

Somatic-Oriented Therapies: Embodiment, Trauma and Polyvagal Perspectives
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Ritual Practice, Addiction, OCB, and Routine

Ritual dynamics and human coping strategies

Abstract

Our fundamental need for a sense of security, social ties, and well-being is challenged by change, disorder, extreme difficulties, and trauma. Resulting feelings of stress, anxiety, and ineffectiveness can lead to severe illness, mental and emotional problems, and possibly death. Successful treatment of addiction and obsessive compulsive disorders requires approaches that recognise the human need for body-mind unity. This chapter challenges the mind-body divide underpinning much of current medicine and psychotherapy with a unique transdisciplinary toolset comprised of innovative diagrams and two theories—structural ritualization theory (SRT) and polyvagal theory (PVT). The toolset contributes to understanding the dynamics and function of ritualised behaviours such as ritual practices, addiction, obsessive-compulsive actions, and strict routines. It is also valuable for identifying strategies most likely to reduce human distress and enhance human flourishing.

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INTRODUCTION

Our deep human need for a sense of safety, connection, and wellbeing is tested by change, hardship, and trauma. Ensuing feelings of emptiness, distress, and powerlessness can lead to serious illness and even hasten death (Maté & Maté 2022; Selye 1984 [1956]). Following the trail left by the material traces of prehistoric human activity reveals that ritualised behaviours are an ancient human strategy for coping with change and challenges such as death, adversity, and catastrophic events (Nilsson Stutz & Stutz 2022). In times of uncertainty, such behaviours may serve to reassure people, or be weaponised to increase fear or power. They have long functioned to underpin social structures and values. For good or for ill, they are singularly effective in imposing order and controlling chaos.

After a brief look at the mind-body problem, this chapter focusses on a spectrum of ritualised behaviours that function as adaptive buffers to take the edge off suffering. A transdisciplinary toolset—tools to *work with* rather than tools that *work for us*¹—is applied to explore how we humans use certain ritualised behaviours² with varying degrees of effectiveness to meet our deepest needs. The toolset is comprised of innovative illustrations³ and two theories that contribute to awareness of why a person acts so as to give some activities a privileged status vis-a-vis others. It is also valuable for identifying strategies most likely to reduce human distress and enhance human flourishing.

Mind-Body Problem

The gap between body and mind is not new but current scientific approaches, particularly in education and medicine, are accelerating the harm caused. The dangers of severing body from mind

were already recognised by Avicenna,⁴ a medieval philosopher and medical doctor known as a pioneer in psychosomatic medicine, notably neurology. He challenged his contemporaries with a thought experiment to show him how a healthy person, suspended in mid-air, might be aware of herself without using sensations to do so.⁵ The relevance of Avicenna's work to this chapter goes beyond his accent on bodymind unity. He tested drugs like opium for pain relief and anaesthesia, treated various psychiatric disorders including obsessive-compulsive behaviours and encouraged ritual and routine practices that promote wellbeing (ablutions, diet, and exercises involving sight, hearing, and voice modulation).

The mind-body divide remains problematic today as it has become the norm for human functioning. Humankind has become a 'renewable socio-economic resource'—with women, racial minorities, exiles, and migrants at the lower end of the scale. The individual is a assemblage of 'spare parts': an 'unsolvable case' gets passed from doctor to doctor, becomes an experimental opportunity, or is simply abandoned.

RITUALISING MEETS HUMAN NEEDS

Modern values of individualism, competition, self-reliance, and self-examination make modern humans lonely in an unprecedented way, observes ethologist Ellen Dissanayake. She argues that ritualised behaviours satisfy evolving human needs: it is better to have something to do—preferably with others—in times of uncertainty than try to cope by oneself or do nothing at all (Dissanayake 2017).

Take handwashing: a common ritual activity found in numerous spiritual traditions and a sign of routine hygiene in most cultures and healthcare settings. During the recent pandemic handwashing represented a strategy that helped many people cope with hardship: first, as a sanitary and safety measure (body), then as an activity that reinforced a sense of connection and social integration (mind). Yet, some people compulsively wash their hands even after it seriously damages their skin, even when they feel that the practice isolates them. How do useful ordinary ritualised activities become harmful? Why do some ritualised behaviours attain a privileged status vis-a-vis other actions?

Structural Ritualisation Theory (SRT)

Questions like these led J. David Knottnerus to develop structural ritualisation theory (SRT).⁶ The theory has relevance for individual and collective behaviours because rituals can have profound consequences for people's cognitions, feelings, and overall character. SRT provides plausible explanations for how every day and exceptional ritualised behaviours impact the wellbeing of individuals and groups in a wide variety of settings, from placement in nursing homes, to prisons or refugee camps to the aftermath of earthquakes, to polar expeditions, and the artificial environments driven by virtual reality (Knottnerus 2016 [2011], 2023b). Simply stated, '*ritual is like an engine that drives much of social life, sometimes quite intensely*' (Knottnerus 2016 [2011], p.11).

SRT is particularly useful for shedding light on how and why personal, social, and global disruptions affect individuals or groups the way they do. It also contributes to understanding how a spectrum of ritualised behaviours respond to disruption (see Figure 27.1).

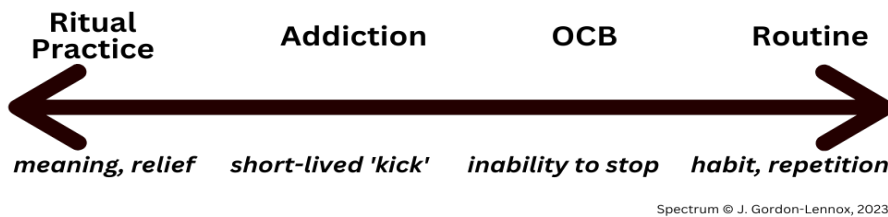


FIGURE 27.1 A spectrum of ritualised actions (SRT).

Visually aligning ritualised actions gives a dynamic overview of the spectrum. | All figures © Jeltje Gordon-Lennox

SRT ranks ‘ritualised actions’ or ‘*ritualised symbolic practices*’ (RSP) according to four observable factors: *repetitiveness* (frequency), *salience* (perceived prominence or centrality), *homologousness* (perceived similarity) and *resources* (e.g., materials and human traits) (Knottnerus 1997, 2023a). These four factors offer clues about the nature and effectiveness of the RSPs and how they may serve as *social buffers* to *disruptive events*, particularly in contexts that involve *deritualisation* and *re-ritualisation* (Knottnerus 1997, 2016 [2011], 2023a, 2023b). Disruption, deritualisation, and re-ritualisation refer to the breakdown of social and personal rituals, their consequences, and the ways people may cope with such experiences by reconstituting old or new ritualised activities (Knottnerus 2022).

In addition, SRT presents an analytical scheme that provides a framework for understanding how social rituals operate at different levels of society. The model depicts the influence of ritual dynamics over six structural levels of social order that consider the relationships between macro (global) and micro (interaction) systems as well as how rituals may be transmitted throughout society and have different consequences.

When SRT is applied to these four ritualised behaviours on the spectrum we see that ‘Ritual practices’ have high RSP ranking: they are fundamentally social, perceived as having a positive impact on wellbeing, and carry significant symbolic meanings or themes (high salience). Social (macro) and individual (micro) perspectives may differ. While society ranks cultural funerary practices high in repetitiveness, individuals who may rarely attend funerals rank them high only in salience. At the other end of the spectrum ‘Routine’ has low RSP ranking; habits are consistently high in repetitiveness and contribute to wellbeing but are ill-suited to carrying symbolic meanings and so perceived as having low centrality to social life. ‘Addiction’ and ‘OCB’ appear between these poles: like routine, they are associated with highly repetitive actions; like ritual, they can carry symbolic meanings; yet their perceived negative impact on the wellbeing of individuals and groups makes for low salience.

Polyvagal Theory (PVT)

Polyvagal theory (PVT), a complex neurophysiological ‘science of safety’ developed by Stephen W. Porges, is described, applied, and referenced in many works, including this book⁷ (Porges 2011, 2022b; Porges & Porges 2023). Most relevant to this chapter are PVT’s plausible neurophysiological explanations for shifts in inner and outer states that occur during ritualised behaviours. A sense of safety during ritualising is *less about being safe than about feeling safe*—a state that goes far beyond the removal of objective threat.

The transitions (vagal, sympathetic, or dorsal) one makes when ritualising in safe vs threat states are illustrated in Figure 27.2. Keeping this schema in mind helps us understand why people choose to practice certain behaviours over others as well as how these behaviours work for or against their wellbeing. The curly arrow (centre left) suggests a certain fluidity of movement up and down between the three states: connected/serene (ventral vagal) and flow/fear (sympathetic) and calm/terror (dorsal vagal). A sense of safety while in a dorsal vagal state contributes to rest, intimacy, meditation (cf. Figure 27.2, left panel). Stretching and yawning luxuriously when awakening from sleep moves us smoothly from dorsal states through sympathetic states and finally to easeful ventral vagal states). In contrast, the thicker arrows show how moving from dorsal vagal upwards towards a ventral vagal state *requires passing through the sympathetic state* (cf. Figure 27.2, right panel). A sense of threat while in a dorsal state (bottom right) may (re-)produce feelings of embodied terror.

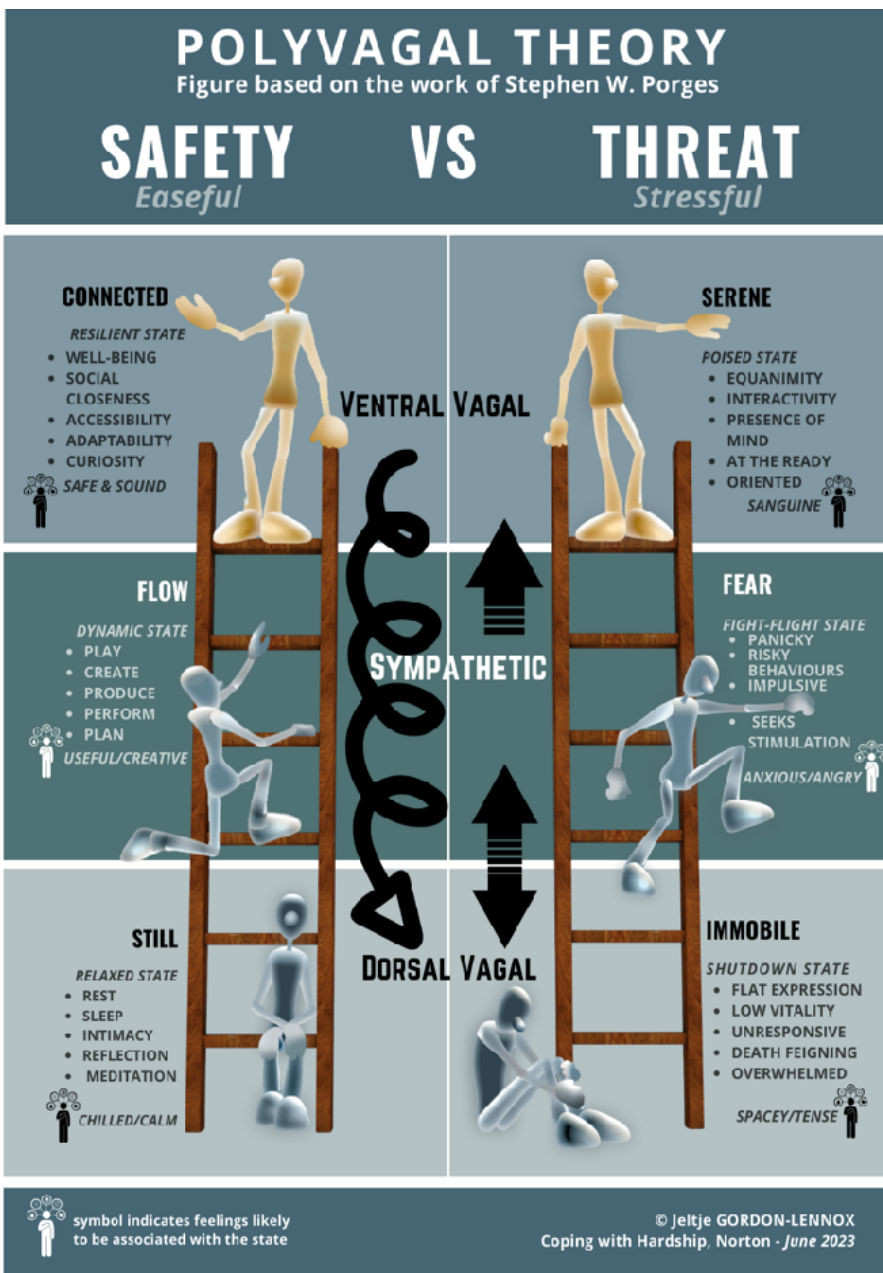


FIGURE 27.2 **Applying polyvagal theory (PVT) to ritualised action.** A sense of safety or threat influences the dynamics and efficacy of ritualised activities. | © Jeltje Gordon-Lennox

To relieve these feelings, we *must pass through a sympathetic state* (middle right) to reach a more comfortable ventral vagal state (top left/right). This shift is not without risk. Many people resort to unsafe fight/flight behaviours such as addiction, OCB, or even suicide to relieve the sense of desperation (see situations in Gordon-Lennox 2022).

A SPECTRUM OF RITUALISED BEHAVIOURS

In this section, the transdisciplinary toolset is brought to bear on a spectrum of ritualised actions as well as on their origins, function, and efficacy⁸. Three illustrations compare the cyclic processes of ritual, addiction, and OCB (see Figures 27.3, 27.4, 27.5).

Ritual Practice

Typical ritual practice is stimulated by a conscious compelling need to respond to perceived disruption (threat/stress) by marking a situation or life event with symbolic gestures and words. Whether the rituals are derived from our own socio-cultural traditions or crafted anew,⁹ the resources used—metaphors, symbols, language, setting, and objects—must *feel right to be right*. During ritualising that feels right, the practitioner feels safe, fully present (body), and aware (perception, cognisance). This state fosters curiosity, creativity, and social engagement which may lead to a sense of freedom and restoration. Examples of ritual contexts conducive to feelings of joy or of moving forward include funerals that reflect the life and values of the deceased, weddings centred on the couple’s shared values, hopes and dreams, or even a cup of coffee consciously enjoyed (Gordon-Lennox 2016, 2017, 2019, 2020).

PVT suggests that intentional ritual practices ‘create an inner space (time) between the interoceptive reflexive response associated with neuroception and the outer behavioural response’¹⁰ (Porges, personal communication). Accordingly, the ‘O’ in the cycle—portrayed here as Stimulus-Organism-Response (S-O-R)—accounts for an open time/space where inner/outer states and our surroundings can influence how we react to stimuli with a ritualised response (see Figure 27.3).

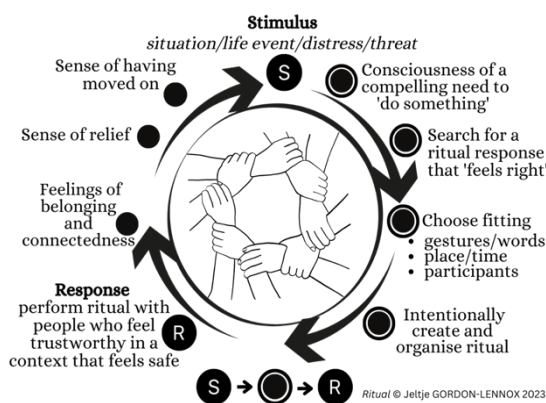


FIGURE 27.3 Cycle of typical ritual practice.

The cycle of ritual practice typically contributes to containing strong feelings such as fear, sadness, and joy¹¹ to promote a sense of relief and moving on.

Applying SRT to concrete situations shows how everyday rituals play, and have always played, an important role in regulating human society to impact the wellbeing of individuals and groups in a wide variety of settings. Disruptions experienced as extreme (e.g., hurricane, financial crash, internment) can cause *deritualisation*, that is, the breakdown of social and personal rituals.

Ritualisation is about how people cope with disruption and deritualisation by reconstituting old or creating new ritualised activities. A Soviet labour camp survivor recalls:

Despite my fatigue and the cold, I kept the exercise routine I had followed at home and in the Red Army, washing my face and hands at the hand pump. I wanted to retain as much pride in myself as I could, separate myself from the many prisoners [who] stop caring... If I had control over nothing else, I had control over this ritual which I believed would keep me from degradation and certain death. – *Bardach* (cited in Knottnerus 2016 [2011], p.125)

Ritual dynamics and meaning that are difficult to grasp or lack in ‘predictability’¹² appear to contribute to unsuccessful outcomes. Another SRT study, this time of polar expeditions, demonstrates the vital role of ritual practice for dealing with the disruption and deritualisation caused by the monotony and extreme isolation of daily life; ritualisation provided participants with meaningful focus, order, stability, and enhanced social relationships. Remarkably, successful expeditions ranked high in RSPs whereas unsuccessful ones ranked low (Knottnerus 2023b).

Predictability, often associated with traditional religious rituals,¹³ is enhanced by dynamic interaction and connection with other people that feels safe. Thus, chants, prayers, meditation, dance, and posture can function as ‘neural exercises’ of the vagal pathways to provide a behavioural platform for moving a person from dorsal vagal immobilised state (see Figure 27.2, bottom right) to a sympathetic state that feels safe (middle left). Moreover, ‘the processing of this [ritual] space (time) preserves the nervous system from falling into addiction or psychopathologies such as OCB’ (Porges, personal communication).

Ritual behaviours that ‘feel’ (practitioner), ‘look’ (observer) and ‘function’ (efficacy) in a way that gives it privileged status vis-a-vis other acts involve *embodied intentionality*.¹⁴ Such intentionality may produce a sense of slipping into a ‘time-out-of-time’ space where sensations (feelings) are richer, slower, and more intense than usual, paving the way for a sense of resolution. Embodied intentionality may well be what distinguishes ritual practice from other ritualised behaviours such as ordinary habits, routines, obsessive-compulsive actions, and addiction (Gordon-Lennox 2022).

Addiction behaviours

The addiction cycle represents another way of dealing with fear, disruption, and deritualisation. Addiction behaviours—including substance abuse and compulsive behaviours such as gambling, overeating, the pursuit of power, and excessive use of technology—follow a cycle in which there is usually a ‘kick’ or some form of satisfaction which activates the reward centres of the brain to provide temporary feelings of relief which facilitate relapse during the next bout of distress (see Figure 27.4).

Early studies on stress and psychosocial trauma give us further clues about the function and efficacy of addiction as a ritualised behaviour: ‘overeating, increased and excessive consumption of alcohol and drugs are common manifestations of stressors beyond our natural endurance... we are actually dealing with flight reactions... they help us forget the cause of our distress and tend to temporarily replace it by the eustress¹⁵ of psychic elation, or at least tranquillisation’ (Selye 1984 [1956] p.177). Stressful events and anxiety are not necessarily traumatic. Trauma is *less about what happens to us* than about *what it does to us* (Scaer 2007).

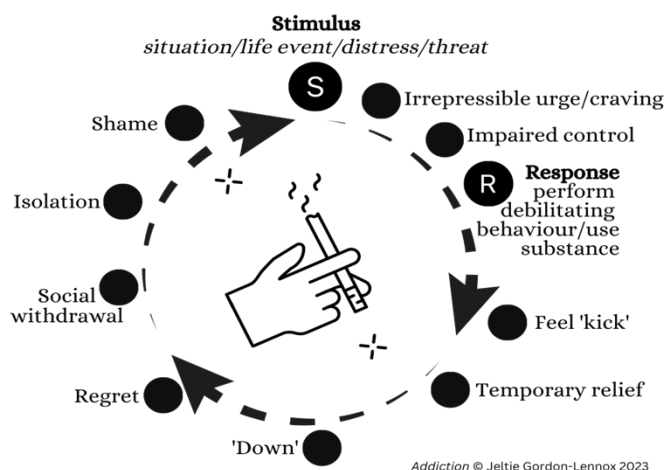


FIGURE 27.4 Cycle of addiction behaviour.

Distress, craving, impaired control, and irrepressible urges lead to addiction behaviours which give short-lived feelings of relief that are inevitably followed by feelings of regret, social isolation, and shame.

SRT associates addiction behaviours with highly repetitive actions that may carry symbolic meanings for the practitioner; salience however is low on account of the harmful impact on wellbeing. Unlike ritual practice, which is designed to enhance predictability, addiction behaviours foster ‘biological rudeness’ (Porges 2017, pp.8, 232-234; Porges & Porges 2023, p.83). It is less the behaviour that is ‘rude’ than a sense the addicted person has ‘gone missing’ that violates our unconscious neural expectancies. This absence may consist of a just a few seconds of unintentional disconnection—as when an internet addict glances away from us to check their phone. Such discourteous behaviour is not due to faulty upbringing. Rather, it occurs on a neurological level with a shift in the autonomic in reaction to a sense of fear. Such behaviours oscillate between the fight/flight of sympathetic activity and dorsal vagal immobilisation (see Figure 27.2, middle and bottom right). The ‘O’ of Stimulus-Organism-Response (S-O-R) which accounts for a time/space in ritual practice is absent in addiction behaviours.

Thus, addiction functions as an *incomplete neural exercise*; the lack of a sense of resolution feeds the need to return for another ‘kick’. Addiction thus generates a closed cycle that moves essentially from dorsal vagal to sympathetic and back again. Neither moralising, nor ‘prevention’, nor the criminalisation of addiction have proven successful. Nonetheless, about three-quarters of the people who become addicted to a drug as young adults recover—usually without receiving any treatment (Alexander & Smyth 2022, p.157). Plato, one of the first to formulate a clear understanding of epidemic addiction, insisted that the root cause of addictive behaviours lies not with individuals who become addicted, nor with the addictive property of particular drugs or habits but in the structure of unjust societies. Even the most harmful addictions serve a vital adaptive function for dislocated individuals in a fragmented world¹⁶ (Alexander & Smyth 2022, p.153). Although nothing can replace the ‘kick’, the most effective treatment options aim at restoring a sense of safety and connection, often in collaboration with other dislocated people, though self-help groups or local community groups.

This [effort to form community] is often referred to as the recovery movement; it provides community-oriented support, acceptance, and treatment to prevent and overcome addictions through small-scale social change. Rather than focus directly on addiction, it deals more broadly with dislocation—with or without the support of professional social workers or therapists—to help people to find and retain a place in their community. – Bruce K. Alexander (cited in Alexander & Smyth 2022, p.158)

Obsessive-compulsive Behaviour (OCB)¹⁷

OCB cycles begin with a sense of foreboding and distress that mutates into obsessive thoughts before spawning irrelevant repetitive compulsive behaviours. Ritualised actions such as counting, checking, or handwashing follow a rigid set of rules designed to prevent an unrelated imagined catastrophe (see Figure 27.5). There is little or no logical relationship between the thoughts, actions, and superstitious beliefs of impending disaster. **The sufferer is persuaded that** failure to perform the actions will trigger unrelated dreadful outcomes. For example, an adult man may check his locks repeatedly to keep his (healthy) mother who lives in another town from dying of a heart attack. Although the exact origin of the obsessive thoughts and compulsive actions is not fully understood, OCB clearly functions as an ineffective defensive reaction to a sense of threat or looming catastrophe. The obsessive-compulsive cycles may occur several times a day or months apart.

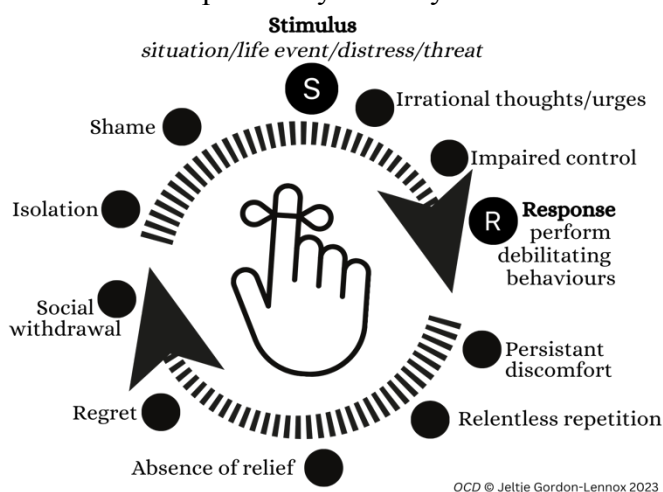


FIGURE 27.5 Cycle of obsessive-compulsive behaviour.

In OCB, a sense of threat engenders obsessive thoughts which lead to unrelated repetitive behaviours aimed at preventing perceived danger. The stress of embarrassment, social isolation, and shame may be enough to relaunch the cycle.

Using our toolset, we see that OCB ranks low as an RSP. Like addiction behaviours OCBs are high in repetitiveness but low in salience. The irruption of unwelcome thoughts and compulsive ritualised behaviours causes deritualisation by disrupting ordinary routines and rituals. Unlike addiction, OCB delivers no ‘kicks’. **Relief** is brief; the symbolically meaningless repetitive actions leave the sufferer no sense of resolution. The neurobiological explanation of ‘biological rudeness’ applied to addiction also fits OCB—as when the sufferer must count until the ‘right’ feeling is achieved. OCB patients with handwashing compulsions self-reported feeling unsatisfied about having ‘washed enough’. In both OCB and addiction, bidirectional influence of the behaviours operates on physical and emotional states; a sense of powerlessness, shame, or social isolation can relaunch a cycle.

Researchers who view the repeated performance of security-related behaviours ‘as a pathology of stopping, versus starting’ recommend therapeutic options such as exposure with response prevention (ERP), cognitive behavioural therapy (CBT), hypnosis, biofeedback, and pharmacology (Hinds *et al* 2012).

Our alternative hypothesis views the persistent *feelings of danger* in OCB as a normal autonomic nervous system (ANS) reaction to threat—rather than a stop-signal deficiency. This points to a new

understanding of the pathology and thus paves the way for new approaches to treatment. The same bidirectional influences that enhance efficacy in ritual practice make OCB particularly inefficient for dealing with stressful circumstances and strong emotion. As with addiction behaviour, such defensive reactions to a sense of threat may point to feelings of alienation or injustice linked to past trauma. Addressing an underlying sense of threat, isolation, and shame through conscious re-ritualisation may be a challenge for OCB sufferers who have little experience with effective RSPs to draw upon. Yet, as for sufferers of addiction behaviours, those with OCB may benefit from a sense of safety in community and experiencing ritual space/time in the present.

CONCLUSION

We have seen that today, as in times past, humankind draws upon a spectrum of ritualised actions to cope with distress. Ritual practice, performed with embodied intentionality, can provide the practitioner with a sense of safety, social connection, and resolution. Routines contribute to individual and collective wellbeing but support neither symbolic meaning nor a sense of closure. Addiction and obsessive-compulsive behaviours are problematical coping mechanisms which interfere with relationships, wellbeing, and daily functioning. Moreover, the behaviours provide only temporary escape from the disruption of emotional pain, stress, perceived threats, anxiety, and shame.

Human flourishing depends on our creativity to discover new ways of calming the bodymind in safe ways. The unique transdisciplinary toolset applied in this chapter contributes to grasping the crucial role ritual dynamics play in human responses to distress. The is chapter succinctly illustrates the social and neurophysiological bases for understanding how and why a person acts so as to give some activities a privileged status vis-a-vis others. Disruption, deritualisation, and re-ritualisation represent normal phases in the course of life (SRT). Ritualised actions that meet the criteria of the science of safety (PVT) and increase our capacity feeling safe and socially engaged, have high potential for improving wellbeing. This chapter also represents a starting point for new research and treatment, as well as for the formulation of principles and policies, designed to reduce human suffering and enhance healing.

REFERENCES

- Alexander BK & Smyth M (2022). Challenging global dislocation through local community and ritual. In J Gordon-Lennox (Ed.) *Coping ritual in fearful times: An unexplored resource for healing trauma* (pp.151-162). Springer Nature.
- Bell CM (2009 [1992]). *Ritual theory, ritual practice*. Oxford University Press.
- Damasio A & Damasio H (2023). Feelings are the source of consciousness. *Neural Comput.* 2023; 35 (3): 277–286. Accessed 9 November 2023 at: https://doi.org/10.1162/neco_a_01521
- De Deyne S, Navarro DJ, Collell G, & Perfors A (2021). Visual and affective multimodal models of word meaning in language and mind. *Cogn Sci*, 45: e12922. Accessed 9 November 2023 at: <https://doi.org/10.1111/cogs.12922>
- Dissanayake E (2017). The art of ritual and the ritual of art. In J Gordon-Lennox (Ed.), *Emerging ritual in secular societies: A transdisciplinary conversation* (pp.22–39). Jessica Kingsley Publishers.
- Gordon-Lennox J (2022). Introduction; ‘Dead land dead water’. In J Gordon-Lennox (Ed.) *Coping rituals in fearful times: An unexplored resource for healing trauma* (pp.1-22; 191-210). Springer Nature.

- Gordon-Lennox J (2020). *Crafting meaningful funeral rituals: A practical guide*. Jessica Kingsley Publishers.
- Gordon-Lennox J (2019). *Crafting meaningful wedding rituals: A practical guide*. Jessica Kingsley Publishers.
- Gordon-Lennox J (2017). Introduction; The rhyme and reason of ritualmaking. In J Gordon-Lennox (Ed.), *Emerging ritual in secular societies: A transdisciplinary conversation* (pp. 11-5; 70-85). Jessica Kingsley Publishers.
- Gordon-Lennox J (2016). *Crafting secular ritual: A practical guide*. Jessica Kingsley Publishers.
- Hinds AL, Woody EZ, Van Ameringen M, Schmidt LA & Szechtman H (2012). When too much is not enough: Obsessive-compulsive disorder as a pathology of stopping, rather than starting. *PLoS One*, 7(1), e30586. Accessed 9 November 2023 at: <https://doi.org/10.1371/journal.pone.0030586>
- Illich I (1973). *Tools for conviviality*. Harper & Row.
- Knottnerus JD (2023a). Ritual dynamics, theory, and research: Summary & update, structural ritualization theory (SRT). Request updated version at: david.knottnerus@okstate.edu
- Knottnerus JD (2023b). *Polar expeditions: Discovering rituals of success within hazardous endeavors*. Routledge.
- Knottnerus JD (2022). Foreword. In J Gordon-Lennox (Ed.) *Coping rituals in fearful times: An unexplored resource for healing trauma* (pp.vii-xiii). Springer Nature.
- Knottnerus JD (2016 [2011]). *Ritual as a missing link: Sociology, structural ritualization theory and research*. Routledge.
- Knottnerus JD (1997). The theory of structural ritualization. In B Markovsky, MJ Lovaglia & L Troyer (Eds.), *Advances in group processes*, Vol. 14. JAI Press.
- Maté G & Maté D (2022). *The myth of normal: Trauma, illness & healing in a toxic culture*. Penguin Random House.
- McGinnis J (2010). *Avicenna*. Oxford University Press.
- Nilsson Stutz L & Stutz AJ (2022). Deeply human: Archaeological traces of rituals for coping with death, adversity, and trauma. In J Gordon-Lennox (Ed.), *Coping rituals in fearful times: An unexplored resource for healing trauma* (pp.23-42). Springer Nature.
- Porges SW & Porges S (2023). *Our polyvagal world: How safety and trauma change us*. Norton.
- Porges SW (2022a). Ancient rituals, contemplative practices, and vagal pathways. In J Gordon-Lennox (Ed.) *Coping rituals in fearful times: An unexplored resource for healing trauma*. Springer Nature.
- Porges SW (2022b) Polyvagal theory: A science of safety. *Front. Integr. Neurosci.* 16:871227. Accessed 9 November 2023 at: <https://doi.org/10.3389/fnint.2022.871227>
- Porges SW (2017). *The pocket guide to polyvagal theory: the transformative power of feeling safe*. WW Norton.
- Porges SW (2011). *The polyvagal theory: Neurophysiological foundations of emotions, attachment, communication, and self-regulation* (Norton series on interpersonal neurobiology). WW Norton & Company.
- Scaer RC (2014 [2001]). *The body bears the burden: Trauma, dissociation, and disease*. Routledge.
- Selye H (1984 [1956]). *The stress of life*. McGraw Hill.
- Siegel D (2010). *Mindsight*. Bantam.

¹ Long before AI, Ivan Illich critiqued developments that hinder human flourishing while contributing to poverty, dependency, and out-of-control systems in which humans become worn-down mechanical parts (Illich 1973).

² The spectrum includes addiction to gambling, constant use of technology, hair-pulling (trichotillomania), skin-picking (excoriation disorder), nail-biting, hoarding, eating disorders—like anorexia nervosa, bulimia nervosa, and binge-eating—as well as the pursuit of power and perfectionism.

³ Recent research suggests that meaningfulness requires bodymind involvement. Multimodal non-linguistic representations involve sensorimotor and emotional experience, interoception, and sociality. Visual images and affect contribute to our understanding and transmission of abstract concepts (De Deyne *et al* 2021).

⁴ The *Canon of Medicine* (1025), a five-volume encyclopaedia of medicine written by the Persian Ibn Sīnā (980-1037 CE)—known in the West as Avicenna—was translated into numerous languages and served as the standard medical textbook in Europe through the 18th century (McGinnis 2010 p.227).

⁵ The experiment reveals subtle relationships between the floating person's physical (body); awareness (perception, cognisance), and sensation (feeling) in a specific environment (space) and suggests bi-directional relationships with inner/outer states that appear in more recent bodymind models. Catherine Bell states: 'required kneeling does not merely communicate subordination to the kneeler. For all intents and purposes, kneeling produces a subordinated kneeler in and through the act itself' (Bell 2009 [1992], p.100). Antonio and Hanna Damasio 'offer a solution for the mind-body problem: homeostatic feelings constitute the "mental" version of bodily processes' (Damasio & Damasio 2023, p.277). Dan Siegel affirms 'the human mind is a relational and embodied process that regulates the flow of energy and information' (Siegel 2010, p.52).

⁶ An updated version of the summary of SRT and research may be obtained by emailing the author at david.knottnerus@okstate.edu

⁷ See Polyvagal theory (PVT) at <https://www.stephenporges.com>

⁸ Ritual efficacy refers primarily to how well ritual actions meet the needs of those at the centre of a ritual practice, rather than the expectations of how observers think ritual should work.

⁹ Ritual practices derived from our own socio-cultural traditions are most powerful. See the concept of *ritual acculturation* (Gordon-Lennox 2022, p.5).

¹⁰ Portrayed as Stimulus-Organism-Response (S-O-R), the 'O' represents consciousness of space/time during ritual performance. In other words, it refers to a sense of presence and awareness of what is happening in inner/outer states, including the environment.

¹¹ 'Fear is a serious affliction that we must strive to overcome and move through. Happiness is outer-centred. It can be bought at Macy's. It has to do with things. Joy is centred on the inside, where you don't need things.' - Rabbi JH Gelberman †1912-2010 (personal communication).

¹² Porges identifies 'predictability' as a 'neural metaphor' for safety. Copy-paste rituals from other cultures and times may feel threatening for lack of authenticity and intentionality; this compromises their healing power and efficacy.

¹³ The function of ritual practice 'may be different from that of the narratives upon which religions were based. The narratives are attempts to fulfil the human need to create meaning out of uncertainty and to understand the unknowable mysteries of the human experience in a dynamically changing and challenging world' (Porges 2022a, p.46).

¹⁴ *Embodied intentionality* involves simultaneous dual awareness of the ritual experience and of one's own bodily sensations in 'felt-space' (Gordon-Lennox 2022). This bi-directional emphasis differs from the 'top-down' uni-directional focus of mindfulness.

¹⁵ *Eustress* | ju: 'stres | is a noun from psychology used by Hans Selye (1940s-50s); from *eu-* + *stress*, on the pattern of *distress*. Moderate or normal psychological stress is interpreted as being beneficial.

¹⁶ Addiction behaviours self-soothe in an attempt to palliate pain from early separation or death of parents, uprootedness (i.e., indigenous peoples, forced migration, exile), childhood abuse, bullying, sexual assault, discrimination (racial, ethnic, gender), medical interventions, and financial insecurity.

¹⁷ For background on obsessive-compulsive behaviours see <https://med.stanford.edu/ocd.html>