seen by the increased internal motivation scores and decreased external motivational scores by the end of therapy. Although increased motivation was found to improve therapy outcomes, there was no control group to determine whether patients who did not receive the motivational techniques might also increase motivation as a result of improved physical abilities.

A different cross-sectional study conducted with stroke patients also utilized locus of control as a measure of motivation to see its impact on predicting physical function (Zulkifly, 2015). With a participant pool of 147 stroke patients with intact cognitive functioning, researchers used the Recovery Locus of Control Scale (RLOC) to measure motivation. The RLOC measure contains nine statements to understand patient beliefs about his or her experience in recovery, with this study specifically focusing on stroke recovery. Five statements of the RLOC scale address internal beliefs while the remaining four address external beliefs. Participants answered on a 5-point scale from strongly agree to strongly disagree (Partridge & Johnston, 1989). In addition, the Barthel Index in Activities of Daily Living (ADL) was used to

assess physical functioning (Mahoney & Barthel, 1965). Both tests were taken by the participants six weeks after their strokes occurred.

The results indicated that recovery locus of control was a significant predictor of physical functioning, as a correlation was found between higher RLOC scores and physical functioning as measured by the Barthel Index. Researchers also looked at the impact of recovery locus of control and found internal locus of control contributed more to the RLOC scores than external locus of control.

This study indicates the positive impact of motivation, specifically internal recovery locus of control, on physical functioning. However, it fails to address if any therapy was administered during the six weeks between stroke and assessment which could be a confounding factor. Different therapists or methods of therapy could have impacted the patients' physical functioning and must be considered before crediting initial motivation scores for these results.

The RLOC measure has also been used in research conducted with patients with lower limb amputations (Larner, Ross, & Hale, 2003). A cross-sectional study looked at RLOC scores to predict the patients' abilities to learn how to use prosthetics. The participant group consisted of 43 individuals who experienced lower limb amputations due to peripheral vascular disease and were 66 years old on average. Participants were moved to a rehabilitation ward an average of 19 days after amputation and the RLOC was administered in an interview format an average of 23 days after amputation.

The results of this study indicate that motivation does not relate to physical outcomes. In fact, none of the psychological measures used by the researchers related to the patients' abilities to use their prosthetics. The researchers had measured for anxiety and depression by using the Hospital Anxiety and Depression Scale (HADS), but no significant findings resulted from this



measure. Although these results seem to contradict previous studies which indicate motivation as a predictor of outcomes, the researchers attribute their results to the rehabilitation process of amputees. They explain that the rehabilitation program for amputees is more structured than rehabilitation programs for other conditions, and therefore individual differences in response to treatment can be restricted. This explanation reveals how the structure of rehabilitation programs could have prevented the researchers from detecting a correlation between motivation and outcomes in this study.

While some of these studies found that locus of control had a positive impact on therapy outcomes, others did not detect any differences in outcome based on locus of control. Discrepancies in the research could be due to methodological limitations in individual studies or the varying role of motivation among different patient populations. In order to clarify these matters, further research is necessary. Future research should address the impact of motivation on physical performance in multiple settings and then compare the findings for each group.

### **Self Efficacy**

Self efficacy is described by Albert Bandura as one's belief in his or her ability to execute certain behaviors in order to attain a specific result or goal. Bandura created the Generalized Self-Efficacy Scale (GSES) to measure people's self efficacy according to this definition. The GSES presents ten statements which revolve around coping abilities, with a higher score indicating greater self efficacy (Bandura, 1994). This measure is broad and can indicate self efficacy on a basic level, however, further measures have been created in order to study self efficacy in specific populations. For example, the Stroke Self Efficacy Questionnaire (SSEQ) was generated for individuals with stroke, a population which is believed to face challenges when it comes to motivation.

Much of the research on motivation in stroke patients uses self efficacy as an indicator of motivation. Self efficacy is commonly associated with motivation, as researchers state that “a lack of self efficacy can completely reduce one’s motivational potential” (Szczepańska-Gieracha & Mazurek, 2020). A person with high self efficacy is believed to have a stronger work ethic, commitment to goals, and typically sets high goals for themselves. Therefore, self efficacy is studied in assessing the impact of motivation on rehabilitation outcomes.

One study that used self efficacy to measure motivation assessed 99 stroke patients above the age of fifty years old. In this longitudinal study, the researchers utilized the Generalized Self-Efficacy Scale (GSES) in order to gain insight into the motivational patterns of the participants (Szczepańska-Gieracha & Mazurek, 2020).

The participants of this study had all experienced their first stroke with no dementia or cognitive deficiencies apparent and were admitted to a rehabilitation program. During this program, patients received multiple therapy treatments which consisted of a combination of physiotherapy and occupational therapy. Participants received exactly the same amount of sessions and time in therapy, with the therapy itself varying based on individual needs. Using the GSES to measure self efficacy and the Barthel Index along with other physical and psychological tests to measure rehabilitation outcomes, participants were assessed within the first two days of admission to the program and three weeks into their rehabilitation.

Results revealed that self efficacy played a significant role in rehabilitation outcomes. There was an increase in self efficacy among some participants, as well as overall increase in physical and psychological abilities. Of the 99 total participants, 43 improved in their self efficacy scores after three weeks. The 56 who did not improve in self efficacy was attributed to the patients’ families’ abilities to care for their loved ones. The researchers found that

participants with families who had the ability to take care of them increased in self efficacy score while participants whose families could not care for them did not experience increased self efficacy. Participants with lower self efficacy scores at the three week assessment also showed lower scores in the physical and psychological tests.

The researchers found that self efficacy scores at the initial assessment were influenced by many factors. For example, scores were higher in people over 60 years old during the first assessment. They explained situational factors which related to self efficacy scores such as lower self efficacy in participants who were single or whose families could not care for them as opposed to participants who were married or whose families had full care capacity which resulted in higher self efficacy scores. Looking at these initial self efficacy scores is important in understanding the impact of self efficacy on a patient's rehabilitation experience. From these results, the researchers called for greater concern and attention from a rehabilitation team towards patients with initial low self efficacy scores (Szczepańska-Gieracha & Mazurek, 2020).

In their conclusion, the researchers include limitations to their study such as the timing of their assessments. They suggest that their results could have been strengthened by more frequent testing and long-term assessments. Further study is necessary to confirm the findings and changes in self efficacy throughout the rehabilitation process. Additionally, their use of the GSES in measuring self efficacy could have been too general. It is possible that the self efficacy scores were lower in those without physical improvement after three weeks because the GSES is an objective assessment of abilities, rather than a true measure of self efficacy for stroke patients. Results may have been different with a more specific measure such as the Stroke Self-Efficacy Questionnaire (SSEQ).

A suggestion for rehabilitation teams regarding increasing the self efficacy of their patients can be found in an article discussing oncology nurses (Hoffman, 2013). The researcher encourages the use of his Theory of Symptom Self-Management (TSSM) in handling patients. This theory is applied in a rehabilitation setting by addressing physical, psychological, and contextual characteristics. Symptom self-management is performed by a patient on his or her own and the patient is given full control of his or her medical and psychological care, including how much to eat, when to take medications, and at what dosages. This method focuses on how patients take care of themselves and view their ability to take care of themselves. It offers more independence to patients in determining their personal behaviors, feelings, thoughts, and physical function. Through oncology nurses adopting this approach, the researcher believes cancer patients will have a more positive rehabilitation experience and feel less burdened by their symptoms. Although Hoffman discusses his theory in a specific rehabilitation setting, further research may enable his suggestions to be applied to a broader range of patient populations in order to increase self efficacy and enhance therapy outcomes.

While Szczepańska-Gieracha and Mazurek (2020) believed their study could have been improved by a more specific self efficacy measure, other studies show the impact of self efficacy with measures which are specific to their patient populations. In order to explore the effect of self efficacy on functional abilities after therapy for stroke, researchers conducted a longitudinal study using the Stroke Self Efficacy Questionnaire (SSEQ) (Ma et al., 2021). The SSEQ consists of thirteen items scored on a scale of one (not at all confident) to ten (very confident) (Jones et al., 2008). Each item refers to the patient's confidence regarding specific functions and self management after stroke. Participants were given training therapy by occupational therapists between three and five times a week for four to six weeks. In addition, specific functional task

practice was included in each therapy session for around a half hour. Raters evaluated the participants immediately before and after the intervention.

This study aimed to determine if self efficacy played a mediating or moderating role on motor ability pretest and physical function posttest after task-related training. In other words, the researchers were curious if better motor ability before the task related training would result in greater self efficacy and thereby more functional use of their limbs after therapy. A mediating role would indicate a way to connect the two variables of motor ability and functional use, whereas a moderating role would impact the strength and direction of the relationship between motor ability and functional use. The researchers also wanted to know if motor ability before the task related training would have a greater effect on functional use after therapy for those who scored high in self efficacy as compared to those who scored low in self efficacy.

The results revealed that there were significant increases in self efficacy, functional use, and motor ability. However, while the researchers expected self efficacy to have a mediating effect, it was only found to moderate the relationship between motor ability and functional use. This means that self efficacy could not be considered the direct link between motor ability and functional use, however, self efficacy levels did impact the strength and direction of the relationship between motor ability and functional use. The researchers therefore concluded that “people with better motor ability before are more likely to have higher functional use after intervention and this relationship is stronger for people with higher self efficacy.” Their findings cause them to encourage focusing on increasing self efficacy in rehabilitation programs in order for greater physical outcomes to result (Ma et al., 2021).

Additional variations of self efficacy measures are used for different patient populations. In measuring motivation and the impact of motivation enhancement therapy among people with

lower back pain, researchers used the Proxy Efficacy Scale (PRES) and Pain Self Efficacy Questionnaire (PSEQ) in a longitudinal study (Vong et al., 2011). The 76 participants included individuals with lower back pain, ranging in age from 18 to 65 years old, and were assigned to one of two groups. The first group received only physical therapy while the second group received physical therapy which included motivational enhancement therapy simultaneously. There were six physical therapists total, with three trained to perform the motivational aspect as part of their treatments. The participants underwent ten sessions in the span of eight weeks in which they were given individualized exercise programs to follow. The therapists assessed patient motivation, exercise compliance, pain intensity and physical function around four times throughout the study. The PRES was administered following the first, fifth, and tenth sessions. Exercise compliance was assessed in the fifth and tenth sessions and at the one month follow up. All other measures were administered before the first therapy session, after sessions five and ten, and one month after treatment.

The PRES consists of 35 items rated on a one (strongly disagree) to four (strongly agree) scale. The 35 items include subscales of proxy efficacy, working alliance, and treatment expectancy (Cheing et al., 2011). Proxy efficacy is a person's level of trust in their therapist to "function effectively on their behalf." Working alliance refers to the relationship between the therapist and the patient which is built throughout the therapy process. Lastly, treatment expectancy is a person's belief in the results or consequences which come from performing a specific behavior.

The PSEQ consists of ten items rated on a scale from zero (not at all confident) to six (completely confident), which measure self efficacy beliefs regarding performance of activities while experiencing pain (Nicholas, 2007).

Participants were asked to make a line on a ten centimeter Visual Analog Scale (VAS) between the words “no pain” at the far left and “pain as bad as it can be” at the far right to indicate their level of pain intensity.

Physical function was measured using the Roland-Morris Disability Questionnaire (RMDQ), a twenty four item questionnaire with participant rating statements with a one to indicate agreement or a zero to indicate disagreement. Total scores range from zero to twenty four, with a high score indicating maximum pain and dysfunction and a low score indicating normal function (Roland & Morris, 1983).

Upon comparing the outcomes of patients who received physical therapy along with motivational enhancement therapy and those who received physical therapy only, many differences appeared between the groups. The PRES scores were significantly higher for participants in the motivational therapy group which included the categories of proxy efficacy, working alliance, and treatment expectancy. The increase in these three subgroups of self efficacy for the motivation group was detected from as early as after the first therapy session. However, PSEQ scores in the participant groups were not different.

The group which incorporated motivational enhancement therapy into the sessions displayed a greater decrease in VAS scores than the physical therapy group. In comparing the scores from beginning to the one month post-treatment follow up, the motivation group showed continuous decreases in VAS scores whereas the therapy only group showed increases in VAS scores. The one month follow up also found participants in the treatment including motivation group to have greater exercise compliance than the therapy only group, performing home exercises at a frequency double to the frequency of the therapy only group. This difference between groups was also found after the tenth therapy session.

Physical function did not follow this trend and did not have clear differences between treatment groups. Results from the RMDQ revealed decreased scores in both groups.

Overall, the researchers found that the addition of motivational therapy to traditional therapy impacted the participants' motivation, therapy outcomes, and exercise compliance. They attribute the lack of difference in PSEQ scores to the general improvement during therapy experienced by both groups. This improvement impacted the self efficacy scores of both groups in the same way, resulting in no clear difference between groups for this measure.

These findings do not support the idea that self efficacy impacts therapy outcomes overall since the PSEQ scores were equivalent in both participant groups, however, the PRES results show that there are specific subscales which can contribute to treatment outcomes nonetheless. This study also displays the overall positive impact of motivational methods within therapy on therapy outcomes.

The literature on self efficacy's impact on therapy outcomes provides conflicting data. While most studies find self efficacy to be a strong predictor of treatment outcomes, others do not find a relationship between the two. The studies which examine stroke patients consider self efficacy a defining factor of motivation which carries serious therapy implications. For other patient populations, the impact of self efficacy is not as apparent. Nonetheless, researchers call for increased attention to self efficacy within the rehabilitation process. Research conducted by Ma et al. (2021) led to a strong recommendation that therapists add enhanced self efficacy as an independent intervention goal in addition to physical outcomes. Other researchers suggest that the education in graduate schools include instruction pertaining to self efficacy and how to maximize this aspect of motivation while administering therapy simultaneously (Mcgrane et al., 2015).



Discrepancies in research outcomes can be related to the frequency and timing of the self efficacy measures. Some studies assessed self efficacy only at the baseline while others constantly monitored self efficacy levels throughout therapy treatment. In order to truly see self efficacy's impact, it would be beneficial to clarify the nature of the relationship between initial self efficacy scores and treatment outcomes. After this relationship is concretized, further research can explore the impact of self efficacy levels throughout therapy.

### **Treatment Expectancy**

Treatment expectancy in a broad sense refers to the belief a person has in the process and outcome of his or her treatment, whether medical, therapeutic, psychological, or other treatments. In a clinical rehabilitation setting, treatment expectancy is more commonly understood as a patient's assumptions about the outcomes of their given treatments and/or therapies. Although it does not directly translate into a person's motivation, treatment expectancy can be related to motivation because of the effect setting goals can have on an individual. Striving to reach a goal motivates patients to exert more self control, take action and have a more persistent attitude towards certain behaviors in and out of therapy (Vong et al., 2011).

In a study previously mentioned under self efficacy, researchers showed the impact of treatment expectancy on therapy outcomes (Vong et al., 2011). Participants with lower back pain were divided into two groups, one of which received physical therapy only and the other which received physical therapy which included motivational enhancement therapy. The researchers used the PRES in order to measure self efficacy and the subtests of the PRES include treatment expectancy, proxy efficacy and working alliance. The PRES was administered right after sessions one, five, and ten of therapy. Results revealed that the PRES scores in all three areas (working alliance, proxy efficacy, and treatment expectancy) were significantly higher in the

motivation group and this increase was detected from as early as after the first therapy session, when the first measures were taken. The motivation group also displayed greater exercise compliance and therapy outcomes, thereby demonstrating the importance of treatment expectancy in the therapy process.

### **Mastery Motivation**

Mastery motivation is “an intrinsic force that provides individuals with the incentive and direction to independently pursue and persist with solving problems and mastering moderately challenging tasks in the environment” (Miller et al., 2014). This type of motivation is generally not mentioned in conjunction with other motivational aspects such as locus of control and self efficacy. As opposed to locus of control and self efficacy which focus on general feelings and beliefs towards one’s control and independence, mastery motivation focuses on a person’s ability to use that control and independence to complete a specific task. It is therefore appropriate to study in terms of therapy outcomes, since the goal of therapy is to attain mastery of a certain skill.

A longitudinal study looked at the impact of mastery motivation on occupational performance outcomes for children with cerebral palsy (Miller et.al, 2014). Fifty three children between the ages of five and sixteen with congenital hemiplegia made up the participant group and underwent occupational therapy. Researchers assessed the children at both 13 weeks and 26 weeks after the start of treatment for upper limb training using the Dimensions of Mastery Questionnaire (DMQ). The DMQ is a parent-proxy report which reveals a caregiver’s assessment of their child’s mastery motivation when participating in tasks within the occupational therapy spectrum. The results are given in terms of seven subscales, a persistence aspect, an expressive aspect, and a total mastery motivation score (Morgan et al., 2009).

The researchers considered motivation a mediator of therapy outcomes and their results supported the impact motivation makes. Mediators directly influence the relationship between two variables. Therefore, by calling motivation a mediator, the researchers depict the significant effect motivation has on therapy outcomes. Besides for mediating outcomes following occupational therapy, the researchers also believed that motivation impacts childrens' participation during therapy while it is administered.

The DMQ scores revealed that a specific category, object-oriented persistence, was related to occupational therapy outcomes at 13 weeks but not 26 weeks. The other subscales and total scores were not as strongly associated with outcomes at both the 13 and 26 week marks.

The researchers concluded that motivational enhancement methods can impact children's engagement in therapy and their therapy outcomes thereafter. However, there were many limitations to this study, including a possible bias since parents were ranking their own children. Additionally, they speculate that other subscales of the DMQ could also be predictors of occupational performance.

Treatment expectancy and mastery motivation add to therapists' and researchers' conclusions that increasing motivation can contribute to a more effective therapy experience with better outcomes. This reveals the role of motivation in therapy which requires further study in order to find techniques which encourage increased motivation in patients receiving occupational therapy treatment.

### **Motivational Enhancements**

Many studies have examined different methods of increasing motivation throughout the therapy process in order to impact therapy outcomes. In a literature review of fourteen such studies, Mcgrane et al. (2015) focused on motivational interventions' influence on therapy

adherence and physical activity in physiotherapy. Five studies looked at patients with chronic musculoskeletal pain, four studies looked at obesity, three studies looked at patients in cardiac rehabilitation, one study looked at fatigue in cancer patients and one looked at sedentary females. The motivational interventions were developed based on multiple psychological theories and practices. While some interventions used manualized approaches, others published and adapted new interventions for their samples. The theories behind these interventions include cognitive behavioral therapy (CBT), motivational interviewing, social cognitive theory, self determination theory, transtheoretical model and social learning theory.

Overall, the results of these studies revealed that the intervention groups which received motivational enhancements displayed greater physical activity levels and increased self efficacy levels. The researchers consider these to be positive outcomes of motivational enhancements, however, the association between self efficacy and activity levels was not examined. Studying these factors more in-depth could help therapists understand the impact they make on therapy outcomes. Nevertheless, Mcgrane et al. (2015) encourages physiotherapists to include motivational interventions within their therapy sessions since the results of the literature review show overall improvement in patients who experienced motivational interventions. The researchers suggest that there be adequate education on the subject for practicing physiotherapists and graduate students alike (Mcgrane et al., 2015).

### **Motivational Interviewing**

Motivational interviewing (MI) is a method used by therapists to encourage and increase their patients' motivation and self efficacy levels (Befort et al., 2008). Developed from a program for people with alcohol addiction, MI addresses the crucial aspects of behavior change by enabling people to make their own decisions while receiving encouragement (Brodie, Inoue,

& Shaw, 2008). During motivational interviewing, therapists discuss change with their clients and explore issues more deeply once the patient expresses openness and readiness to change (Befort et al., 2008). Practicing MI requires classic psychological methods such as active listening, reflecting and paraphrasing (Brodie, Inoue, & Shaw, 2008). This intervention is broadly used by psychologists; however, physical and occupational therapists have begun to learn MI skills and incorporate some of these practices into their therapy as well (Fortune et al., 2019).

In a longitudinal study with 65 stroke patients, researchers implemented motivational interviewing within therapy sessions and looked at the results of this adaptation to routine therapy (Chen et al., 2020). As previously mentioned, stroke patients often score low on motivation measures, and rehabilitation teams have been encouraged to mend this through different encouraging techniques. The researchers divided the participants into two groups. The experimental group, consisting of 33 participants, received six MI sessions in six weeks, with one session administered per week. The control group, consisting of 32 participants, received individual attention from a research nurse on a weekly basis for six weeks. Measures of rehabilitation motivation including the Barthel Index (BI) and Instrumental Activities of Daily Living Scale (IADL) were administered.

The researchers found significant improvements in both BI and IADL scores over time in both participant groups. However, the MI group scored significantly higher than the control group immediately after rehabilitation and at six week and three month follow-ups. These findings suggest that MI is a good method of increasing motivation among stroke patients in rehabilitation.

Motivational interviewing, however, has not been proven to work among all patient populations. Researchers suggest that the increased obesity and lower levels of movement in African Americans may be attributed to a lack of motivation and therefore constructed a study to measure MI's impact on outcomes in a sixteen week weight loss program (Befort et al., 2008).

Forty four African American women took part in this study, all enrolled in the weight loss program, and some were randomly assigned to participate in four motivational interviewing sessions. Two of these sessions were in person and two were conducted over the phone. The researchers detail the course of these motivational interviewing sessions, with the first session focusing on basics of motivation and program adherence. In this session, participants discussed their pasts and identified core values which they connected to their motivation to lose weight. The second, third, and fourth sessions were less structured and turned focus towards specific target behaviors for each participant. In the MI sessions, participants spoke about change, their motivation to change and confidence in their abilities to change. They also discussed pros and cons of said changes. Each session concluded with a summary, a common tool used in psychology, and sometimes included a plan for the future.

The Treatment Self-Regulation Questionnaire (TSRQ) was used to assess the motivation of the women in this program (Williams et al., 1996). This measure is a six item questionnaire which asks participants their reasons for entering the weight loss program, staying in the program, and other similar inquiries. Each question is followed by a few possible ways of answering it, such as "I want to make changes in my life" and "I want others to see me trying to lose weight." The participants then scored each response on a seven point scale ranging from 'not all true' to 'very true'. The researchers used the results from the TSRQ to indicate the participants' levels of internal motivation. Program adherence and treatment outcomes were also

assessed. These measures took place before treatment to establish baselines and after treatment which was sixteen weeks later.

The results of this study revealed decreases in motivation and self efficacy, as indicated by TSRQ scores. These findings countered the researchers' expectations. Additionally, program adherence and treatment outcomes were not different between the two groups.

The researchers suggest a few possibilities for why MI did not improve any aspect of the participants measured in this study. One idea they suppose is that their participants had many socio-environmental barriers and life stressors, and MI was not strong enough to penetrate these obstacles to change. In addition, the measures the researchers used for self efficacy and motivation were never proven to be reliable for African American women.

These findings show a possible drawback in motivational interviewing in that it may be effective for certain cultures and groups more than others. This observation is important to keep in mind when creating motivational enhancement programs and when treating patients of varied cultures and ethnicities.

In a different longitudinal study, researchers investigated the impact which motivational interviewing plays on participants with chronic heart failure (Brodie, Inoue, & Shaw, 2008). The researchers wanted to examine if motivational interviewing is more effective than standard care in encouraging physical activity in their participants.

Sixty participants identified as elderly and experiencing heart failure completed the study and were divided into three groups. Group one received standard care, meaning patients received advice from a specialized nurse regarding an exercise program. Group two received motivational interviewing which was administered by the researcher. These hour-long sessions occurred weekly for eight weeks each and focused on increasing energy use by including more physical

activities into the patients' schedules. The patients identified their problems and worked through possible solutions to them while setting goals for themselves. The third group received both standard care and motivational interviewing. These treatments all lasted for five months.

The researchers administered a few questionnaires in order to measure outcomes. These were first given at baseline and then after the five months of treatment by the same person who administered the baseline measure. Two measures were used to measure quality of life; the Medical outcomes short form-36 health survey (SF-36) by Ware and Sherbourne (1992), and the Minnesota Living with Heart Failure Questionnaire (LHFQ) by Rector. The Minnesota LHFQ is a 21 item specific measure about quality of life for those with heart failure (Rector et al., 1987). The Readiness-to-Change-Ruler was used to measure motivational readiness for physical activity. This measure uses a line which allows participants to see their readiness to change and discuss it in a more straightforward approach (Stott et al., 1995). The administrators then place participants in different stages of readiness to change, including contemplation, preparation, action, and maintenance.

Upon comparing the scores after the five months of treatment to baseline scores, the SF-36 showed the most change in the motivational interviewing group, as the researchers predicted. The lowest change in scores occurred in the standard care group. Contrary to the researchers' expectations, results from the Minnesota LHFQ revealed no significant differences between the three groups. In the measure of motivation and change at baseline, the majority of participants in the third group were in the contemplation stage. After five months, however, there was a general improved readiness to change observed since a majority moved to the preparation stage. This indicated increased readiness to change following treatments. Additionally, some participants were in the contemplation and action stages.



These results revealed that MI has a positive impact on quality of life, because the two groups which included MI were found to have higher quality of life ratings. However, the researchers recommend that motivational interviewing be shaped more individually to each patient. This suggestion works in conjunction with Befort et al. (2008), who also finds the need to alter MI based on the population being treated.

Overall, motivational interviewing is a powerful tool used to increase motivation and self efficacy in different patient populations. Studies reveal times when motivational interviewing was not effective in increasing motivation, however, results may be due to the lack of generalizability in the development of MI. Greater research is required in order to understand which aspects of motivational interviewing should be changed based on the patient population receiving this treatment.

### **Motivational Enhancement Therapy**

Motivational enhancement therapy is a motivational method which is based on concepts from motivational interviewing but includes psychosocial factors which are not addressed in motivational interviewing. These factors include proxy efficacy, treatment expectancy, and working alliance. Outcomes in motivational enhancement therapy are observed by changes in behavior and a client's ability to engage in treatment (Vong et al., 2011).

In Vong et.al 's (2011) study, which was previously explained under self efficacy and treatment expectancy, motivational enhancement therapy was incorporated into physical therapy in order to study the impact it has on therapy outcomes. Participants were divided into two groups, one which received physical therapy only and the other which received motivational enhancement therapy and physical therapy together. The researchers found that the group which received the motivational intervention experienced many improvements compared to the therapy

only group, such as increased exercise compliance and a greater decrease on the VAS scale. These results display the strong role motivational enhancement therapy can play in a patient's therapy experience and demonstrates the effect of motivational enhancements on therapy outcomes.

### **Other Motivational Enhancements in Occupational Therapy**

Occupational therapists also utilize different therapeutic methods in order to encourage motivation and effort in their patients. Positive feedback, as well as working through emotions and coping resources can be incorporated into occupational therapy sessions (Rapolienė et al., 2018). Additionally, an occupational therapist can influence motivation and therapy outcomes by expressing positivity, encouragement, and by guiding patients towards their goals (Maclean & Pound, 2000).

In Rapolienė et al.'s (2018) study of motivation in stroke patients, the occupational therapists promoted motivation in their patients through deliberate discussions and therapeutic methods. This was mainly accomplished through delivering positive feedback to the patients. Psychological components of the administered occupation therapy included allowing patients to emotionally express themselves, find coping sources after identifying a problem, discuss hopes, accept help from others, understand how effort will allow for better outcomes, and discuss life after discharge (Rapolienė et al., 2018). After examining the participants' motivation levels by measuring locus of control, the researchers found that motivation had a positive impact on therapy outcomes. Their study also revealed the importance of including motivational techniques within occupational therapy sessions, thereby encouraging greater focus on motivation within the therapy world.

A literature review of five articles discussing motivation in psychological therapies found specific techniques, mostly regarding characteristics, which therapists should acquire in order to improve patient motivation (Maclean & Pound, 2000). Firstly, researchers discuss the need for therapists to display positivity and encouragement. The second quality they mention is a willingness to encourage patients to be actively involved in their therapy or rehabilitation program. Lastly, the literature review found that a therapist must have the ability to teach his or her patients how to choose the proper way to achieve a goal. This concept is also known as instrumental rationality, and researchers identify this as a necessary quality which a therapist must be able to instill in their patients (Maclean & Pound, 2000). While these traits and abilities are not explicit motivational interventions, the researchers conclude that they have the ability to increase the motivation levels for the patients of therapists with these qualities.

These therapeutic qualities are mentioned in the context of psychological therapy, however, occupational therapists can and should adopt these qualities as well (American Occupational Therapy Association, 2020). The literature on psychology is applicable in other therapeutic settings, thereby making it crucial for all healthcare professionals to acquire knowledge of certain psychological concepts and theories. For occupational therapy, researchers suggest therapists attend to and consider psychological aspects of their clients by applying the biopsychosocial model (Gentry et al., 2019). The biopsychosocial model encourages a holistic approach to a person by evaluating their biological, psychological, and social wellbeing. The research conducted by Gentry et al. (2019) reveals implications for the practice of occupational therapy, specifically in the area of psychology. The researchers discuss how mental illnesses such as anxiety and depression can impact the effectiveness of occupational therapy, however, they also list many other psychological factors which should be considered, such as personality,

expectations, pain tolerance, understanding, motivation, and many more. Occupational therapists must understand how to incorporate the psychological principles of psychological therapists into their administration of occupational therapy in order to improve and enhance therapy outcomes in their patients. It is therefore important for occupational therapy graduate programs to begin including information into their curricula about incorporating psychological tools in practicing occupational therapy. Educating future occupational therapists contains the immense potential to improve the lives of the future patients of these occupational therapy students.

### **Conclusion**

As the number of professionals and patients in occupational therapy continue to rise, it is important to look at the literature which impacts how occupational therapy is practiced.

Motivation has been found to positively impact therapy outcomes and therefore must be given greater attention by occupational therapists and graduate school programs. The research which examines motivation identifies multiple ways in which motivation is measured such as locus of control, self efficacy, treatment expectancy and mastery motivation. These specific aspects of motivation have been independently examined to understand their impacts on therapy outcomes.

While an overwhelming majority of the scientific literature finds motivation a crucial aspect of physical outcomes in therapy, there are some conflicting findings. In order to clarify the true role of motivation in therapy, research must begin at a basic level. Many of the studies administered their measures at inappropriate times or used less specific measures which impacted scores. For example, Szczepańska-Gieracha and Mazurek's (2020) study on self efficacy levels in participants after stroke could have used a more specific measure of self efficacy, such as the SSEQ, and could have used more frequent assessments. Future research should look more closely at how factors such as self efficacy, locus of control, treatment

expectancy, and mastery motivations change over time. These aspects of motivation should be measured multiple times throughout the therapy process in order to record the longitudinal trends in motivation levels. The research should then incorporate physical outcomes in response to these longitudinal changes and ideally assess these factors among different populations.

Additional limitations in the studies were found regarding the administration of the assessments. Many measures were recorded from a researcher or therapist perspective, thereby making it difficult to interpret the patient's true motivation levels. In Miller et al. 's (2014) study on children with cerebral palsy, the DMQ was administered to the parents of the children participants, leading to possible biases in responses. Future research should work on eliminating the factors which cause responses on these psychological measures to be inaccurate.

Currently, the literature on motivational enhancements provides positive but vague data as to the impact of various motivational enhancements on motivation levels. In order to clarify these findings, further research is necessary among a wide variety of populations. Administration of motivational enhancements are tailored to the individuals receiving therapy, rendering it difficult to measure and standardize. However, a greater understanding of the impact of said treatments will enable occupational therapists to learn methods which should be incorporated into their therapeutic practices.

In light of these findings, it becomes apparent that the education of students in graduate school for occupational therapy should include training in the administration of motivational therapies and enhancements. Additionally, occupational therapists would benefit from learning the different measures of motivation in order to assess their patients and select the appropriate motivational technique to use. Since increased motivation can lead to better physical outcomes from therapy, occupational therapists should learn the psychological tools which can enable their

patients to improve their motivation. With a more robust education and greater psychological understanding, occupational therapists can improve the methods in which they help their patients reach maximum function both physically and mentally.

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