

Comparing narrative-informed occupational therapy in adult outpatient mental health to treatment as usual: A quasi-experimental feasibility study with preliminary treatment outcomes

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Abstract

This paper describes implementation of a narrative-informed occupation-based service in an outpatient community mental health setting that addressed several gaps, including 1) the need for outcome data on occupational therapy in this setting; 2) an ongoing mental health provider shortage; and 3) a need for innovative approaches to supporting mental health. We found a significant improvement from baseline to post-intervention in occupational participation, and dose of occupational therapy was significantly related to improvements in the areas of roles, habits, values, long-term goals, social environment, and readiness for change. This study suggests future, larger effectiveness studies of narrative-informed occupation-based interventions delivered by occupational therapists in outpatient community mental health are warranted.

Keywords: occupation-based, community-based, participation, wellness, substance use disorder, severe mental illness

Introduction

People with severe mental illness (SMI) and substance use disorders (SUD) demonstrate high rates of disengagement from treatment and a range of poorer overall health outcomes relative to the general population (Ring & Lawn, 2019). This project examined the feasibility and preliminary outcomes of pairing narrative-informed care and occupation-based intervention within a large, urban, outpatient mental health center. Our rationale was that bringing client voices to the forefront of treatment planning and engaging clients in occupational performance during interventions could potentially facilitate greater improvements in clients' wellbeing, and their engagement in the recovery process. There is a need for intervention approaches that account for social and occupational injustices, such as lack of equitable opportunities for meaningful life participation among those with SMI (Hammell & Beagan, 2017). The stigmas attached to SUD and SMI contribute to inconspicuous health inequities such as implicit provider biases limiting quality of care (Kulesza et al., 2013). The complex mental health needs of this population require in-depth evaluation, skilled client-centered treatment planning/care-coordination, and effective interventions that empower clients to participate in and potentially direct their own recovery (Archibald, 2020).

Narrative Medicine is an evidence-based practice that emerged from Columbia University in New York, NY, USA and has received much attention over the past decade, especially regarding its impact on enhancing providers' abilities to truly hear, understand, and respect their clients (Charon et al., 2017). Literature suggests that involving clients in their own care planning dramatically improves treatment engagement and compliance, although the majority of psychiatric services do not utilize such a collaborative approach (McGuire et al., 2015). Some research has suggested good interpersonal and listening skills to be

the *only* predictor of positive clinical outcomes for patients with psychosocial needs (Najavits & Weiss, 1994; Charon et al., 2017). Clinician narrative medicine activities help prepare the clinician to be an effective, therapeutic listener. In a complementary fashion, narrative-informed treatment planning allows clients to *tell* their stories and have them *heard* by a trained clinician – both, evidence suggests, are highly therapeutic (Pennebaker, 2000).

A narrative-medicine-informed approach is a natural fit for occupational therapists, whose education is rooted in a belief in the importance of nuanced, context sensitive, client-centered, holistic care. In addition, occupational therapists have been cited as ideal care coordinators (Robinson et al., 2016), and a recent systematic review indicated that participation in occupation-based interventions bolsters outcomes of other evidence-based treatments for SUD and mental illness (Wasmuth et al., 2016). Narrative-informed care, paired with occupational performance interventions, therefore dually addresses healthcare inequities by offering opportunities for clients to be heard while also providing real-time person-centered occupational participation to those who are otherwise disenfranchised and experiencing occupational deprivation.

Combining insights from narrative medicine with occupation-based intervention may serve other unmet needs. For instance, Barbic et al. (2018) found in a multi-site cross sectional survey of adults receiving community based mental health services that the clients had high empowerment, hope, and optimism, but low levels of perceived connectedness, identity, and meaning in life – all areas that would be centralized through narrative-medicine-informed, occupation-based intervention. Moreover, Burroughs et al. (2016) reported that current literature identifies a need for occupational therapy (OT) in community based mental health juxtaposed

with a lack of understanding of OTs role in this setting, illustrating the importance of articulating and testing occupational therapy approaches to care such as our narrative-based method.

As OT services for SUD and SMI within outpatient mental health are relatively rare, this article provides a client-focused care model for this setting, and feasibility data on its implementation. More specifically, we report on the feasibility outcomes of acceptability and demand.

Demand

Bowen et al. (2009) suggested that “demand for the intervention can be assessed by gathering data on estimated use or by actually documenting the use of selected intervention activities in a defined intervention population or setting” (p. 454). To assess demand, we tracked and reported mock billing charges, which provided information about actual use of our OT care model within the study setting. As additional measures of demand, we tracked referrals to the intervening occupational therapist, and attendance at OT sessions. These inter-related constructs can indicate important information regarding implementation and demand for narrative-informed, occupation-based care within this setting. For example, lack of referrals could indicate there is not a demand for the intervention, or that we inadequately educated treatment teams about the occupational therapists’ services at the site. Likewise, client follow-up with referrals and/or attendance at OT sessions could also serve as critical indicators of the need/demand and feasibility of having an onsite occupational therapist within the study setting.

Acceptability

Acceptability refers to how targeted recipients of the program reacted/responded to the intervention. In order to assess acceptability of the OT intervention, pre/post data on recovery and occupational participation were collected on clients who participated in the narrative-

informed, occupation-based intervention. In order to compare the intervention to treatment as usual, we also tracked pre/post data on recovery from clients who did not receive the OT intervention. Pre/post and comparison data analyses are described below.

Research Questions

The following research questions were addressed regarding the feasibility constructs of demand and acceptability, respectively: (1) What OT services are most frequently provided and billable? (2) What are the trends in occupational participation and recovery at baseline and after 12 weeks of OT in outpatient mental health clients, and how do they compare to treatment-as-usual?

Methods

Research Design

This was an implementation feasibility study using a quasi-experimental pre/post and comparison group design to analyze the potential impact of the intervention with preliminary client outcome data. All participants whose data were used in this study provided informed consent. All procedures were approved by the institutional review board, IRB number 1809381496.

Participants

Participants were from two treatment teams within a large, urban outpatient mental health setting. One team's clients were referred to OT and the other team received treatment as usual. Participants who were pregnant or trying to become pregnant were excluded from this study. As this study is in its early phase of assessing feasibility, we did not want to unnecessarily alter or add to the services already in place for this vulnerable population.

Instruments

Occupational Circumstances Assessment Interview and Rating Scale (OCAIRS).

The OCAIRS uses a 1–4 rating scale that assesses roles, habits, personal causation, values, interests, skills, short- and long-term goals, interpretation of past experiences, physical environment, social environment, and readiness for change; it produces a single, summed, quantitative score and individual domain scores from 1 - 4 (Forsyth et al., 2005). It has adequate concurrent validity (Brollier et al., 1989) and excellent inter-rater reliability (Kielhofner, 2009).

Recovery Assessment Scale (RAS). The RAS is a 41-item scale that assesses perceptions of recovery for people with SMI. Respondents rate items such as ‘I have a desire to succeed’ and ‘I have my own plan for how to stay or become well’ on a scale from 1-5. Scores are summed for a total aggregate score. Four subdomains of 1) doing things I value, 2) looking forward, 3) mastering my illness, and 4) connecting and belonging can also be individually scored. The RAS has shown good test-retest reliability ($r = .88$) and Cronbach’s alpha indicated good internal consistency ($\alpha = 0.93$). Correlations with measures of self-esteem, empowerment, and quality of life suggest good construct and criterion validity (Corrigan et al., 1999). The subscales of RAS have adequate to good internal consistency (Factor1, $\alpha = 0.87$; Factor2 = 0.82; Factor3 = 0.73; Factor4 = 0.71; Factor5 = 0.52) (Corrigan et al., 2004).

Intervention

Description. The intervention was delivered by an occupational therapist who was trained in narrative medicine and abided by the following principles of the intervention: *(1) Patients’ narratives, illustrating their unique personal and historical contexts, must guide treatment planning; (2) Care plans must aim to empower clients to participate in and potentially direct their own recovery; (3) Occupation-based interventions, defined as providing patients with real time opportunities to perform meaningful activities, are essential; and (4) Care plans*

must actively recognize and attempt to deal with implicit provider biases by engaging clinicians in narrative medicine “close reading” activities. The occupational therapist was present at the site two days a week and intervention group clients were offered one-hour sessions one time a week. Actual minutes of therapy were recorded as well as time between data collection points. The was uniformed about the overall study purposes and methods.

The intervention was delivered in addition to treatment as usual, which consisted of a combination of medication management, group and individual psychotherapies, case management and skills interventions to assist with housing, SUD recovery, and access to needed resources and services. Clients in the comparison group received treatment as usual without occupational therapy services. Intervention group participants received treatment as usual and OT services, including OCAIRS administration (see below). Each session consisted of participation in/performance of a personally meaningful occupation. Narrative-medicine-informed care was made specific to OT by using it as a bridge to enhancing trust and personalization of the therapy encounter. Participant narratives were held in equal weight to such information as diagnosis, treatment course, and demographic information. The occupational therapist used participant narratives to ensure occupation-based interventions were created and implemented in ways that tapped into what was personally meaningful for intervention group participants. This approach is supported by other literature (Cepeda, et al, 2008). Narratives were intended to increase the capacity for trust between provider and client, and to make occupation-based interventions more meaningful and engaging.

Data Collection

All intervention group data were collected by the occupational therapist providing the intervention at baseline, week 6, and week 12 of treatment. If clients did not attend therapy

during a scheduled data collection point, data were collected within one week from the scheduled time. OCAIRS administration was considered part of the intervention – telling one’s detailed occupational circumstances in a therapeutic setting – and was therefore only administered to the intervention group. The RAS is a self-report measure and was administered by the occupational therapist to the intervention group. For comparison group participants, the RAS was administered by the treating case manager. Therefore, as described below, we only reported OCAIRS change scores over time in the intervention group. By contrast, because the RAS was administered to both groups, we reported between-group RAS comparison data.

The occupational therapist did not bill for services, but recorded mock billing charges, reported below. Mock billing charges provided important information about whether occupational therapy services in the study setting would be reimbursable, what the demand was for occupational therapy services, and which types of occupational therapy interventions were most frequently indicated within the setting and study population. These data were critical for evaluating the feasibility of integrating an occupational therapist in the study setting. If, for example, referred clients were consistently not appropriate for occupational therapy, or needed services were not reimbursable, these would pose barriers to future implementation in real-world settings.

Data Analyses

Descriptive statistics were conducted on demographics and feasibility outcomes including number of patients seen by the occupational therapist, frequency of sessions attended, mock billing charges, no-show rate, and acceptability outcomes (OCAIRS and RAS). To determine if there was change in the intervention group after 12-weeks of occupational therapy, scores from pre-, mid-, and post-intervention OCAIRS and RAS were compared using one-way

analysis of variance (ANOVA). In addition, after determining intervention group and comparison group results from the RAS at baseline and follow-up met the assumptions for t-test, they were compared using independent samples t test. Data were analyzed using IBM SPSS Statistics for Windows, Version 25.0 (IBM Corp., Armonk, NY).

Results

Demographics

Twenty-seven people participated in this study. Of the total study population (intervention and comparison group participants combined), 45.5% identified as Black, 45.5% identified as white, and 9.1% identified as Hispanic. Thirty percent had a diagnosis of schizoaffective disorder; 26% schizophrenia; 7% bipolar II disorder; 11% borderline personality disorder; 19% major depressive disorder; 4% history of traumatic brain injury; 11% generalized anxiety disorder; 4% cannabis use disorder, 11% unspecified psychosis; 4% narcissistic personality disorder; 4% delusional disorder; and 4% attention deficit hyperactive disorder. Due to small sample, between-group demographic comparisons were only conducted on age, and groups were not significantly different ($p = .181$). The comparison group ($n = 14$) had a mean age of 37.36(13.32). The intervention group ($n = 13$) had a mean age of 44.31(12.88). (Table 1)

Feasibility: Demand

Upon completion of our study, we had provided 12-weeks of a narrative-informed occupation-based outpatient occupational therapy services within a large, urban, outpatient mental health center using a single occupational therapist. Intervention group participants were seen an average of 8.54(2.22) sessions and an average of 298.31(129.46) minutes, suggesting we were effective in preliminary steps to establishing a new clinical partnership and referral method for integrating occupational therapy services. A no-show rate of only 14% with no cancellations

exceeded our expectations for this population, often characterized by inconsistent participation in outpatient services (Zhang et al., 2020). The no-show rate was also markedly better than the overall clinic rate, which during the year of the intervention had a roughly 40% no show rate.

Potential for Reimbursement

A mock electronic medical record was developed by researchers for the occupational therapist implementing the intervention in order to collect common procedural terminology codes (CPT) used during intervention sessions. The occupational therapist recorded a high complexity evaluation code (97167) for all intervention participants and of the thirteen, twelve were recorded with a re-evaluation code (97168). In total, 86 CPT treatment intervention codes were recorded with the following frequency: 49% therapeutic intervention that focused on cognitive function (97127); 29% self-care/home management activity (97535); 17% community/work reintegration training (97537); and 5% therapeutic activity (97530).

Intervention Group Pre/Post Outcomes

One-way ANOVA of total OCAIRS scores at baseline, 6-weeks, and 12-weeks demonstrated a statistically significant, steady positive gain across all three timepoints ($F = 83.76$; $p < 0.001$). Even when examining the differences between the individual timepoints, paired samples t-tests of the OCAIRS scores revealed statistically significant gains from time 1 to time 2 ($p = 0.023$) as well as time 2 to time 3 ($p < 0.001$). One-way ANOVA of intervention group RAS scores showed a positive trend across all three timepoints but was not strong enough to reject the null hypothesis of score similarity ($F = 0.97$; $p = 0.38$). (Table 1)

Figure 1 shows the overall change in all 12 OCAIRS sub-scale domains over 12 weeks. Hierarchical Linear Modelling (HLM) was used to analyze the impact of treatment time on each OCAIRS sub-scale domain, and revealed that 6 of 12 OCAIRS domains were significantly

influenced by dose of occupational therapy. These included roles, habits, values, long-term goals, social environment, and readiness for change. (Table 2, Figure 2)

Intervention Group versus Comparison Group Outcomes

The RAS was used to collect data on both the intervention and comparison groups. Independent samples t test indicated no significant difference between groups on baseline RAS scores ($p = .977$) or at 6-weeks follow-up ($p = .236$). Comparison group RAS data at 12-weeks follow up were not available due to poor client follow-up with care. We then compared change in RAS scores between groups. As mentioned above, one-way ANOVA indicated a non-significant increase in RAS scores for the intervention group ($F=0.97$; $p = 0.38$). Because there were only two RAS scores for the comparison group, independent samples t test was used to examine change in RAS from time 1 to time 2 in this group. There was a very slight decrease in RAS scores in the comparison group that was not significant (-0.47 ; $p = 0.65$). We then used multiple groups ANOVA to compare change in RAS over time between groups. No significant difference was observed between the intervention group and the comparison group with regard to change in RAS scores over time ($p = 0.44$). (Table 1)

Discussion

This study provided preliminary evidence to suggest that our approach of using narrative, occupation-based care was feasible and potentially profitable. A recent study examining hospital spending in relation to quality of care found OT to be “the *only* spending category where additional spending has a statistically significant association with lower readmission rates” in acute care (Rogers et al., 2017, p. 668). OT may have similar cost-saving impacts in outpatient mental health; as Rogers et al. (2017) point out, “occupational therapy places a unique and immediate focus on patients’ functional and social needs, which can be important drivers of

readmission if left unaddressed” (p. 668). Considering Rogers’ (2017) study, it is plausible that using a narrative-based approach could further illuminate important details about clients’ functional and social needs in order to better tailor occupation-based approaches that support positive recovery outcomes in community outpatient mental health settings. In addition to being a billable service, this narrative, occupation-based approach could also have cost-saving effects when considering the high relapse and re-admission rates among this population by enhancing treatment specifically focused on post-discharge social and functional needs (Parthasarathy et al., 2012). A study based in Western Cape, South Africa, found integrating occupational therapy services within a psychiatric hospital significantly reduced readmissions and total days spent in the hospital, lending further merit to this claim (Engelbrecht et al., 2019). While this study did not specifically advocate a narrative occupation-based approach, occupational therapists typically collect detailed occupational profiles from clients, which may support positive impacts that could be enhanced by more in-depth narrative interviewing at the forefront of care.

In an effort for health care providers to offer more comprehensive services to the most vulnerable populations, like those with co-occurring disorders, many health care plans are seeking ways to improve access for their enrollees. Among the recommendations to improving access to community-based treatment is to increase staff with new skills and centralizing behavioral and social health services (Archibald, 2020). The occupational therapist’s recorded treatment codes in this study suggest using an occupational therapist as part of the mental and behavioral health interprofessional team, with specific focus on the use of detailed narratives to guide practice, could add unique insight into a client’s cognitive function and self-care/home management while simultaneously increasing access to care.

Preliminary findings demonstrated significant positive change over time on all OCAIRS domains, with six domains impacted by dose, but no significant change on the RAS. This finding was unexpected, considering existing literature suggests the RAS positively correlates with social functioning and support, community participation, perceived inclusion, and positive coping (Salzer & Brusilovskiy, 2014). We would have expected positive OCAIRS changes to be reflected on RAS scores as well, at least in the domains of ‘doing things I value’ and ‘connecting and belonging’. One explanation for this incongruence may have to do with the nature of the questions or data collection methods. The OCAIRS is an interview that is rated by the researcher. It is possible that an expert may observe shifts in behavior and participation that have not yet altered or significantly impacted a person’s thoughts and experiences in ways that would impact their self-report responses on the RAS, or that item responses may differ when verbally shared versus self-reporting.

Literature on OCAIRS outcomes resulting from community-based outpatient mental health is severely lacking. However, a relatively recent exploratory study used the OCAIRS to examine both affective symptoms and recovery of occupational performance in individuals with clinical depression (Daremo et al., 2015). The authors found habituation to be the most important factor for clients to manage to support their recovery, and that clients may need extended occupational performance support in order to change their habits. ‘Habits’ was one area impacted by occupational therapy dose, suggesting one potential mechanism by which our 12-week intervention may have supported increased meaningful participation. While the RAS does have an item in subdomain 1 that asks respondents to rate the statement ‘It is important to have healthy habits’, no significant improvement in this subdomain was observed. However, it is worth underscoring the distinction between *believing* in the importance of healthy habits and

actually *enacting* healthy habits. Based on the assessments, the RAS may measure a person's belief in the importance of having healthy habits whereas the OCAIRS may measure actual participation (or not) in healthy habits.

In a pilot randomized controlled trial, Cook et al. (2009) found that occupational therapy produced significant positive outcomes in people with psychosis in the areas of symptom reduction, relationships, independence performance, competence, and recreation. Similar to our study, they observed no between group differences, but they did note changes over time in the occupational therapy group that were not observed in control group. Likewise, Arbesman and Mosley's (2012) systematic review of occupation and activity-based interventions suggested positive mental health outcomes, but Bullock and Bannigan (2011) note that few studies of activity-based groups in community mental health rigorously examine effectiveness, limiting knowledge in this area. More recently, Cipriani et al. (2017) observed improved client factors and performance skills resulting from horticulture therapy for those with mental health conditions. However, several other studies continue to indicate the limited understanding of occupational therapy's role in community-based mental health (Burroughs et al., 2016). As such, ongoing studies detailing occupation-based intervention approaches, feasibility, and outcomes, will be critical for advancing care for this population.

Limitations and Future Research

This study considered OCAIRS administration to be part of the occupational therapy intervention and for this reason, comparison group participants were not given the OCAIRS. The OCAIRS was used as an outcome measure to examine pre/post intervention outcomes within the intervention group. In addition, we analyzed whether and to what extent each subdomain of the OCAIRS was impacted by dose of occupational therapy treatment. However, we did NOT use it

as an outcome measure comparing OT versus treatment as usual because we did not administer it to the comparison group. This choice was made for two reasons. First, the comparison group received services from non-OT clinicians who were not familiar with the OCAIRS. Second, we felt if the comparison group was given the OCAIRS, it would have impacted the services they received and would have inadvertently made them more occupation-based than they otherwise would have been. We really aimed to compare a narrative-informed occupation-based service to treatment as usual, which would not include occupation-based services. However, this choice limited our ability to compare OT services to treatment as usual. Because positive pre/post outcomes were not observed on the RAS, and no significant between group RAS outcomes were observed, it is difficult to ascertain the degree to which OT contributed to OCAIRS score improvements. However, we are encouraged by findings that OCAIRS changes were impacted by occupational therapy dose – a finding that potentially indicates the impact of OT on meaningful participation. Nonetheless, it will be beneficial in future studies to have the researcher, not the treating clinician, collect OCAIRS data from a comparison group to better understand the relationships between occupational therapy, treatment as usual, meaningful participation, and recovery. This study was also limited by a small sample size. Future studies are needed with larger samples to further examine the potential effectiveness of this model of care.

Conclusion

Regarding SMI and SUD recovery, best practice calls for recovery-based care, including highly person-centered treatment planning and integration of multiple services (Kikkert et al., 2018). Occupational therapists have been named as important team members in the care of SUD and its common co-occurrence with SMI (Congressional Research Service, 2018), and are well-

situated to be key contributors to recovery-based care due to their holistic training and focus on individualized care to support participation in what is personally meaningful. Our findings support these claims, illustrating client engagement in occupational therapy services and resulting improvements in meaningful participation. Moreover, our model of a narrative-informed occupation-based service delivery centralizes the importance of addressing implicit provider bias to reduce the stigmas that have been shown to significantly and continually impact this population (Van Boekel et al., 2013).

Implications for Occupational Therapy

Literature has illustrated occupational participation is critical to SMI and SUD recovery; occupational therapists can effectively support this need.

- Clients with SMI and/or SUD appear to be receptive to narrative-based occupational therapy services and responsive in that participation gains were noted in several areas
- Improved meaningful participation in several areas was related to occupational therapy dose.

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Table 1.*Participant demographics and outcome measures*

	Intervention group (N=13)	Comparison group (N=14)	P value
Mean age	44.31(12.88)	37.36(13.32)	$p = .181$
RAS			
T1	76.85 (15.56), n=13	76.67 (11.99), n=14	$p = .977$
T2	86.57 (21.16), n=7	76.20 (13.61), n=10	$p = .236$
T3	86.00 (13.60), n=5	missing	
Change score	F = 0.97 ($p = 0.38$)	-0.47 ($p = 0.65$; $d = 0.17$)	$p = 0.44$
OCAIRS			
Baseline	33.40 (1.82), n=13	n/a	
6-week follow-up	35.80 (1.10), n=7	n/a	$p = 0.23$
12-week follow-up	38.60 (1.34), n=5	n/a	$p < 0.001$
Change score	F = 83.76	n/a	$p < 0.001$

Note: Recovery Assessment Scale (RAS), Occupational Circumstances Assessment Interview and Rating Scale (OCAIRS), time 1(T1), time 2(T2), time 3(T3).

Table 2. *Impact of dose*

Item	OCAIRS impact of each treatment	χ^2	χ^2 significance	Degrees of freedom
<i>Long-term goals</i>	0.58***	9.34	0.03	3
<i>Values</i>	0.52**	15	0.002	3
<i>Roles</i>	0.41***	7.13	0.068	3
<i>Habits</i>	0.34**	4.34	0.2266	3
<i>Social environment</i>	0.34**	0.60	0.90	3
<i>Readiness for change</i>	0.28*	5.65	0.13	3
<i>Personal causation</i>	0.00	-	-	3
<i>Interests</i>	0.00	-	-	3
<i>Skills: Motor, process, & communication/interaction skills</i>	0.00	-	-	3
<i>Short-term goals</i>	0.00	-	-	3
<i>Interpretation of past experiences</i>	0.00	-	-	3
<i>Physical environment</i>	0.00	-	-	3

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

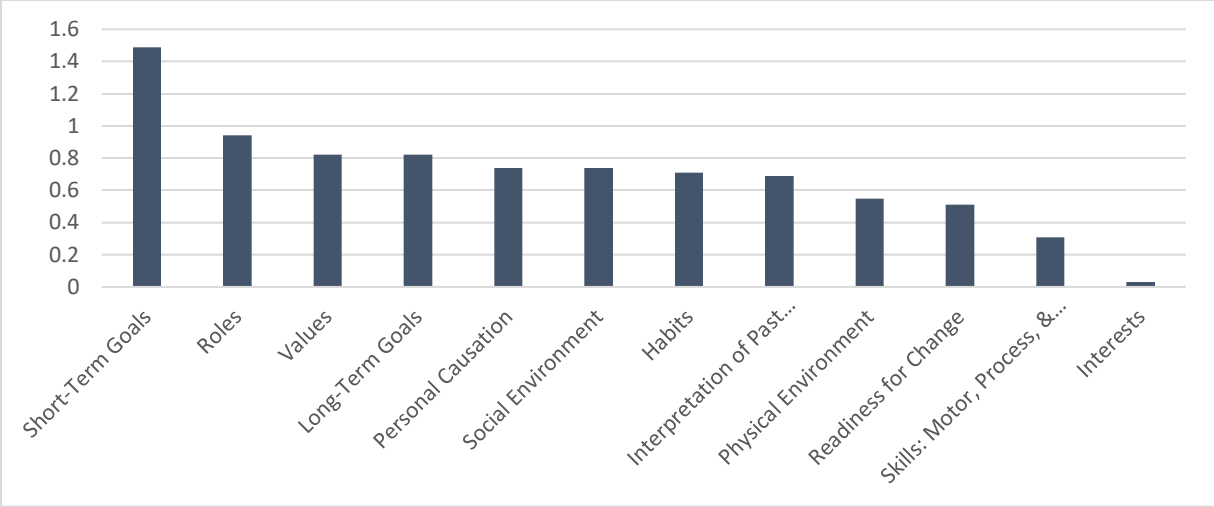


Figure 1. Total occupational participation change over time

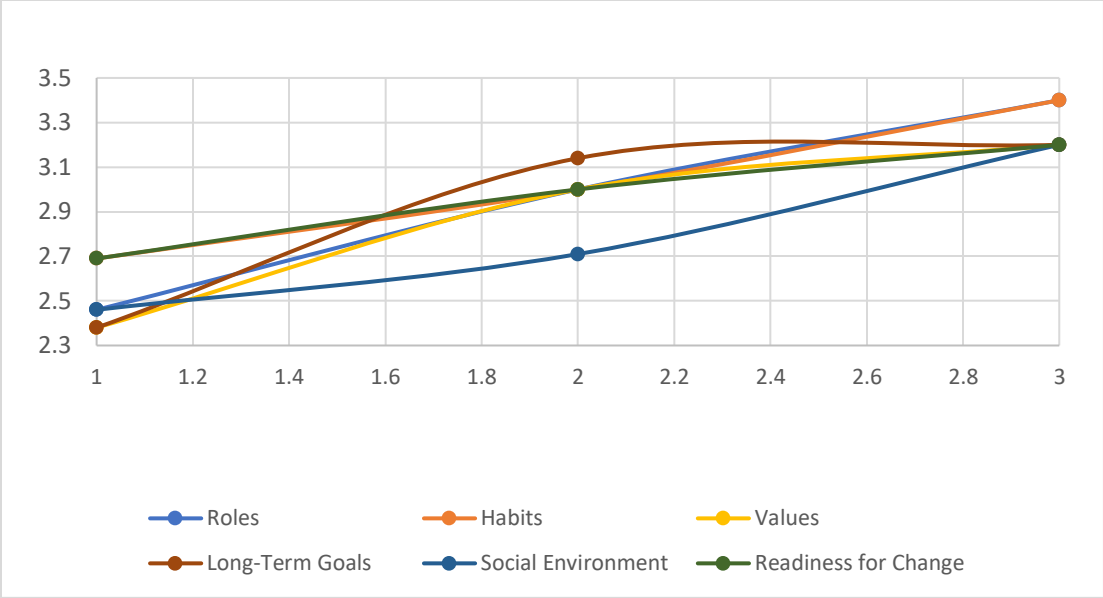


Figure 2. Impact by treatment duration