Collaborative Use of Weekly Calendar Planning Activity and Assessment of Time Management Skills

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Occupational therapists have long understood that purposeful use of time is central to the profession, as both health maintaining and health producing (Edgelow, & Krupa, 2011; Seamon, 2014; Strong & Gruhl, 2011). Presently, most common time-related assessments are nonstandardized and capture the person's lifestyle by describing time use for part of the day (Bejerholm & Eklund, 2004). But these assessments do not describe behavioral strategies (e.g., starting difficult activities when feeling most alert) nor do they examine underlying executive function (e.g., supporting poor memory with cognitive strategies of listing tasks to remember) for actively managing one's day. Additionally, these tools do not identify exhibited behaviors (e.g., poor task sequencing that interferes with productive time management). Recognizing the importance and purpose of time management has warranted the development of systematic evaluations of initial needs and ultimate outcomes for clients requiring time management interventions (Janeslätt, Lidström Holmqvist, White, & Holmefur, 2017; Toglia & White, in press; White, Riley, & Flom, 2013). With these gaps, this article proposes beginning evidence needed to jointly understand time management and executive functioning for clinical practice.

Executive function deficits underlie most psychiatric disorders (Bowie, **McGurk**, **Mausbach**, **Patterson**, & Harvey, 2012). These deficits are also present in many other conditions, such as cardiac complications, stroke, continuing life stresses, and medication and treatment side effects (American Occupational Therapy Association [AOTA], 2013; American Psychiatric Association, 2013; Elliott, 2003; Evens & Eschiti, 2009). Executive function is a set of interrelated metacognitive abilities responsible for goal-directed, task-oriented behaviors and self-regulation (Hosenbocus & Chahal, 2012). Executive function impairments affect the ability to analyze, plan, prioritize, schedule, initiate, and complete activities in a timely fashion, leading to far-reaching functional outcomes consequences in recovery or rehabilitation.

Time management is generally defined as the ability to create and follow schedules, implement routines, and complete tasks within specific amounts of time (Claessens, van Eerde, Rutte, & Roe, 2007). White and colleagues (2013) expanded this definition to include: (1) individual awareness that time can be manipulated, (2) using self-management strategies, and (3) self-reflection on time management effectiveness combined with emotional regulation for optimal goal achievement. Negative consequences of poor time management include missing clinic appointments, being late for work, underestimating the time needed to complete assignments, weakened social relationships, and disrupted roles and routines.

Managing time effectively involves metacognitive processing: estimating time, and organizing and implementing plans with self-control; therefore, time management and executive function can be viewed as complementary (Janeslätt et al., 2017). Occupational therapists generally assess time management and executive function separately: as process skills, as performance patterns/routines, or as contexts/temporal (AOTA, 2014). However, within the *International Classification of Functioning, Disability and Health* (World Health Organization, 2001), concepts of time management are considered as both cognitive/higher mental function and as time management aspects of activity and participation. Viewed together, these concepts yield greater understandings of occupational capacities through assessing both processing skills and performance patterns related to time use. Clients exhibiting decreased time management or the inability to meet social expectations for timeliness may experience deficiencies in performance/processing skills, including failure to attend, pace, sequence, adjust, or organize performance (AOTA, 2014; Toglia & White, in press). Two complementary standardized tools are recommended for evaluating executive function and time management.

Description of Tools

The *Weekly Calendar Planning Activity* (WCPA; Toglia, 2015) assesses executive function, yielding in-depth data on performance of a complex, cognitive instrumental activity of daily living through organizing a weekly calendar. The WCPA is grounded in the Dynamic Interactional Model of Cognition (Toglia, 2011), defining cognition as the capacity to acquire and use information for environmental demand adaptation. Strategy use and self-awareness represent core aspects of cognitive function required for learning and performance, dynamically enabling individuals to incorporate activity demands, environmental influences (e.g., social, physical, cultural), and personal contexts.

The WCPA manual provides in-depth research and normative data, plus guidelines for administration, scoring, and interpretation (Toglia, 2015). Individually administered for a wide age range, the WCPA presents complex, multi-step, unfamiliar, and unpredictable tasks that mimic the randomness of everyday life. This highlights executive functioning skill deficits in planning, organization, inhibition, self-monitoring, and effective cognitive strategies use, including mental inflexibility, distractibility, and difficulty in monitoring task performance, thus serving as basis for more targeted interventions.

The *Assessment of Time Management Skills* (ATMS; White et al., 2013) provides efficient and effective analysis of client time management performances and self-evaluations of competence. The 30-item self-report questionnaire can be completed in less than 10 minutes, and it can be administered to individuals or groups. Clients report their routine use of organizational skills and strategies, self-awareness of time management success, and cognitive adaptations (e.g., calendars,

lists). ATMS data guides the development of time management skills for satisfying complex daily routines. ATMS results provide three sets of scores: total score; scores for each construct (i.e., time management, planning and organization, regulation of emotion); and 10 effective daily time management component scores (Janeslätt et al., 2017).

Case Example: Carol

Carol was a 30-year-old woman with a history of depression, approaching discharge from a short-term inpatient behavioral unit. Carol regularly found herself stressed from working overtime to complete tasks or stay on top of her workload. Her only relaxation strategy was getting into bed immediately when arriving home. Carol asked how she could build more effective time management skills and find new ways to reduce her stress.

Assessment Outcomes

ATMS results indicated mild difficulties in emotional regulation and overall time management, including organization and planning. Carol's strength was managing anxiety to learn new information; her weaknesses were a lack of cognitive adaptors and personal energy patterns to optimize her capacities. She didn't track project due dates, requiring her rush to complete work late at night to meet deadlines. She was often too tired to self-correct her work, resulting in frequent complaints from her boss about errors.

Similarly, WCPA results showed overall performance and self-monitoring concerns. Carol over-planned the calendar task with messy idiosyncratic strategies, causing some appointment errors and delayed entries. Carol did not exhibit executive functioning skills (e.g., complex organization skills, problem-solving conflicts in multi-step tasks, self-awareness of ineffective strategy use). She over estimated her abilities and had prospective memory problems. She did not self-monitor to ensure accuracy or use tools (e.g., calendar or clock) to manage her time efficiently.

With combined ATMS and WCPA data analysis, Carol's own concerns about time management skills were supported. Recommendations indicated intervention to improve effective strategy use for planning and organizing tasks and to develop self-monitoring skills. Intervention focused on prospective memory through writing details on the desk calendar for visual cues of daily tasks. Improving self-recognition of task errors during actual performance was recommended initially for managing time and thereby managing stressors, to increase occupational performance. Short-term goals included:

- Begin each day reviewing the calendar planner: add or delete tasks as necessary, use planner time blocks to estimate required time for scheduled activities.
- Check the planner daily at fixed intervals to monitor task completion and time estimation effectiveness.
- Monitor task effectiveness for attention to details and accurate time use.
- At day's end, record the next day's schedule on the calendar, using planner time blocks to estimate needed time for scheduled activities.

Discussion of ATMS and WCPA results with Carol supported her concerns and desire for change, reinforcing the need for active self-monitoring strategies. The ATMS highlighted needed new habits, including using time planning tools for anticipating and managing work routines and thereby reducing stressors. Carol had the capacity to use these strategies to develop more organized productive daily routines and to feel more competent.

Carol returned 1 month later, very pleased with her new routine. She was using the desk calendar regularly and felt more in control of her workload. She completed her work during regularly scheduled hours and received compliments from her boss on the timeliness of error free work. Carol now arrived home with energy for cooking dinner or going out with friends.

Conclusion

Time management involves using executive function skills to efficiently complete complex task sets and perseverance to create productive routines. As Carol's case demonstrated, WCPA and ATMS in-depth analyses guided interventions to support greater executive functioning performance through enhanced cognitive strategies, recognition of emotional impact on performance, and incorporation of cognitive adaptors (e.g., smartphone alarm, notes, apps like *Google Keep*) to support executive function limitations (Bowie et al., 2012; White, 2007). Based on WCPA and ATMS results, intervention planning should address strategy use and self-monitoring skills, hypothesized to broadly affect function across activities and contexts (Toglia & White, in press). Interventions for clients with time use challenges require understanding occupational patterns of habits, skills, and executive function deficits that limit success. To ensure well-targeted time management interventions, occupational therapists should be educated in using valid, standardized tools. Given the critical importance of time management in daily occupational performance, clinical competence in time management skills is essential within routine occupational therapy practice (White, 2007).

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References

American Occupational Therapy Association. (2013). Cognition, cognitive rehabilitation, and occupational performance. *American Journal of Occupational Therapy*, *67*, S9–S31. http://dx.doi.org/10.5014/ajot.2013.67S9

American Occupational Therapy Association. (2014). Occupational therapy practice framework: Domain and process (3rd ed.). *American Journal of Occupational Therapy*, *68*(Suppl. 1), S1–S48. **http://dx.doi.org/10.5014/ajot.2014.682006**

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (5th ed.)*. Washington, DC: Author.

Bejerholm, U., & Eklund, M. (2004). Time use and occupational performance among persons with schizophrenia. *Occupational Therapy in Mental Health*, *20*(1), 27–47. http://dx.doi.org/10.1300/J004v20n01_02

Bowie, C. R., McGurk, S. R., Mausbach, B., Patterson, T. L., & Harvey, P. D. (2012). Combined cognitive remediation and functional skills training for schizophrenia: Effects on cognition, functional competence, and real-world behavior. *American*

Journal of Psychiatry, *169*, 710–718. **http://dx.doi.org/10.1176/appi.ajp.2012.11091337**

Claessens, B. J. C., van Eerde, W., Rutte, C. G., & Roe, R. A. (2007). A review of the time management literature. *Personnel Review*, *36*, 255–275. http://dx.**doi.org/10.1108/00483480710726136**

Elliott, R. (2003). Executive functions and their disorders: Imaging in clinical neuroscience. *British Medical Bulletin*, *65*, 49–59. **http://dx.doi.org/10.1093/bmb/65.1.49**

Edgelow, M., & Krupa, T. (2011). Randomized controlled pilot study of an occupational time-use intervention for people with serious mental illness. *American Journal of Occupational Therapy*, *65*, 267–276. http://dx.doi.org/10.5014/ajot.2011.001313

Evens, K., & Eschiti, V. S. (2009). Cognitive effects of cancer treatment: "Chemo brain" explained. *Clinical Journal of Oncology Nursing*, *13*, 661–666. http://dx.doi.org/10.1188/09.CJON.661-666

Hosenbocus, S., & Chahal, R. (2012). A review of executive function deficits and pharmacological management in children and adolescents. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, *21*, 223–229.

Janeslätt, G. K., Lidström Holmqvist, K., White, S., & Holmefur, M. (2017). Assessment of Time Management Skills: Psychometric properties of the Swedish version. *Scandanavian Journal of Occupational Therapy*. Advance online publication. **http://dx.doi.org/10.1080/11038128.2017.1375009**

Seamon, D. (2014). Physical & virtual environments. In B. A. B. Schell, G. Gillen, & M. E. Scaffa (Eds.), *Willard & Spackman's occupational therapy* (12th ed., pp. 202–214). Philadelphia: Lippincott, Williams & Wilkins.

Strong, S., & Gruhl, K. R. (2011). Person-Environment-Occupation model. In C. Brown & V. C. Stoffel (Eds.), *Occupational therapy in mental health: A vision for participation* (pp. 31–46). Philadelphia: F. A. Davis.

Toglia, J. (2011). The Dynamic Interactional Model of Cognition in cognitive rehabilitation. In N. Katz (Ed.), C*ognition, occupation, and participation across the life span: Neuroscience, neurorehabilitation, and models of intervention in occupational therapy* (3rd ed., pp. 161–201). Bethesda, MD: AOTA Press.

Toglia, J. (2015). *Weekly Calendar Planning Activity (WCPA): A performance test of executive function*. Bethesda, MD: AOTA Press.

Toglia, J., & White, S. M. (in press). Weekly Calendar Planning Activity. In B. J. Hemphill-Pearson (Ed.), *Assessment in occupational therapy mental health: An integrative approach* (3rd ed.). Thorofare, NJ: Slack.

White, S. M. (2007). Let's Get Organized: An intervention for persons with co-occurring disorders. *Psychiatric Services*, *58*, 713.

White, S. M., Riley, A., & Flom, P. (2013). Assessment of Time Management Skills (ATMS): A practice-based outcome questionnaire. *Occupational Therapy in Mental Health*, *29*, 215–231. http://dx.doi.org/10.1080/0164212X.2013.819481

World Health Organization. (2001). *International Classification of Functioning, Disability and Health (ICF)*. Geneva: Author.

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