

**Commentary on *Using Client-Centered Psychotherapy Embedded Within
A Pluralistic Integrative Approach to Help a Client With Executive
Dysfunction: The Case of "Judith"***

Perspectives on the Case of "Judith"

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ABSTRACT

Ward and Hogan's (2015) case of "Judith," a client with traumatic brain injury (TBI), highlights the emerging interactive features of effective psychotherapy melding core elements of the art and science of a tried and true psychotherapy practice (non-directive, client-centered therapy) with cognitive training (CT), including executive functioning training. In our commentary we summarize the facts of the case and then view it from four perspectives: the role of additional assessment, psychiatric diagnoses, the role of CT, and the Hyer Model. The latter is our own model that highlights a comprehensive, systematic, holistic, individually tailed approach to the treatment process when both psychological distress and/or dysfunction are combined with cognitive deficit factors. We suggest that the Hyer Model helps to formalize and systematize the approach taken by Ward and Hogan in their case study of Judith.

Key words: case reaction of TBI; non-directive therapy; cognitive training; case study; clinical case study

THE FACTS OF THE CASE

Judith had been employed in a highly responsible job "within education." Ten years previously, however, she experienced a moderate head injury while at work. Reports at the time suggest there was a period of unconsciousness, although she had regained consciousness by the time an ambulance arrived. Judith recalls a period of post-traumatic amnesia lasting approximately 12 weeks in which she struggled to recognize her neighbors. Level of TBI is determined by the extent of the injury (often the time unconscious and neurological signs at the time of the injury), but adjustment can trump these clinical factors.

Judith had trouble adjusting from the very beginning and beyond. Psychological assessment at the time indicated that there were some executive difficulties. She attempted to return to work but this turned out to be impractical. She found that she had difficulties carrying out some of the tasks required of her and being able to organize her work. She received a six-

figure sum in compensation and was retired from work on health grounds with a disability pension. That is a strong message reflective of her status.

In subsequent years Judith performed the role of homemaker. It is clear from her account that she needed considerable help and support from her husband to successfully perform some of the day-to-day tasks. Some routine tasks, such as preparing packed lunches for the family, required a great deal of effort and concentration and could take many hours. Importantly, Judith experienced her husband as intimidating during this process. On the one hand, she was dependent on him; on the other, she was fearful. On a number of occasions Judith voiced that she could not see any future, and she had thought about killing herself. Suicidal thoughts are common with TBI, especially when change is slow or acceptance of the new state is low and complications arise. On one occasion she had started to take Paracetamol medication with the apparent intent of overdosing, but was disturbed by the neighbors. She was having real adjustment problems, eventually including divorcing her husband and being out of work.

Treatment involved two overriding goals. Goal 1 was for Judith not to feel overwhelmed emotionally by her husband's departure, and this goal was treated with client-centered therapy. This therapy served as a substitute for trauma-based therapy. Goal 2 was to work on specific home management tasks to enable Judith to be as independent as possible in carrying out these tasks. This goal was addressed using the more action-focused, rehabilitation-oriented, and psychoeducational interventions. We have labeled this cognitive training (CT).

In a short period of time trauma reflection gave way to an acceptance of her feelings. She processed the relationship she had with her husband in a non-victimized manner, a sign of emotional health. A reasonable inference is that this form of non-directive exposure led to Judith's change. The authors note that in response to "client-centered theory, it would seem that Judith was able to perceive the core conditions of empathy, congruence, and unconditional positive regard, and to access her own innate self-actualizing growth processes" (p. 17).

The authors note further that, through this therapy, trauma is altered and the disruption of the self-structure is reintegrated. Of special note the focus of therapy switched to external concerns, like the management of finances and household affairs. Judith successfully made a number of important life changes.

THE ROLE OF ADDITIONAL ASSESSMENT

So let's consider aspects of Judith. First, as noted, she had a moderate level of TBI in a postconcussive syndrome: she was unconscious for only a brief period but adjusted poorly. She is now 10 years out of her injury having transited through antegrade amnesia. She could not function at work and is on a disability pension. Currently and over the years, she was a poor homemaker, needing assistance from her husband to achieve some of the day-to-day tasks. Even routine tasks were a problem. She was tested with the WAIS-III, with her Vocabulary at scale score 16 (well above normal), and Block Design and Digit Span at 4 and 7 (well below normal), respectively. The testing report noted that there were executive difficulties.

Testing was quite limited. She clearly experienced a brain malfunction (although no scan data were available) and had a superior premorbid intelligence. No data were given on the brain injury itself; For example, there was no administration of an instrument like the Post Concussion Symptom Scale (Kontos et al, 2012), shown in Figure 1; and there was no identification of subjective symptoms via neuropsychological tests or objective biomarkers for TBI, such as target proteases in glia cells. Current thinking is that each TBI has its own profile of biomarkers and is very individual; in order for meaningful treatment, a profile needs to be identified and followed for each person (Hyer, 2014).

Mild TBI resolves cognitive problems in seven days or, if there are complications, in 90 days (Vanderploeg, 2014). About 20% will have some cognitive sequelae. This injury was of course more severe. For moderate TBI, 54% to 84% will have memory problems long term. Importantly, testing data can identify cognitive skills and reserve features so that they can be accessed and mediate the impact (Sandry, DeLuca, & Chiaravalloti, 2014). This is now a necessary part of rehabilitation. From all indications this level of evaluation was not done. Additionally, TBI (of any type) increases the chance of post-traumatic stress disorder (PTSD) years later beyond 50% (Vanderploeg, 2014). In returning military veterans with TBI from the Afghanistan (Operation Enduring Freedom) and Iraq (Operation Iraqi Freedom) wars, only a very small percentage had *only* TBI, and not PTSD (Vanderploeg, 2014).

There were no systematic assessment procedures that addressed the multiple problems in TBI. These include: persistent intellectual impairments (33 symptoms); psychological consequences (20 symptoms); persistent mood disorders (4 symptoms); persistent physiological impairments (17 symptoms); persistent personality alterations (23 symptoms); and persistent neurological problems (15 symptoms; Brain Injury Resource Center, www.headinjury.com/checktbi). Neuropsychological testing is also important. Typically, this is done to identify the core deficits, to assist in diagnosis, and to point to treatment options.

For Judith, it would have been especially beneficial to assess the areas of executive functioning, attention/memory, and daily living skills. Executive functioning is the soul of the cognitive domains addressing how we think, its problems and efficiency. It can be assessed by several typical neuropsychological tests; specifically, Trails B, the Wisconsin Card Sort Test, and/or the Clock Drawing Test (Hyer, 2014). Attention too is critical as it is the gateway for learning and choice. Several measures subservise this, including continuous performance tests and simple encoding tasks.

Memory represents the back end of executive functioning and provides the data for further needed complex processing as well as narrative cohesion. It could have been assessed by tests like the Wechsler Memory Scale, the California Verbal Learning Test, Repeatable Battery for the Assessment of Neuropsychological Status, and the Rey Complex Figure (Hyer, 2014). As we will see below memory becomes "working memory" when cognitive requirements demand more complex performances involving critical elements of generalization, duration, and dosage.

Equally important is function. Information about Judith's daily skills could have been assessed by activities-of-daily-living scales. The FAQ (Functional Assessment Questionnaire) is especially helpful as it measures function subserving executive function (see Hyer, 2014). The

common variance between cognition and function measures is about 40% (Hyer, 2014). By administering these additional assessments, greater insight into Judith's global functioning could have been achieved. Several of these measures could also be readministered for monitoring.

Most related is the fact that cognitive insults or declines, even minor ones, have an impact on life and adjustment. Cognitive differences in adults, even among unimpaired cognitively healthy adults, predict poorer medication adherence and increased rate of hospitalization and quality of life, among other problems (Lockhart & DeCarli, 2014). In fact, neural and cognitive performance mediates life in general and all its psychological and behavioral parts. There are, in addition, multiple paths of influence of these mediating effects. An understanding of these makes a difference in the life of one struggling with brain issues (Hyer, 2014; Hyer & Scott, 2014). Recently it has been shown that intellectual engagement through cognitive training more than physical activity is a better match with models of cognitive reserve. How we learn, think and cognitively engage trumps physical activity. Even the risk conferred by lower education in life can be mitigated by stimulating leisure activities (Cheng, 2014). The popularization of the concept of "brain reserve" has now changed the simple metric of decline to one of decline in whom with what premorbid skills (Smith & Bondi, 2013).

Additionally, we note one more thing about the brain-injured Judith's experience through client-centered therapy: merely understanding these problems on an intellectual level is not enough. The rich complexity of the human experience is nowhere more evident or painful given a brain hit: you do know what you do not know, you then experience what you do not know, next you fight and regret this new state and eventually accommodate. Importantly, this is the core of the Ward and Hogan's psychotherapy and the reason why we believe Judith's case was successful and why the case study is so important.

PSYCHIATRIC DIAGNOSIS

There were questions too about Judith's psychiatric diagnoses, PTSD and depression, as well as other anxiety disorders (panic). Regarding PTSD (American Psychiatric Association, 2013), the trauma can be the initial accident resulting in the concussive experience or a later one (Judith's husband's actions or leaving). Whether Judith had PTSD or not, she met psychological Criteria B, C, and D (i.e., intrusion symptoms, avoidance of traumatic stimuli, and negative alterations in cognitions and mood associated with the traumatic events, respectively), making any discussion for the presence of Criterion A (i.e., exposure to actual or threatened death or serious injury) less relevant to this case. Monthly, the *Journal of Traumatic Stress* presents articles on the complexity of trauma, its changing definitions, its comorbidities and omnipresent phenomenology. In this context it seems clear that Judith experienced trauma and stress.

The central therapy for trauma is exposure and alterations of the client's cognition so as to integrate the trauma. In the case of Judith's therapy, an unfolding of her life and the relationship factors associated with client-centered, non-directive therapy appeared to be curative. Here the creative admixture of client-centered, nondirective and directive therapies were sufficient and impactful. While there are less data on client-centered therapy for TBI, the salient features of it were the validating and actualizing methods that promoted growth and allowed for access to other more trauma-based problems. This therapy seemed to approximate the elements of

empirically supported treatments for PTSD (prolonged exposure [Foa & Rothbaum, 2001] and cognitive processing therapy [Resick et al., 1992]), since the client-centered therapy did involve talking about the various elements of the trauma Judith had experienced. Arguably, a softer form of exposure in the form of nondirective therapy allowed the cognitive training method of rehabilitation to be impactful.

The authors did not come into this blind. Previous cases had suggested this may work (Ward & Hogan, 2009), that is, that the core elements of Judith's case were equally or better served with less direct exposure methods. Transcripts allowed for treatment fidelity. Importantly, this work was a part of a project evaluating client-centered, integrative therapy for clients with head injury. I should add that a good deal of trauma therapy in the United States Veterans Administration system, certainly in the early days after Vietnam, supports the use of more non-directive methods (Hyer, 1994). Other softer exposure therapies, like anxiety management training or eye movement and desensitization (EMDR), also support the use of exposure with a non-directive flavoring (Hyer & Sohnle, 2001).

This case was a success. Judith had to come to terms with severe personal loss, "in the face of neurological symptoms such as lack of concentration, fatigue, and mental slowing" (Ward & Hogan, 2015, p. 5). Her "actualizing potential" produced results. She experienced client-centered therapeutic conditions while also dealing in the real world. This was also done rather quickly, as by the fifth session Judith's narrative had changed. For many patients this is not unusual (Tang, 2004). Ward and Hogan noted that the emotional trauma lost "its raw edge" (2015, p. 11).

At a more critical level of psychotherapy review there are of course questions: To what extent did the therapy components provided reflect classic and empirically supported exposure? Were elements of cognitive processing therapy provided? Is Socratic unfolding in nondirective therapy really a form of exposure where trauma is concerned? Was something like self-directive anxiety management training/EMDR applied? Did the nondirective messages activate other curative features like those in Acceptance and Commitment Therapy (ACT; Eifert & Forsyth, 2005)? Is exposure even necessary for trauma remission, given well performed client-centered therapy? Is this newer form of an older treatment a necessary feature with cognitive therapy for adaptation?

THE ROLE OF COGNITIVE TRAINING

The case study of Judith illustrates how a formulation, based on knowledge of the effects of brain damage, can be used flexibly and creatively to guide the incorporation of techniques from cognitive rehabilitation into psychotherapy (Lewis, 1991; Langer, Laatsch and Lewis, 1999; Laatsch, 1999). Ward and Hogan liberally cite the work of Laatsch (1999), where clients have concentration problems, and Iverson (2000), who details how a cognitive profile can be used in thinking about client needs in therapy, as well as themselves. This allows the therapist to be open to the client's needs and goals and be willing to use techniques and approaches from other therapeutic modalities. Additionally, Ward and Hogan's pluralistic therapy approach (Cooper & McLeod 2011; McLeod & Cooper, 2011) is a framework that allows for the integration of different theoretical approaches through a process of collaboration with the client.

Judith then benefitted from CT in its many forms. As Ward and Hogan note, the CT components consisted of an SMS cell phone text system that was implemented in the 17th session and reminded Judith each week just ahead of each session; a whiteboard prompting system together with a notice board and calendar for managing appointments; a mail identification system for determining what different items of mail were and how they should be dealt with; and a therapy fading system for competence in Judith's new house. Nicely the authors articulate the application of CT.

For therapy to be effective with clients such as Judith (with a psychiatrically designated brain problem), it is recommended that a cognitive profile be developed. This often needs to be coupled with creativity and flexibility. There is after all a real world for Judith. In Judith's case CT was applied, largely addressing executive functioning as the portal into the functioning person. Again, this requires tinkering as it developed from the optimal use of the client-centered process towards a more integrated position of life quality.

Ward and Hogan raise the question of whether Judith's "executive difficulties might interfere with the client's ability to use the client-centered process to develop insight and move towards a more integrated position as they come to more objectively symbolize their experience" (2015, p. 6). For us the better question is whether the scaffold of non-directive therapy was the necessary catalyst for the CT process to be effective; and we believe that it was.

As a brief aside, CT can be broad and many facets of its conceptual connectors have application here. Society now has reached the era in which CT is being liberally applied to older adults. In 2010, Americans spent \$265 million on brain fitness software and web-based programs for adults that claim to boost brainpower (Owen et al., 2010). This trend has now more than tripled (Hyer, 2014). Cognitive decline, particularly in late adulthood, is becoming one of the nation's top public health problems (Hyer, 2014). Consensus guidelines endorse the value of CT for TBI. In *The Lancet* (Nitrini, 2012), engagement in cognitively stimulating activities along with seven other factors accounted for 10 to 25% reduction in the incidence of a brain/degenerative disease. The DSM-5 echoes how distinct memory and cognitive deficits are increasingly recognized as part of the broader phenotype of many psychiatric illnesses (e.g., depression and anxiety), and cognitive dysfunction is perceived as a significant risk factor for the development of psychiatric illnesses, particularly in older or TBI-impacted adults. These cognitive impairments offer a potentially effective target for addressing psychiatric illness through CT.

As a general overview of neurocognitive decline, the extent to which CT (or simply experience) prevents decompensating as a function of a brain problem or due to a degenerative disease, is unknown (Mayr, 2008). As intimated, it is now reasonably well accepted that CT improves function of younger adults, even with a TBI (e.g., Buschkuehl et al., 2008; Dahlin, Neely, Larsson, Bäckman, & Nyberg, 2008), and healthy older adults (e.g., Small & Vorgan, 2011). As discussed in a previous paper in this journal, Mohlman et al. (2008) did something novel in therapy, even for older adults: the application of cognitive rehabilitation conjointly with CBT modules. Mohlman and colleagues had experimental participants practice executive function tasks, Attention Processing Training-II (APT-II) in sessions for 45 minutes (sessions 1-4), and as homework (sessions 1-8), with the remainder of each session devoted to CBT, while

control subjects received CBT only. The CBT/APT-II group showed a significant improvement in executive skills following the intervention, relative to the control group. Alexopoulos et al. (2000) also showed that older adults who are depressed and have executive functioning problems do remit from depression.

The limits of this CT process are unknown. But it appears that results can extend down, up, or out.

"Down" Extensions of CT

Clinicians have recommended external supports such as white boards, paper pads, and the like to their memory-impaired patients (e.g., Clare et al., 2003); or interventions targeting non-episodic memory in dementia patients, such as procedural memory (e.g., Camp, 2005), reminiscence, or reality orientation (repetitive training on basic orientation; Hyer, 2014). We see some of this with Judith. More recently, non-episodic memory interventions have also been applied in the form of strategy acquisition in this population (Rothi et al., 2009; Souchay, 2007). There has been some interest in the combination of psychosocial interventions along with cognitive enhancers (Meguro et al., 2008; Rothi et al., 2009; Rozzini et al., 2007).

Additional reviews (De Werd, Boelen, Rikkert, & Kessels, 2013) focus on specific training methods. One group (De Werd, et al., 2013) evaluated errorless learning on everyday tasks in people with dementia. The results of the review of 26 studies (N=70) showed that people even with minimal to moderate dementia can (re)learn meaningful daily life tasks or relevant knowledge using an error-reducing teaching approach. Five controlled studies and 12 single-case studies obtained significantly superior effects using errorless learning. Many of the studies conducted follow-ups spanning months after training. Additionally, training in these studies lasted from 20 minutes to 2.5 hours in six to 21 sessions. This is rather efficient. Tasks included daily life behaviors, like use of electronic devices and household appliances, orientation skills, face-name association, and definitions and uses of objects. Results were most impressive in the earlier stages of dementia.

"Upward" Extensions of CT

An upward extension of CT training facilitates the experience of more generalization. For Judith, the authors nicely target executive functioning. They note that common symptoms of executive dysfunction include poor planning, lack of insight, poor decision-making, lack of concern for social rules, impulsivity and perseveration (Burgess et al., 2006). Clients with executive dysfunction face many obstacles in their day-to-day lives. Targeting executive functioning tasks that are more encompassing, especially the effects of set shifting, inhibition, and updating (Dahlin et al., 2008), seem to improve cognitive outcomes best. Training in working memory, a surrogate for executive functioning, seems especially relevant as it affects individual differences in executive function (Engle, Kane, & Tuholski, 1999), language acquisition (Baddeley, 2003), reading comprehension (Chein & Morison, 2010; Daneman & Carpenter, 1980), problem solving (Logie, Gilhooly, & Wynn, 1994), reasoning (Kane et al., 2004), and cognitive control (Klingberg et al., 2005; Klingberg, Forssberg, & Westerberg, 2002).

There is also considerable evidence that CT in the form of working memory training improves speed of processing (Ball et al., 2002), attention (e.g., Bherer et al., 2008; Smith et al., 2009), and fluid intelligence (Jaeggi, Buschkuhl, Jonides, & Perrig, 2008). In a few studies, working memory training extended beyond the context of cognitive performance and translated into benefits in Activities of Daily Living (e.g., Willis et al., 2006). While formal training in working memory may not have been applied to Judith, it may well have.

"Outward" Extensions of CT

There is also an extension of CT results "out." More "holistic" CT involving various aspects of later life, such as socialization, seems to provide benefits that extend beyond simple training in attention and working memory (Stine-Morrow, Parisi, Morrow, & Park, 2008; Basak, Boot, Voss, & Kramer, 2008). Environmental enrichment and an emphasis on health, as well as cognitive skill training and physical exercise, are also helpful for cognitive functioning. For Judith, her family and adult children were becoming more active in helping Judith to move on. The biggest component of positive change in late life is engagement in intellectually and socially stimulating activities (e.g., reading books, puzzles, volunteer work, traveling, and card games). Human studies show that chronic stress leads to an increased risk for dementia, depression, and poorer health (Small, 2013). Relaxation or meditation affects biomarkers of inflammation and telomerase activity (Lavretsky, 2013). Mediterranean diets high in omega-3 fatty acids improve working memory (Narendran, Frankle, Mason, Muldoon, & Moghaddam, 2012) and reduce the risk for mild cognitive impairment MCI (Scarmeas et al., 2009a) and Alzheimer's disease AD (Scarmeas et al., 2009b). Finally, weight management also plays a major role in brain health (Xu, et al., 2011). This applies to brain injuries across the lifespan (Small, et al., 2013).

We would be remiss if we did not mention the hidden value of moderators. They include education and social, mental, or physical stimulation, such that individuals with these factors appear to respond better to CT than those with lower levels of education or stimulation. Mediators/mechanisms of CT include complex learning engagement (Nyberg, et al., 2009). The appropriate dosage of CT has not been determined; many studies with shorter trainings have proven as effective as those with more extensive training periods (see Buschkuhl et al., 2008). Additionally, based on previous studies it is reasonable to speculate further that caregivers who are engaged in the active support of the patient can make a significant difference. An ecosystem of positive lifestyle support, especially involving CT, optimizes compliance and possible success. It may take a village to keep older adults or patients with TBI healthy and active. For Judith, who had a WAIS Vocabulary score at 16 and a healthy social network, both intelligence (brain reserve) and support were in evidence.

THE HYER MODEL

We believe that our model addressing the care needs of older adults applies to the case of Judith. In our older adult clinic (Hyer, 2014), we experience what is a common occurrence. Like Judith, patients come in for memory problems and have been found to have other difficulties. We analyzed 325 of our patients who presented for memory concerns and found that almost all had additional psychological problems beyond memory. Results suggested then that a sole traditional diagnosis and treatment for older adults leaves something to be desired. Additionally,

treating symptoms in isolation of viewing the client as a whole person, especially in terms of cognitive and physical limitations, tended to result in slower or less-effective reduction in symptoms. Targeting an organized, interrelated collection of psychological problems provides for a concerted focus to help the patient adapt and cope with their problems, promoting successful outcomes for the presenting target, often memory. There are two parts to our model. To begin with, patients are best served by first compiling a systematic profile of problems. We believe that there are five psychosocial components that are necessary and frequently sufficient for meaningful care: depression, anxiety, cognition, health (medical/somatic status), and adjustment (practical life issues). We systematically rate each of these on a scale from 1 to 20, using a method now in the process of validation (Hyer, 2014), as illustrated in Figure 2 for an estimate of Judith's presenting picture based on Ward and Hogan's case study. This is based on other similar scales that rate older adults in various domains, such as the Clinical Dementia Rating (Morris, 2001). These five components are the dynamic, functional factors necessary for change. Best care is always case-based, as each case suggests that there is more than the core problem. For impaired adults reality and psychological symptoms conspire for greater problems in treatment.

Second, a "watch and wait" strategy is most beneficial for the understanding and treatment of older adults. The belief is that a careful and slow process of care is best, involving systematic assessment, psychoeducation, trust, treatment options, teams, validation procedures, and finally, the use of empirically supported modules. The therapist does not pick one best treatment at the outset. Rather the therapist recognizes how patients present with and experience depression or other problems, carefully selects treatment options, and applies objective measures for a treatment response. Changes are made with deliberation where monitoring and a rendering of the issues dictate change. After all, one does not get better if they do not warrant or cannot experience the intervention. We also know that in the treatment of adults, the choice of treatment plan is critical and necessary for change.

A watch and wait model involves several features of care. Patients are carefully assessed and a careful monitoring is instituted where the patient is given hope, psychoeducation, support, and a belief that change will occur with careful preparation. This is a clear case-based, person-centered care that leads to the application of reality-contextualized best evidence. In this effort, booster sessions and "steps" of model issues can be applied. These involve community-based interventions, from lectures to support to caregiver therapies to environmental interventions. In effect, the psychotherapist becomes a psychosocial care manager. Problems actually reveal themselves best over time. The judicious monitoring of patient's symptoms and some reconsideration of treatments alone may produce as much benefit for patients as medication or psychotherapy and may fit better with the patient's desires. A health care team, too, best serves this model of care; one where there is a genuine dialogue and shared responsibility, not the often routine physician-lead grouping of professionals.

The watch and wait model then requires clinical patience and deliberation, as well as preparation with hope-building at the beginning. The first few sessions are critical and set the stage for ensuing interventions. The following elements portray necessary features of this part of the therapy which lasts for the first three or so sessions. Central is validation and psychoeducation, e.g., statements like, "This is what seems to be going on;" "This is common

and together we can make a difference;" "Depression is beating you up;" and "We are going to tackle this slowly." Patients are apprised of the model itself and its purpose and scope. Alliance- building is focused on. Assessment and monitoring are initiated. A plan is provided and at some point modules of care are activated for the core areas. To us, this sounds like Ward and Hogan's client-centered therapy plus CT approach.

So what about Judith? As mentioned above, her probable profile developed in the first 3-5 sessions in the treatment process that Ward and Hogan describe is presented in Figure 2. (Also see the summary of the "Facts of the Case" above.) Based on the profile, an individualized treatment plan is developed. For example, as can be seen, Judith's primary problems are in the cognitive loss and life adjustment areas, and immediate plans would be made to deal with these issues: comprehensive cognitive testing, CT modules, and life plans with her then husband and family. Issues of trauma (anxiety) are also taken into consideration. Judith is late to the problems of PTSD and this can unfold gradually with client-centered care. In effect, this process formalizes the approach taken by Ward and Hogan.

CONCLUSION

Judith's was a successful case. After one year Judith's scores on all the major dimensions of the CORE-OM moved in a positive direction; at the two year point, the CORE-OM scores had continued to move, such that reliable change was now evident on all scales. Judith's executive difficulties had a significant impact on the process of the therapy. Over the course of the therapy, she became more focused and less repetitious; and executive difficulties were clearly less in evidence. Client-centered therapy allowed for a re-evaluated self-image. Presumably this touched on Judith's anxieties about life, and, along with the insertion of more directive, practical, supportive CT strategies, life changes were seen. Judith's case illustrates how a formulation, based on knowledge of the effects of brain damage, can be used flexibly and creatively to guide the incorporation of techniques from cognitive rehabilitation into psychotherapy.

We support everything done by Ward and Hogan in Judith's case and believe the Hyer Model supports and formalizes the therapy they designed and conducted. We believe that the watch and wait model has appeal for adults with brain issues as well as older adults. Non-directive therapy is a nice substratum for this to unfold. We believe in general that a profile of core issues, illustrated in Figure 2, which involves the psychology of the person (cognition, anxiety, depression), health of the person (medical status and life style habits), and practical life issues (SES, functional abilities, community needs) can be developed and made useful. We believe that CF is necessary for understanding and change, and also that trauma care in the context of non-directive therapy can work. Importantly, we firmly believe that CT is a necessary intervention to make this happen and be influential in any case where cognitive decline is at issue.

We also applaud the inclusion of many best-practices components in this case. Ward and Hogan measured outcomes; they saw the patient over a long period of time; they were very practical and addressed issues as they were relevant (trauma, CT, practical issues); and the therapy was conducted and supervised by senior counseling psychologists both with training in the client-centered psychotherapy and backgrounds working with neurologically impaired

populations. In sum, in our view this was an everyday case, with everyday problems, and with everyday solutions if only the right mix of therapy were applied. It was.

REFERENCES

- Alexopoulos, G.S., Meyers, B.S., Young, R.C., Kalayam, B., Kakuma, T., Gabrielle, M., Sirey, J.A., & Hull, J. (2000). Executive dysfunction and long-term outcomes of geriatric depression. *Archives of General Psychiatry*, *57*(3):285-290.
- American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders, fifth edition, DSM-5*. Washington, DC, American Psychiatric Association.
- Baddeley, A. D. (2003). Working memory and language: An overview. *Journal of Communication Disorders*, *36*(3), 189-208.
- Ball, K., Berch, D. B., Helmers, K. F., Jobe, J. B., Leveck, M. D., Marsiske, M., ... & Willis, S. L. (2002). Effects of cognitive training interventions with older adults: A randomized controlled trial. *Journal of the American Medical Association*, *288*(18), 2271-2281.
- Basak, C., Boot, W. R., Voss, M. W., & Kramer, A. F. (2008). Can training in a real-time strategy videogame attenuate cognitive decline in older adults? *Psychology and Aging*, *23*, 765-777.
- Bherer, L., Kramer, A. F., Peterson, M. S., Colcombe, S., Erickson, K., & Becic, E. (2008). Transfer effects in task-set cost and dual-task cost after dual-task training in older and younger adults: Further evidence for cognitive plasticity in attentional control in late adulthood. *Experimental Aging Research*, *34*(3), 188-219.
- Burgess, P. W., Alderman, N., Forbes, C., Costello, A., M-A Coates, L., Dawson, D. R., ... & Channon, S. (2006). The case for the development and use of "ecologically valid" measures of executive function in experimental and clinical neuropsychology. *Journal of the International Neuropsychological Society*, *12*(02), 194-209.
- Buschkuhl, M., Jaeggi, S. M., Hutchison, S., Perrig-Chiello, P., Däpp, C., Müller, M., ... & Perrig, W. J. (2008). Impact of working memory training on memory performance in old-old adults. *Psychology and Aging*, *23*(4), 743-753.
- Camp, C. J. (2005). Spaced retrieval. *Geriatric Neuropsychology: Assessment and Intervention*, 275.
- Chein, J., & Morrison, A. (2010). Expanding the mind's workspace: Training and transfer effects with a complex working memory span task. *Psychonomic Bulletin & Review*, *17*, 193-199.
- Cheng, S. T. (2014). Leisure activities as dementia care strategy response. *American Journal of Geriatric Psychiatry*, *22*(5), 524-525.
- Clare, L., Wilson, B. A., Carter, G. G., & Hodges, J. R. (2003). Cognitive rehabilitation as a component of early intervention in Alzheimer's disease: A single case study. *Aging & Mental Health*, *7*(1), 15-21.
- Cooper, M., & McLeod, J. (2011). Person-centered therapy: A pluralistic perspective. *Person-Centered and Experiential Psychotherapies*, *10*(3), 210-223.
- Dahlin, E., Neely, A. S., Larsson, A., Bäckman, L., & Nyberg, L. (2008). Transfer of learning after updating training mediated by the striatum. *Science*, *320*(5882), 1510-1512.

- Daneman, M., & Carpenter, P. (1980). Individual differences in working memory and reading. *Journal of Verbal Learning and Verbal Behavior*, 19(4), 450-466.
- De Werd, M., Boelen, D., Rikkert, M., & Kellels, R. (2013). Errorless learning of everyday tasks in people with dementia. *Clinical Interventions in Aging*, 20, 3:8, 1177-1190.
- Eifert, G., & Forsyth, J. (2005). *Acceptance & Commitment Therapy for Anxiety Disorders*. New York: New harbinger Pub.
- Engle, R. W., Kane, M. J., & Tuholski, S. W. (1999). Individual differences in working memory capacity and what they tell us about controlled attention, general fluid intelligence and functions of the prefrontal cortex. In A. Miyake & P. Shah (Eds.), *Models of working memory: Mechanisms of active maintenance and executive control* (pp. 102-134). New York: Cambridge University Press.
- Foa, E. B., & Rothbaum, B. O. (2001). *Treating the trauma of rape: Cognitive-behavioral therapy for PTSD*. Guilford Press.
- Hyer, L. (2014). *Treatment of older adults: A holistic approach*. New York: Springer Press.
- Hyer, L. (1994). *Trauma victim: Theoretical issues and practical suggestions*. New York: Taylor & Francis.
- Hyer, L., & Scott, C. (2014). Psychological problems at late life: Holistic care with treatment modules. In *Handbook of Clinical Psychology in Medical Settings* (pp. 261-290). Springer, New York.
- Hyer, L. A., & Sohnle, S. J. (2001). *Trauma among older people: Issues and treatment*. New York: Psychology Press.
- Iverson, G. (2000). Facilitating psychotherapy for persons with acquired brain impairment: Brief screening with the WAIS-III/WMS-III. *Journal of Cognitive Rehabilitation*, 18(6), 6-9.
- Jaeggi, S. M., Buschkuhl, M., Jonides, J., & Perrig, W. J. (2008). Improving fluid intelligence with training on working memory. *Proceedings of the National Academy of Sciences of the United States of America*, 105(19), 6829-6833.
- Kane, M., Hambrick, D., Tuholski, S., Wilhelm, O., Payne, T., & Engle, R. (2004). The generality of working memory capacity: A latent-variable approach to verbal and visuospatial memory span and reasoning. *Journal of Experimental Psychology: General*, 133(2), 189-217.
- Klingberg, T., Fernell, E., Olesen, P. J., Johnson, M., Gustafsson, P., Dahlström, K., ... & Westerberg, H. (2005). Computerized training of working memory in children with ADHD—A randomized, controlled trial. *Journal of the American Academy of Child and Adolescent Psychiatry*, 44(2), 177-186.
- Klingberg, T., Forssberg, H., & Westerberg, H. (2002). Training of working memory in children with ADHD. *Journal of Clinical and Experimental Neuropsychology*, 24(6), 781-791.
- Kontos, A.P., Elbin, R.J., Schatz, P., Covassin, T., Henry, L., & Pardini, J., & Collins, M.W. (2012). A Revised factor structure for the Post-Concussion Symptom Scale: Baseline and postconcussion factors. *American Journal of Sports Medicine*, 10, 2375-2384.
- Laatsch, L. (1999). Application of cognitive rehabilitation techniques in psychotherapy. In K.G. Langer, L. Laatsch, L. Lewis (Eds), *Psychotherapeutic interventions for adults with brain injury or stroke: A clinician's treatment resource* (pp. 131-148). Madison, CT, US: Psychosocial Press.

- Langer, K. G., Laatsch, L. E., & Lewis, L. E. (1999). *Psychotherapeutic interventions for adults with brain injury or stroke: A clinician's treatment resource*. Psychosocial Press.
- Lavretsky, H. (2013). *Lifestyle behaviors, integrative therapies, and mental health across the lifespan*. Program and abstracts of the 2013 American Psychiatric Association Annual Meeting; May 18-27, San Francisco, California. Symposium 33.
- Lewis, L. A., (1991). A framework for developing a psychotherapy treatment plan with brain-injured patients. *The Journal of Head Trauma Rehabilitation*, 6(4), 22-29.
- Lockhart, S. N., & DeCarli, C. (2014). Structural imaging measures of brain aging. *Neuropsychology review*, 24(3), 271-289.
- Logie, R., Gilhooly, K., & Wynn, V. (1994). Counting on working memory in arithmetic problem solving. *Memory & Cognition*, 22(4), 395-410.
- Mayr, U. (2008). Introduction to the special section on cognitive plasticity in the aging mind. *Psychology and Aging*, 23(4), 681-683.
- McLeod, J., & Cooper, M. (2011). A protocol for systematic case study research in pluralistic counselling and psychotherapy. *Counseling Psychology Review*, 26(4), 47-58.
- Meguro, M., Kasai, M., Akanuma, K., Ishii, H., Yamaguchi, S., & Meguro, K. (2008). Comprehensive approach of donepezil and psychosocial interventions on cognitive function and quality of life for Alzheimer's disease: The Osaki-Tajiri Project. *Age and Aging*, 37(4), 469-473.
- Mohlman, J., Cedeno, L.A., Price, R.B., Hekler, E.B., Yan, G.W., & Fishman, D.B. (2008). Deconstructing demons: The case of Geoffrey. *Pragmatic Case Studies in Psychotherapy*, Vol. 4(3), Article 1, 1-39. Available: http://hdl.rutgers.edu/1782.1/pcsp_journal
- Morris, J. (2001). *Clinical Dementia Rating*. St Louis, MO.: Washington University
- Narendran, R., Frankle, W. G., Mason, N. S., Muldoon, M. F., & Moghaddam, B. (2012). Improved working memory but no effect on striatal vesicular monoamine transporter type 2 after omega-3 polyunsaturated fatty acid supplementation. *PLoS One.*, 7(46), 832.
- Nitrini, R. (2012). Dementia incidence in middle-income countries. *The Lancet*, 380(9852), 1470.
- Nyberg, L., Lovden, M., Riklund, K., Lindenberger, U., & Backman, L. (2009). Memory aging and brain maintenance. *Trends in Cognitive Sciences*, 1-14.
- Owen, A. M., Hampshire, A., Grahn, J. A., Stenton, R., Dajani, S., Burns, A. S., ... & Ballard, C. G. (2010). Putting brain training to the test. *Nature*, 465(7299), 775-778.
- Resick, P. A., & Schnicke, M. K. (1992). Cognitive processing therapy for sexual assault victims. *Journal of consulting and clinical psychology*, 60(5), 748.
- Rothi, L. J., Fuller, R., Leon, S. A., Kendall, D., Moore, A., Wu, S. S., ... & Nadeau, S. E. (2009). Errorless practice as a possible adjuvant to donepezil in Alzheimer's disease. *Journal of the International Neuropsychological Society*, 15(2), 311-322.
- Rozzini, L., Costardi, D., Chilovi, B., Franzoni, S., Trabucchi, M., & Padovani, A. (2007). Efficacy of cognitive rehabilitation in patients with mild cognitive impairment treated with cholinesterase inhibitors. *International Journal of Geriatric Psychiatry*, 22(4), 356-360.
- Sandry, J., DeLuca, J., & Chiaravalloti, N. (2014). Working memory capacity links cognitive reserve with long-term memory in moderate to severe TBI: A translational approach. *Journal of neurology*, 1-6.

- Scarmeas, N., Stern, Y., Mayeux, R., Manly, J. J., Schupf, N., & Luchsinger, J. A. (2009a). Mediterranean diet and mild cognitive impairment. *Archives of Neurology*, *66*, 216-225.
- Scarmeas, N., Luchsinger, J. A., Schupf, N., et al. (2009b). Physical activity, diet, and risk of Alzheimer disease. *JAMA*, *302*, 627-637.
- Small, G. W. (2013). *Brain health and Alzheimer's prevention*. Program and abstracts of the 2013 American Psychiatric Association Annual Meeting; May 18-22, San Francisco, California. Lecture 11.
- Small, G. W., Kepe, V., Siddarth, P., et al. (2013). PET scanning of brain tau in retired National Football League players: Preliminary findings. *American Journal of Geriatric Psychiatry*, *21*, 138-144.
- Small, G., & Vorgan, G. (2011). *The Alzheimer's prevention program: Keep your brain healthy for the rest of your life*. New York, NY, US: Workman Publishing.
- Smith, G. E., Housen, P., Yaffe, K., Ruff, R., Kennison, R. F., Mahncke, H. W., ... & Zelinski, E. M. (2009). A cognitive training program based on principles of brain plasticity: Results from the Improvement in Memory with Plasticity-based Adaptive Cognitive Training (IMPACT) study. *Journal of the American Geriatrics Society*, *57*(4), 594-603.
- Souchay, C. (2007). Metamemory in Alzheimer's disease. *Cortex*, *43*(7), 987-1003.
- Stine-Morrow, E. A. L., Parisi, J. M., Morrow, D. G., & Park, D. C. (2008). The effects of an engaged lifestyle on cognitive vitality: A field experiment. *Psychology and Aging*, *23*, 778-786.
- Tang, C. S. K. (2007). Trajectory of traumatic stress symptoms in the aftermath of extreme natural disaster: A study of adult Thai survivors of the 2004 Southeast Asian earthquake and tsunami. *The Journal of nervous and mental disease*, *195*(1), 54-59.
- Vanderploeg, R.D. (Ed.). (2014). *Clinician's guide to neuropsychological assessment*. Psychology Press.
- Wampold, B.E. (2001). Contextualizing psychotherapy as a healing practice: Culture, history, and methods. *Applied and Preventive Psychology*, *10*(2), 69-86.
- Ward, T., & Hogan, K. (2009). A trial of client-centered counseling over the telephone for persons with ME. *Counseling Psychology Review*, *24*(2) 34-41.
- Ward, T., & Hogan, K. (2015). Using client-centered psychotherapy embedded within a pluralistic integrative approach to help a client with executive dysfunction: The case of "Judith." *Pragmatic Case Studies in Psychotherapy*, *11*(1), Article 1, 1-20. Available: http://hdl.rutgers.edu/1782.1/pcsp_journal
- Willis, S. L., Tennstedt, S. L., Marsiske, M., Ball, K., Elias, J., Koepke, K. M., ... & Wright, E. (2006). Long-term effects of cognitive training on everyday functional outcomes in older Adults. *Journal of the American Medical Association*, *296*(23), 2805-2814.
- Xu, W. L., Atti, A. R., Gatz, M., et al. (2011). Midlife overweight and obesity increase late-life dementia risk. *Neurology*, *76*, 1568-1574.

Figure 1. Post-Concussion Symptom Scale
Kontos et al., 2012

Name: _____ Age/DOB: _____ Date of Injury: _____

Post Concussion Symptom Scale

No symptoms "0" -----Moderate "3"-----Severe"6"

Time after Concussion

<u>SYMPTOMS</u>	Days/Hrs _____	Days/Hrs _____	Days/Hrs _____
Headache	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Nausea	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Vomiting	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Balance problems	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Dizziness	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Fatigue	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Trouble falling to sleep	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Excessive sleep	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Loss of sleep	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Drowsiness	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Light sensitivity	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Noise sensitivity	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Irritability	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Sadness	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Nervousness	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
More emotional	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Numbness	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Feeling "slow"	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Feeling "foggy"	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Difficulty concentrating	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Difficulty remembering	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
Visual problems	0 1 2 3 4 5 6	0 1 2 3 4 5 6	0 1 2 3 4 5 6
TOTAL SCORE	_____	_____	_____

Use of the Post-Concussion Symptom Scale: The athlete should fill out the form, on his or her own, in order to give a subjective value for each symptom. This form can be used with each encounter to track the athlete's progress towards the resolution of symptoms. Many athletes may have some of these reported symptoms at a baseline, such as concentration difficulties in the patient with attention-deficit disorder or sadness in an athlete with underlying depression, and must be taken into consideration when interpreting the score. Athletes do not have to be at a total score of zero to return to play if they already have had some symptoms prior to their concussion.

Figure 2. Judith's Profile

