Maslow revised: How COVID-19 highlights a circle of needs, not a hierarchy

Lynne Taylor[1] & Martin Seager[2]
[1] Mental Health Unit, Scottish Government
[2] Male Psychology Network, United Kingdom

Correspondence: mjfjseager@btinternet.com

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This paper presents evidence to show that Maslow's hierarchy is better represented as a dynamic circle, proposes a revised and enhanced version on that basis, and demonstrates how this can optimise well-being. Examples from everyday life, from research, and most notably from the current COVID-19 pandemic are used to demonstrate that human health and psychological well-being depend equally on biological, psychological, and social factors and that these interact dynamically. The paper illustrates two effective models of response to human distress during the pandemic and offers a vision of public health that involves meeting the universal biopsychosocial needs of the human condition rather than treating health conditions purely in isolation. This has implications for service delivery and public health planning. This paper represents a new vision of Maslow's famous theory with significant practical applications to improve the effectiveness of public health policies and health and social care services.

Keywords: Abraham Maslow; biopsychosocial; COVID-19; circle of needs; hierarchy of needs

Maslow's (1943) hierarchy of needs is one of the most famous and actively utilised concepts in Western psychology. It is also one of our most influential theories of human motivation with a seminal impact on humanistic approaches to mental health and well-being. The power of Maslow's hierarchy lies in its strong vision of human health being rooted in meeting fundamental needs across a range of different domains, broadly speaking, physical, psychological, and social. There is an evident and universal truth in this vision, and it has undoubtedly helped shape subsequent theory and practice; most notably the biopsychosocial model developed by George Engel (1977). The universality within biopsychosocial thinking sometimes referred to as holistic thinking (Smuts, 1926), is perhaps the main reason why Maslow's hierarchy has been immune to challenge or major revision over nearly 80 years.

The purpose of this paper is not to challenge the universal biopsychosocial truth behind Maslow's seminal theory but rather to revise its hierarchical nature into an updated circular, dynamic, and interactive format linked to concepts of attachment. It will be argued that the well-being of the human condition depends not so much upon a hierarchy of needs as a dynamic cycle of interaction between biological, psychological, social, and environmental factors, all of which are equally vital. Within this revised scheme, attachments and relationships are equally fundamental to human health and survival. Adopting this circular version of Maslow's theory also paves the way for a psychosocially informed, evidence-based, and non-stigmatising approach to public mental health and mental health services that focuses less on treating mental health conditions and more on meeting the universal biopsychosocial needs of the human condition. It is entirely accepted that despite public health and preventive measures, mental illness – as is the case with physical illness – will still emerge and require evidence-based treatment interventions. However, it will be argued that all aspects of human conditions, including those with mental illness, have better outcomes when a dynamic biopsychosocial approach is taken.

The need for such a revised approach to public health could not have been more powerfully demonstrated than by the impact of the COVID-19 pandemic felt across the whole world for well over a year at the time of writing (May 2021). The COVID-19 pandemic has created an unprecedented global crisis necessitating drastic changes to living conditions, social lives, personal freedoms, and economic activity. The widespread use of social distancing measures to restrict the transmission of the virus has been widely documented as having a detrimental impact upon our collective mental health and well-being through a simple lack of the simple physical touch, activity, and personal interaction that bring emotional nutrition and social connection. According to ONS figures for the UK, almost 1 in 5 adults (19.2%) were experiencing some form of depression by June 2020, double the 1 in 10 (9.7%) for the period just before the pandemic (July 2019–March 2020). It has also been evidenced that individuals with pre-existing mental illness have found that their symptoms have been exacerbated during the pandemic (Neelam et al., 2021).

Some individuals, however, have also reported a degree of positive psychological change arising from the pandemic and its consequences. Positive change arising from adversity has been referred to as post-traumatic growth (Tedeschi & Calhoun, 2004). Adversity can, in some cases, help individuals experience a new appreciation of life, improve relationships that were previously taken for granted, and promote greater personal strength and resilience. At the collective level, adversity can also lead to 'communal coping' and increased social coherence, involving a heightened awareness of our common humanity and interdependence. The pandemic, as a global phenomenon, while increasing international tensions in some respects, has also shown that human interdependence is not just local but a worldwide issue. Despite differences of nationality, culture, ethnicity, and religion, human beings depend on each other for trade, vital resources, and supplies of medicines and vaccines. Human well-being is ultimately an inter-dependent phenomenon on a global scale.

A global pandemic can have such powerful negative consequences, and some positive consequences simultaneously provide further evidence that a simple hierarchical model of human health and well-being is inadequate. Human needs are dynamic, complex, and interactive, operating at many levels in synchrony.

Problems with a hierarchical structure for human motivation, health, and well-being

Mind-body split

The most apparent problem with postulating a hierarchical structure for human health, well-being, and happiness is that it creates a questionable split between the body, the mind, and the social and interpersonal aspects of human existence. Looking at how infants are cared for helps to clarify this problem. Even feeding in humans and other mammals is not a simple physical activity performed in isolation. Offspring are dependent for their nutrition on bodily contact with their caregivers, and feeding is also part of an attachment relationship that is behavioural, emotional, and social. In a healthy attachment, a human infant being physically fed is also

being cradled, loved, and receiving emotional nutrition along with a sense of social belonging. It is impossible to disentangle these elements or conclude that physical nutrition takes sole priority over love and social care. These domains are interwoven, reciprocal, and dynamically interdependent in all aspects of human care.

Attachment theory, first described by John Bowlby (1951), is one of the most accepted and widely researched human development and well-being theories. It is accepted by medical, psychological, and social fields and provides a sound basis for integration on approaches to health (Seager, 2013). There is a wealth of evidence to show powerful connections between secure and consistent child-caregiver attachments and future functioning in relationships, problem-solving, measured risk-taking, independence, and stress responses. Conversely, negative or disrupted attachments during the developmental years can be shown to have a long-term negative impact on mental health in later life (e.g., Kessler et al., 2010; Sahle et al., 2021).

Attachment can be shown to be vital for physical health too. A series of well-known studies of orphans in Romania (e.g., Zeanah et al., 2009; Rutter, 1998) reveal very powerfully that physical care is not enough in itself for a developing child to thrive. Physical nutrition accompanied by institutionalisation or emotional neglect still leads to a decline in children's overall health and functioning. The work of Schore (e.g., 2001) and Gerhardt (e.g., 2006) amplifies in stark neurological terms that even the healthy development of the physical brain depends upon not just physical nutrition but also love, bonding, relationship, and belonging. In other words, psychosocial nutrition is not secondary to physical nutrition in the development of a human being. Being loved and cared for are equally the 'food of life'.

Therefore, health in humans is a circular, dynamic, and interactive process, not a linear sequence. Another typical example is the simple concept of 'relaxation' or, more recently, 'mindfulness', which reveals on the closer investigation that the body and mind can never be disentangled hierarchically. A human individual can only relax mentally or attain mindfulness through the portals of the body and vice-versa. It is impossible for a human being to feel relaxed or stressed in just one of these domains but not the other. Life is both psycho-somatic and somato-psychic. This is much more like an integrated circuit than a sequential hierarchy.

The current COVID-19 pandemic, however, provides perhaps the most potent example in the modern history of the need to conceptualise the interactions behind human health and well-being as circular rather than linear. The destructive impact of COVID-19 has not been merely physical but also psychological and social. Psychosocial factors have clearly been shown to mitigate or exacerbate the impact of the virus on individuals, families, and communities. Mental and physical states of health arising from infection with the virus are inextricably linked (e.g., Campion et al., 2020; Luo et al., 2020). A report for the Scottish Government (2020) revealed a general worsening of the mental health of the whole population during the pandemic in terms of anxiety, low mood, and loneliness. A survey in 2020 by the mental health charity Mind of over 16,000 people found that more than two-thirds of adults with mental health problems reported that their problems had worsened during the pandemic and especially during the lockdown. As stated by one participant:

> 'I am constantly feeling helpless and frustrated and hate the idea of anyone around me being hurt or dying. The lockdown is the biggest problem because I rely on being able to see the people I love as a coping mechanism for my anxiety and depression.'

One thing has emerged from the pandemic, that even when basic physical needs are met, health and well-being have still frequently declined for many individuals due to the lack of everyday social and psychological input that may have previously been taken for granted.

In addition, many with pre-existing mental health issues have found that their symptoms have worsened. Conversely, even at times of physical adversity and deprivation, other individuals have experienced a greater sense of authenticity, shared social purpose, and belonging.

Medicalisation of meaning and the human spirit vs dis-embodying trauma and emotional pain

The stratified and hierarchical configuration of Maslow's theory can also be challenged. In effect, while not a medical theory, it colludes with the medicalisation of the human condition by assuming that the question of 'mental' health only arises after more fundamental biological needs have been addressed. Maslow's assumption that human motivation for psychological meaning and social connection only takes centre stage for humans once basic biological needs have been met does not fit with numerous clear examples from everyday life and the research literature where the psychosocial meaning of situations can be shown to nullify even the very survival instinct in humans. Indeed, without an accompanying sense of psychological and social safety, physical safety alone can become meaningless. Bodily health is highly susceptible to adverse changes in mental states and social circumstances.

Attachment, grief, and loss

The damaging physical impact on orphans of being emotionally neglected and unloved despite receiving essential physical nutrition and shelter has already been described earlier. It is also possible for health to decline significantly in previously secure adults after losing precious attachments. Losing a loved one, a homeland, a way of life, or other vital attachments that literally mean the world to an individual can impair the very will to live. A broken heart concept is more than a myth or a poetic metaphor but a demonstrable phenomenon that can measurably shorten life expectancy following overwhelming bereavements and losses. For example, Harper et al. (2011) found that bereaved parents who experience stillbirth or infant death have markedly increased mortality than non-bereaved parents. Numerous studies (e.g., Kaprio et al., 1987) also show a significantly increased risk of mortality in bereaved adults following the death of a much-loved partner.

Depleted emotional states and pain arising from overwhelming loss and grief impact the body, the immune system, and the brain. If overwhelming emotional states can reduce immunity to physical disease along with the very will to live, then psychological needs cannot be regarded either as separate or secondary to biological needs within a simple hierarchy.

The COVID-19 pandemic has revealed further complications to this story of human attachment and loss, showing again that human well-being is not based upon a hierarchical sequence where physiological and material needs take precedence. Firstly, the social distancing widely implemented to increase physical defences against the virus has at the same time depleted psychological and social defences along with the economy. The balance of priority and risk between these different dimensions of health and well-being has been the source of much heated political debate. From all this, one conclusion is clear, that if Maslow's simple hierarchy were correct, social distancing would not have been experienced as such damaging, and physical safety would have been unanimously accepted as the paramount issue.

Secondly, during the pandemic, the bereaved across the globe have been deprived of many of the social and psychological comforts that make loss more bearable. Funeral attendances have been restricted, and the physical presence of many of those from whom comfort is most needed has been prohibited. Age UK (2020) powerfully articulated the impact of this, particularly on older people, in the following terms:

> 'Fear of the virus, loss of mental and physical capacity, loneliness and isolation, and an inability to grieve as normal for those they have lost, add up to a potential public health emergency affecting many older people. '

For all people across the world, the pandemic has both escalated grief and, at the same time, reduced the psychological and social means to assuage it. This has inevitably created a collective and cumulative sense of unprocessed grief which has needed public and symbolic figures for its expression. In the UK, Captain Sir Tom Moore, and the Duke of Edinburgh, whose lives represented determination, courage, and resilience in a war generation, fulfilled this symbolic function of uniting the nation in its grief and its positive resolve to overcome adversity. The deaths and funerals of both iconic men triggered a national outpouring of grief at a level only seen in great historical moments. These men gave all citizens collectively a focus for their suffering and a figure with whom they could personally identify. As stated by an anonymous member of the public:

> 'I think everyone is feeling it because so many people have lost someone that they are reconnecting with that.'

Equally, a loss of physical safety may not always prevent psychological and social gains. For example, Stallard et al. (2021) surveyed 385 caregivers where 42.5% had reduced incomes due to the pandemic, and 19.5% had a family member with confirmed or suspected COVID-19. Despite this, 88.6% of the sample identified positives such as improved relationships, spiritual growth, increased openness to new possibilities, and a better appreciation of life. Taken together, all these findings show that attachments and social meanings are vital to human health and that biopsychosocial interactions are complex and non-hierarchical, even to the extent that physical and material adversity may still result in psychological and social benefits rather than a simple deficit.

Trauma

The emotional damage and distress that can arise from traumatic (life-threatening or destructive) events and experiences both in the developing years and in adulthood have long been recognised and categorised in diagnostic terms as 'simple' or complex posttraumatic stress disorder (PTSD). More recently, however, the painful memories, anxiety, and hypervigilance entailed in PTSD have become more fully understood as being stored not just in the mind or even the brain but also in the body, including the gut, where our most primal

and instinctive emotional processing may be said to take place. Van der Kolk, in his critically acclaimed book *The Body Keeps the Score* (2014), puts this very well:

> 'The body keeps the score: If the memory of trauma is encoded in the viscera, in heart-breaking and gut-wrenching emotions, in autoimmune disorders and skeletal/muscular problems, and if mind/brain/visceral communication is the royal road to emotion regulation, this demands a radical shift in our therapeutic assumptions. '

Following these richer understandings of the integrated nature of trauma, therapies now have a much better chance of success if they address the whole body-mind circuitry rather than focusing on psychology or physiology independently. This also shows that Maslow's humanistic concept of attaining self-actualisation only after basic physiological needs have been met represents another false dichotomy. Human self and identity, as experienced, for example, in the traumatised personality, are not purely psychosocial but are equally embodied phenomena. Helping humans develop an authentic self and become comfortable in their skin involves working on somatic symptoms and embodied experiences. Therefore, self-actualisation is not an ultimate destination but an integral part of the whole journey of a healthy life. There is no doubt that in this respect, Western science can also learn something from Eastern philosophies and approaches where distinctions between the body, mind, and spirit are conceptualised very differently (see, e.g., Judith & Anodea, 2004; Kasulis et al., 1987).

Without a doubt, the COVID-19 pandemic has also brought its share of trauma. Trauma is involved in the personal experiencing life-threatening illness or symptoms and witnessing the suffering and deaths of loved ones. For care staff on the frontline, too, the repeated witnessing of the suffering and death of significant numbers of patients combined with the constant risk to personal safety from the virus can be overwhelming. The traumatic impact in care workers of witnessing suffering, injury, or death in those they are helping has been termed vicarious trauma, which in turn is linked with the related concepts burn-out and compassion fatigue (see Seager, 2014). In a global pandemic that is touching all our lives both directly and indirectly, it is also possible to conceptualise a sense of collective or societal trauma, the extent of which will only be possible to measure retrospectively (see Silver, 2020).

Suicide and self-harm

If basic physical needs always come first in human motivation, it would be hard to explain why so many people harm themselves physically or even take their own lives for personal, psychological, social, political, and religious reasons. Evidence to date suggests that most people who harm themselves or take their own lives have food, shelter, and physical safety.

This includes prisoners, for example, who have food and shelter but an extremely high suicide rate. What suicidal people lack is psychosocial safety, meaning, and hope. For many, the lack of self-worth, the shattering of hopes and dreams, the loss of precious attachments, or the destruction of a cherished way of life can make a merely physical existence unsustainable even though physical needs are met. This is also true of those with chronic mental illness. The tipping point for many of those who take the ultimate step of suicide is not physical but psychosocial. For humans and possibly other mammalian species, the worst state is to feel genuinely alone without a secure attachment to a companion who can be readily accessed.

We all need to belong and be Kasulis et al., 1987 'held in mind' for life to be worth living in human terms. This was grasped long ago by Albert Einstein, a brilliant scientist noted for his genius in discovering the laws of physics, but who also showed insight into psychological laws when he stated: 'From the standpoint of daily life, however, there is one thing we do know: that we are here for the sake of each other – above all for those upon whose smile and well-being our happiness depends, and also for the countless unknown souls with whose fate a bond of sympathy connects us.' (Goodreads, n.d.)

Given that the COVID-19 may be increasing many risk factors associated with suicide (for example, unemployment, social isolation, bereavement, trauma), it might reasonably be predicted that suicide rates will rise accordingly. However, the picture on suicide rates in relation to the pandemic is not yet clear (Gunnell et al., 2020), and it must also be remembered that the pandemic has also had some positive social effects in creating a sense of a common purpose against a common enemy. The pandemic has also elicited compassionate policies of relief and support from the governments of many nations, and these may have contributed positively to a greater sense of belonging and worth among citizens. It is also possible that psychologically vulnerable individuals who already felt alienated and isolated before the pandemic have come to feel less excluded because of the pandemic, for the simple reason that social isolation has now become the norm for all.

Addiction, opioids, and love

Opioid addiction is another excellent example of the intertwined nature of human health's psychosocial and physical aspects. A large body of evidence (e.g., Maté, 2012) shows a clear pattern that opiates hit the same neurochemical pathways involved in love, attachment, pleasure, and social reward. Therefore, it should hardly be surprising that those in society who experience the greatest emptiness, rejection, and lack of love are also the most prone to becoming addicted to drugs that mimic the feeling of being loved and valued.

For this reason, treatments that focus simply on drug withdrawal are missing the point. Given that people with addiction are in effect already self-medicating for emotional distress and emptiness, any attempt to reduce their drug-taking as a solely physical problem without also addressing the underlying psychological and social problems that frequently lead to overdose and suicide is unlikely to succeed (Rockett et al., 2021). To put this another way, if mental health and well-being were genuinely rooted in a primarily physical foundation, self-medication would be experienced as an answer to life's problems much more frequently than is found in clinical practice. However, it is noted that medication and evidence-based psychological interventions are often required and helpful in treating those with severe mental illness.

In the UK, ONS statistics for the period of lockdown from March 2020 indicated that retail alcohol sales increased in month-on-month volume by 31.4%. In a US survey (Grossman et al., 2020), 34.1% of respondents reported binge drinking as a coping mechanism. These figures are not surprising because using alcohol and other drugs is a common way of managing mental distress and regulating emotions. This is indeed the same principle behind the prescription of psychiatric drugs.

The arts, spirituality, and social communion as essential lifeblood, not luxury

Human beings spend a vast amount of their lives engaging with art individually and collectively in many forms, most commonly music, dance, novels, plays, films, poems, paintings, and sculptures. This shows that the need to identify and belong through representations of our human condition is part of the essence of our lives, not an added luxury. Art would not be necessary to our species if trying to understand and empathise with others was not crucial to our well-being as individuals within a social group. We constantly immerse ourselves in stories, and self-representations show that this is a fundamental need of human beings beyond mere food, shelter, and physical comfort. Human beings need their lives to have meaning and identity, and this starts from our earliest attachments to caregivers in which we need to have our feelings read, recognised, and empathised with. Stories and representations in art enable us to look for ourselves and find ourselves in others.

Kay Wilson, who survived a terrorist attack in 2010 near Jerusalem where she was multiply stabbed and saw her friend murdered, reported that using the power of music (primarily the song 'Over the Rainbow') helped her process of survival and healing (Wilson, 2014). This story illustrates how music has the power to help maintain the human spirit and a sense of connection to life and hope. These connections go beyond the cognitive, neurological, or even the social level and may be described as at the spiritual level of the 'heart and soul'. The famous composer Rossini once stated: 'The language of music is common to all generations and nations. everybody understands it since it is understood with the heart.'

This same dimension of heart and soul also applies to religious faith, which in an age of science remains a universal part of all human cultures and operates at the same level of meaning and connection that is universal to all humans, even those who do not practice a formal religion. Many people throughout history have sacrificed their lives for their faith in religion or other causes such as political freedom. A life without belief or meaning contributes to bodily ill-health and can reduce the will to live in human beings even when they have food, shelter, and physical comforts.

In dark places and times, the human spirit can be given hope and meaning and even kept alive by music, the arts, religious faith, and other beliefs. Physical survival alone is not enough for humans unless that physical survival carries hope, meaning, and purpose. During the lockdowns of COVID-19, balconies and doorsteps in many countries across the world have become public places to show love and gratitude through applause, music, song, and dance (Grigoriadou, 2020). Taladrid (2020) quotes an anonymous Italian musician: 'I will always remember that moment there on the balcony because it gave me all the life, I needed to be able to go on.'

In her book, *The Lost Pianos of Siberia*, Sophy Roberts (2020) tells the story of how those exiled during and after the Russian revolution were as desperate for music as for the food itself, transporting pianos at great sacrifice over thousands of miles through the harsh and wintry terrain to sustain the spiritual nutrition that was vital to keeping body and soul together.

Cummings-Knight (2021) drew on this book, together with Maslow and the work of Roberto Assagioli (e.g., 1965) on *Psychosynthesis* in a pioneering psychotherapy workshop during the time of COVID-19 to illustrate that the well-being of the human condition is integrative and depends as much on feeding the soul as feeding the body. In response to this workshop, one participant observed: 'Maslow's hierarchy would be better as a wavy line or a circular model.'

During the pandemic, the sport has also played a key role in creating a sense of connection, community, purpose, and hope. For example, Sorbie et al. (2021) found that playing golf, once golf courses were re-opened, was associated with greater levels of belonging, connection, and well-being. Conversely, Kamyuka et al. (2020) reported that disabled people were more prone to decline in mental and physical health during the pandemic because of increased isolation and reduced opportunities for physical activities. In its May 2020 Policy Brief, the United Nations examined the impact of the COVID-19 pandemic on sport and recognised the central role that sport plays globally in the empowerment, development, inclusion, and well-being of young people on-sport-physical-activity-and-well-being-and-its-effects-on-social-development). One thing is clear from all this: sport, just like art, is not a luxury but a necessity for human well-being.

The COVID-19 pandemic has highlighted the core need for touch, connection, meaning, and social belonging as equivalent, not secondary, to physical survival. The fundamental need to belong requires interpersonal relationships and frequent positive social interactions. Social contact and physical touch are interwoven from our first attachments and are crucial to physical and mental health (Leary et al., 2013) and even more at times of crisis (Marlowe, 2015). The socially isolating impact of the COVID-19 pandemic has highlighted this aspect of the human condition even more powerfully.

Touch is perhaps the primary sensory mode through which human beings relate after birth. For babies, it is through touch, the way they are held, cradled, and comforted, that they first learn their worth, their lovability, and their sense of belonging. During the pandemic, many people worldwide have been denied the chance to hug or be physically close to their loved ones.

This has had a profoundly negative impact on overall health and well-being globally, primarily upon those in care and nursing homes. Rennie (2020) observed that touch is an essential part of care, and during COVID-19, "there have been many examples of older persons experiencing reduced appetite, low mood, apathy, and overall poorer health" due to a decrease in human contact and therapeutic touch. Dodgen-Magee (2020) puts it very well: 'It turns out that many people experience touch deprivation much like dehydration... '

Therefore, lack of touch or physical contact seems to be an important element of loneliness, which can be shown to have a significantly negative impact on both the physical and psychological aspects of human health (Gleeson, 2004). Humans are social creatures from the cradle to the grave and being touched as a baby or as a care home resident is equally vital. This helps explain the massive impact of social distancing during the current pandemic and why online or virtual meetings, while extremely valuable, are not an entirely satisfactory substitute for direct touch and being in the physical presence of loved ones.

CONCLUSION AND SUMMARY

To summarise, it has been shown that the traditional hierarchical version of Maslow's theory does not reflect a wide range of evidence relating to the human condition in which the psychosocial aspects of life, particularly personal attachments and personal meanings, interact with biological factors from the cradle to the grave, exerting equal or sometimes greater power over health, well-being and even survival than biological factors alone. A hierarchical model cannot explain: (a) the fundamental integration of mind, body, and social relationship throughout the life cycle as observed from the beginning in infant attachments through to the end of life and as evidenced so powerfully by the COVID-19 pandemic; (b) the power of relationships, experiences, and meanings (e.g., grief, loss, neglect) over the brain and body along with the visceral embodiment of psychological damage, pain, and trauma; (c) human health can significantly decline in adults who lack or lose a sense of attachment, belonging, meaning, or purpose, resulting in early death, self-harm, or even suicide even when basic physical needs are comfortably met; (d) The sheer destructive and debilitating power over human health of touch deprivation and social isolation as illustrated by numerous studies and reports relating to the present COVID-19 pandemic.

Revising Maslow: What does a circular version look like?

Maslow's biopsychosocial elements are universal and indisputable, but it is being argued here that they work better as an interactive circle, not as a straight line or hierarchical sequence. Instead of the familiar pyramid,

therefore, something more dynamic, circular, and interactive (see Figure 1 below) is being proposed, which might be referred as to either as a 'Circle of Needs' or as a 'Wheel of Well-Being'.

Figure 1
The Wheel of Well-Being

In effect, this circular configuration requires little more than joining up the top of Maslow's pyramid to the bottom to complete a circuit while at the same time equalising the elements in scale and specifying key factors. This use of a single circle or circuit relates to cyclical biopsychosocial interactions affecting individual health. This proposal, while partly related, is largely to be distinguished from Bronfenbrenner's (1979) ecological theory of concentric circles depicting micro and macro environments in which individuals may also be thought to exist. This is because the emphasis in Maslow's theory is more upon the psychology of the individual at the centre of the interactions, whereas Bronfenbrenner's ecological theory is focussed more on the nature of the widening environmental systems surrounding an individual.

The five segments within the wheel or circle represent areas of need that are dynamically interactive and vital to human health and well-being. If this circle is broken at any point or if one or more segments are depleted, the individual's physical and mental health is predicted to decline. Of course, the segments and the boundaries between them will be schematic and, to some extent, arbitrary. However, this blurring of boundaries only further illustrates the interactive and biopsychosocial nature of the human condition where it is hard to conceptualise where the body stops, and the mind begins or where the mind stops, and the social world begins.

The following list is far from exhaustive or definitive, but it is illustrative of the general concept behind the proposal:

- **Biological needs.** Food, water, warmth, shelter, rest, sleep, exercise, hygiene, freedom from physical and mental illness, fitness, mobility.
- **Psychological needs.** Love, attachment, security, relationship, self-respect, self-worth, identity, motivation, beliefs.
- **Psychosocial needs.** Family, personal friendships, sense of achievement, meaning, values, social purpose.
- **Social needs.** Sense of belonging, community, peer groups, support networks, voice, social status, occupation, recreation, education.
- **Environmental needs.** Housing, financial resources, neighbourhood safety, community facilities (including schools), play and recreational opportunities, access to clean water, food, and other resources, access to natural beauty, human rights, legal protections, employment opportunities.

Two practical applications of a circular version of Maslow in service provision: (a) the Psychological Resilience Hub and (b) the charity Horseback UK: Helping Care Home Staff

The Psychological Resilience Hub

At the outset of the first lockdown in the UK, the first author, along with colleagues, set up a service in Scotland to support the mental health and well-being of the public and of care workers in the face of the Covid-19

pandemic. This service was called the 'Psychological Resilience Hub' (PRH) and was the first of its kind in Scotland. The service was partly based on: (a) the Greater Manchester Resilience Hub set up in response to the Manchester Arena attack in 2017 (NHS Penine Care, n.d.) and (b) the West China Hospital Psychological Crisis Intervention Response Model (Zhang et al.,2020).

The service received more than 3000 referrals over the year following the announcement of the first lockdown, and this has already provided extensive data, both in terms of the services provided and the responses of service users. The PRH draws on the described core concept of a 'circle of needs' using digital technology to offer rapid assessment, psychological first aid, and self-help resources, along with psychologically informed advice, care, and support. PRH has to date, been able to assess all service users within three weeks of self-referral. Separate child and adult self-referral forms were developed using standardised demographic and risk assessment questions: for children, the Risk 20 assessment, the Revised Children's Anxiety and Depression Scale (RCADS 1); for adults, the Generalised Anxiety Disorder (GAD-7) and the PHQ-9. Completed forms were scored using a computer-generated system, and this was used to determine the level of need or risk for each service user. Individuals were then matched to the clinician who had the right skill set to support them. This meant they saw the right person at the right time with quick access.

Those at high risk could be forwarded on a direct pathway to the urgent care assessment team. At the outset of service modelling other pathways were also established to support the third sector, local mental health services, and practical help from the COVID-19 assistance hub. Services were delivered by staff from a wide range of professional backgrounds, while all aspects of service delivery were led, governed, and supervised by clinical psychologists to ensure the use of evidence-based psychological interventions. The principle of an interactive circle was also built into the model of staff support so that, in effect, by having their own needs met, the staff had more energy, motivation, and resources to meet the needs of their clients.

The following categories of risk/need were established at the outset: Green (1): low distress, Amber (2): mild distress, Red (3): high distress, Purple (4): highest distress, risk, and complexity. Meanwhile, referral numbers for the service were as follows: Level 1: 20%; Level 2: 23%; Level 3: 30%; Level 4: 27%.

Regardless of the severity of needs, this intervention was about helping people to make a meaningful connection with a matched clinician through a psychologically informed assessment, boosting their social network, finding any missing practical support, and learning how the mind, body, social context, and environment were interacting to create feelings of insecurity during the pandemic. Individuals were offered up to three appointments in a quick and timely manner, providing them with self-help advice based upon principles of psychological first aid and enabling them to cope and connect with others. The principles of psychological first aid have been shown to help during times of crisis (Jacobs et al., 2006) and apply similar concepts to the 'circle of needs' described above to help people take better care of their well-being (Education Scotland, 2021).

Figure 2
Psychological First Aid 7 Steps

In England, a similar public health initiative called 'social prescribing' (e.g., Drinkwater et al., 2019) has also been developed recently. Social prescribing entails the same notion that physical health exists in a psychosocial context and that prescribing social interventions can frequently have a better impact on overall health than traditional medical approaches alone.

In the PRH, the main intervention was the trusted and prompt relationship with a suitable clinician who could make a meaningful connection or attachment with the individual seeking help and then help them connect their mind, body, physical symptoms, and social environment. Service users were also helped find the right onward practical support and advice if required (e.g., housing, financial advice, exercise, local support groups). Feedback from individual service users indicated that having this meaningful relationship with a clinician positively impacted their capacity to cope. Presumably, because of the security of being paired up with a suitable clinician who could coordinate their care, the PRH was also found to be highly efficient. 31% of cases were closed after just one appointment, 37% were closed after three appointments, and only 32% needed further support from other organisations such as practical assistance. Only 4% of the 3000 people who sought help needed an onward referral to secondary care specialist mental health services.

These referrals were almost entirely drawn from those in categories three (red) or four (purple), validating the initial need/risk assessment protocol. Most people were satisfactorily helped to cope better during this national crisis by facilitating their capacity to complete the gaps in their circle of needs. 93% of people who provided feedback rated the service helpful or better (rated over five on a scale of 0–7). This was amplified in a large amount of anonymised qualitative feedback from service users, for example:

> 'Good to have a real person to talk to and talk through things. Thank you, and so glad to have this service; it is invaluable. Fantastic service. The person I spoke to about my daughter was amazing. I felt so much better after our conversation & appreciated the call back a week later to check things were progressing. Thank you. '

The charity Horseback UK: Helping care home staff

working in care homes in many countries during the pandemic has been generally recognised as stressful, exhausting, and overwhelming for nursing and social care staff (e.g., White et al., 2021). This has led a pioneering UK charity organisation, connected with the first author, called Horseback UK, to apply its innovative methods to this group. Horseback UK was initially set up to use horsemanship, the outdoors, a sense of community, and stoic philosophies to inspire military personnel to recover and regain self-esteem after traumatic frontline experiences. Therefore, it was felt that this same approach could be applied to care home staff suffering from trauma, fatigue, and burn-out.

Because of the pandemic, the standard accredited personal development programme of outdoor activities had to be adapted to be delivered virtually to meet lockdown restrictions. The adapted programme was delivered and tailored to care home staff to encourage participants to acquire new coping strategies, life skills, improve relationships, and build lasting resilience.

The charity acknowledges that recovering from any life-changing experience involving emotional distress, fatigue, or trauma, takes time, understanding, and a healing environment. Just as with military participants, the adapted programme lasting eight weeks aimed to help care home staff develop in their lives a sense of mission, achievement, self-worth, and empowerment through connection and a supportive community. The pilot course focused on the concepts of linking heart, body and soul, mind, and community to help individuals improve well-being.

Initial data from the course demonstrated an improvement in well-being for the whole care home staff group as measured by the Warwick Well-Being Scale. Reports from participants and senior managers indicated a significant improvement in team functioning, confidence, and mood, and there was an overall increase by 21 points on the Warwick Well-Being Scale.

Some participants struggled with low mood, OCD, and general anxiety but reported that the programme had made a real difference. As stated by one participant:

> 'At first I was sceptical about the approach. But my mindset became more positive, which helped improve my mood. I was subsequently less angry, and my guilt at shielding was lessening. Towards the end of the course, I realised I wanted to be the best version of me that I could be, and I have started to advocate for my health better. It was great to see people from work every week, and this boosted my mood.'

Summary, conclusions, and recommendations

Throughout this paper, it has been argued that the sound biopsychosocial principles underpinning Maslow's hierarchy of needs work much better as a circle. It has been argued that the current (at the time of writing) COVID-19 pandemic has provided yet further powerful evidence to the effect that bodily, psychological, and social factors dynamically interact and are all equally vital to human health and well-being. It has also been argued that human attachments and relationships operate as a mediating factor at the centre of all individual, collective, and public mental health.

Therefore, a revised version of Maslow's theory has been proposed based on a wheel of needs rather than a hierarchy. Two practical initiatives have been developed to address the negative health impact of the COVID-19 pandemic have been described, which illustrate this circular and interactive approach to human health and well-being. Given the implicit popularity of biopsychosocial and 'holistic' thinking, there is no doubt also a plethora of other clinical models, interventions, charities, organisations, and services that could be referenced that are unknowingly demonstrating the utility of this circle of needs as a dynamic and fluid system.

Individuals can thrive only when they have a sense of safety and security, physical safety, and psychological and social safety. When the dynamic circle of needs is broken, and safety is threatened across any of these domains, individuals fail to thrive, and in worst cases, do not survive. Furthermore, when individuals experience circumstances out of their control, such as illness, or in the most current example, the pandemic, this wheel of well-being is key to supporting recovery, outcomes, and adaptability. Regardless of what happens in life, outcomes are better for individuals when all aspects of the circle of needs are considered and enhanced.

Three key principles and recommendations for the future are therefore as follows: (1) Attachment – Secure relationships and attachments are a fundamental part of all health and social care effectiveness and should be built into all training and delivery models; (2) Prevention and public health – It is better to meet in advance the fundamental needs of the human condition than to only treat subsequently the various illnesses and problems that arise from not meeting them at the outset; (3) From a Hierarchy to a Circle – Assessing and intervening in human health and well-being problems should always be contextual, circular, comprehensive, and biopsychosocial, without presuming in advance that anyone domain takes precedence. This has powerful implications for service delivery and modelling within general practice and other 'gatekeeping' functions in the health and social care system. A tool such as the 'Outcomes Star' (see MacKeith et al., 2011), developed for the homelessness sector, could potentially be adapted and used more widely as a general tool for measuring needs and outcomes in this respect. The concept of a circle of needs is not new but is simply being reimagined and redeveloped by the present authors. With its cycle of physical, psychological, social, and spiritual factors rooted in purposeful, meaningful attachments, the human condition has existed in the same way for centuries for as long as societies with social structures and rules have existed. These are not new phenomena, but they are being rediscovered and conceptualised anew in an age where concepts and models of human health have become overly fragmented into separate specialisms and departments. As stated by Mother Theresa (1910–1997): 'The hunger for love is much more difficult to remove than the hunger for bread. '

These concepts are not new but have simply been highlighted acutely by the pandemic and reimagined by the authors. It is perhaps therefore fitting to leave the last word to Aristotle (384–322 BCE): 'Human beings cannot achieve happiness or even something that approximates happiness unless they live in communities that foster good habits and provide the basic equipment of a well-lived life. '

REFERENCES

Age UK. (2020, October 16). Age UK research lays bare the drastic impact of the pandemic on our older population's health and morale. Retrieved from https://www.ageuk.org.uk/latest-press/articles/2020/10/age-uk--research-into-the-effects-of-the-pandemic-on-the-older-populations-health

Assagioli, R. (1965). *Psychosynthesis: Individual and social*. Psychosynthesis Research Foundation.

Bowlby, J. (1951). Maternal care and mental health (World Health Organization Monograph Series No. 14) Columbia University Press.

Campion, J., Javed, A., Sartorius, N., & Marmot, M. (2020). Addressing the public mental health challenge of COVID-19. *The Lancet Psychiatry, 7(8)*, 657–659. https://doi.org/10.1016/s2215-0366(20)30240-6

Cummings-Knight, J. (2021). Lost pianos in Siberia and psychosynthesis. Psychotherapy workshop. Retrieved from https://www.goldenleafcounselling.com

Dodgen-Magee, D. (2020, April 17). Why video chats are so exhausting. *Psychology Today*. https://www.psychologytoday.com/us/blog/deviced/202004/why-video-chats-are-so-exhausting

Drinkwater, C., Wildman, J., & Moffatt, S. (2019). Social prescribing. *BMJ, l1285*. https://doi.org/10.1136/bmj.l1285

Education Scotland (2019, December 18). CIRCLE resource to support inclusive learning and collaborative working (primary and secondary). Retrieved from https://education.gov.scot/improvement/learning-resources/circle-resource-to-support-inclusive-learning-and-collaborative-working

Engel, G. L. (1977). The need for a new medical model: a challenge for biomedicine. *Science, 196*(4286), 129–136. https://doi.org/10.1126/science.847460

Gerhardt, S. (2006). Why love matters: How affection shapes a baby's brain. *Infant Observation, 9(3)*,305–309. https://doi.org/10.1080/13698030601074476

Goodreads. (n.d.). Albert Einstein. Retrieved from https://www.goodreads.com/quotes/762976-strange-is-our-situation-here-upon-earth-each-of-us

Gleeson, M. & Timmins, F. (2004). The use of touch to enhance nursing care of older person in long-term mental health care facilities. *Journal of Psychiatric and Mental Health Nursing, 11(5)*, 541–545. https://doi.org/10.1111/j.1365-2850.2004.00757.x

Grigoriadou, E. T. (2020). The urban balcony as the new public space for well-being in times of social distancing. *Cities & Health, 1-4*. https://doi.org/10.1080/23748834.2020.1795405

Grossman, E. R., Benjamin-Neelon, S. E., & Sonnenschein, S. (2020). Alcohol consumption during the COVID-19 pandemic: A cross-sectional survey of US adults. *International journal of environmental research and public health, 17(24)*, 9189. https://doi.org/10.3390/ijerph17249189

Gunnell, D., Appleby, L., Arensman, E., Hawton, K., John, A., Kapur, N.& Yip, P. S. (2020). Suicide risk and prevention during the COVID-19 pandemic. *The Lancet Psychiatry, 7(6)*, 468–471. https://doi.org/10.1016/s2215-0366(20)30171-1

Harper, M., O'Connor, R. C., O'Carroll, R. E. (2011). Increased mortality in parents bereaved in the first year of their child's life. *BMJ Supportive & Palliative Care, 1(3)*, 306–309. https://doi.org/10.1136/bmjspcare-2011-000025

JohnJudith, A., & Anodea, J. (2004). *Eastern body, western mind: Psychology and the chakra system as a path to the self.* Random House Digital, Inc.

Kaprio, J., Koskenvuo, M., & Rita, H. (1987). Mortality after bereavement: A prospective study of 95,647 widowed persons. *American Journal of Public Health, 77(3)*, 283–287. https://doi.org/10.2105/ajph.77.3.283

Kasulis, T. P., Yasuo, Y., & Yuasa, Y. (1987). *The body: Toward an Eastern mind-body theory*. Suny Press.

Kessler, R. C., McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M. & Williams, D. R. (2010). Childhood adversities and adult psychopathology in the WHO World Mental Health Surveys. *British Journal of Psychiatry, 197(5)*, 378–385. https://doi.org/10.1192/bjp.bp.110.080499

Leary, M. R., Kelly, K. M., Cottrell, C. A., & Schreindorfer, L. S. (2013). Construct validity of the need to belong scale: Mapping the nomological network. *Journal of Personality Assessment, 95(6)*, 610–624. https://doi.org/10.1080/00223891.2013.819511

Kamyuka, D., Carlin, L., McPherson, G., & Misener, L. (2020). Access to Physical Activity and Sport and the Effects of Isolation and Cordon Sanitaire During COVID-19 for People With Disabilities in Scotland and Canada. *Frontiers in Sports and Active Living, 2*. https://doi.org/10.3389/fspor.2020.594501

Luo, X., Estill, J., Wang, Q., Lv, M., Liu, Y., Liu, E., & Chen, Y. (2020). The psychological impact of quarantine on coronavirus disease 2019 (COVID-19). *Psychiatry Research, 291*, 113193. https://doi.org/10.1016/j.psychres.2020.113193

MacKeith, J. (2011). The development of the outcomes star: a participatory approach to assessment and outcome measurement. *Housing, Care and Support, 14(3)*. 98–106. https://doi.org/10.1108/14608791111199778

Marlowe, J. (2015). The children of Gaza–A year after the 2014 war, a mental-health crisis continues. *NATION, 300*(29-30), 22–26.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50(4)*, 370.

Maté, G. (2012). Addiction: Childhood trauma, stress, and the biology of addiction. *Journal of Restorative Medicine, 1(1)*, 56–63. https://doi.org/10.14200/jrm.2012.1.1005

Neelam, K., Duddu, V., Anyim N., Neelam, J., Lewis, S. (2021). Pandemics and pre-existing mental illness: A systematic review and meta-analysis. *Brain Behaviour Immunity-Health, 10.100177*.

https://doi.org/10.1016/j.bbih.2020.100177
Rennie, K. (2020). Care home nursing during Covid-19: Don't lose your touch. Nursing in Practice.
Roberts, S. (2020). *The lost pianos of Siberia*. Penguin.
Rockett, I. R., Caine, E. D., & Connery, H. S. (2021). Fatal self-injury in the United States, 1999-2018: Unmasking a national mental health crisis–Authors' reply. *EClinicalMedicine*, 34.100823. https://doi.org/10.1016/j.eclinm.2021.100823
Rutter, M. (1998). Developmental catch-up and deficit, following adoption after severe global early privation. *Journal of Child Psychology and Psychiatry, 39(4)*, 465–476. https://doi.org/10.1017/s0021963098002236
Sahle, B. W., Reavley, N. J., Li, W., Morgan, A. J., Yap, M. B. H., Reupert, A., & Jorm, A. F. (2021). The association between adverse childhood experiences and common mental disorders and suicidality: An umbrella review of systematic reviews and meta-analyses. *European Child & Adolescent Psychiatry*. https://doi.org/10.1007/s00787-021-01745-2
Schore, A. N. (2001). Effects of a secure attachment relationship on right brain development, affect regulation, and infant mental health. *Infant Mental Health Journal, 22(1-2)*, 7–66. https://doi.org/10.1002/1097-0355(200101/04)22:1%3C7::aid-imhj2%3E3.0.co;2-n
Scottish Government. (2020). Coronavirus (COVID-19): impact on wellbeing – research. Retrieved from https://www.gov.scot/publications/impact-covid-19-wellbeing-scotland
Seager, M. (2013). Using attachment theory to inform psychologically minded care services, systems, and environments. *Attachment Theory in Adult Mental Health: A Guide to Clinical Practice*, 213–224.
Seager, M. (2014). Who cares for the carers? Keeping compassion alive in care systems, cultures, and environments. *Providing Compassionate Healthcare: Challenges in Policy and Practice*, 40–53.
Silver, R. C. (2020). Surviving the trauma of COVID-19. *Science, 369(6499)*, 11. https://doi.org/10.1126/science.abd5396
Smuts, J. C. (1926). Holism and evolution. Monograph. https://doi.org/10.5962/bhl.title.4568
Sorbie, G. G., Beaumont, A. J., Williams, A. K., Glen, J., Hardie, S. M., & Lavallee, D. (2021). The impact of the closure and re-opening of golf courses in the United Kingdom on well-being during the COVID-19 pandemic: A multi-study approach. *Frontiers in Sports and Active Living*, 3. https://doi.org/10.3389/fspor.2021.622171
Taladrid, S., 2020. Meet the Italians. Making music together under Coronavirus quarantine. *The New Yorker*. Retrieved from: https://www.newyorker.com/culture/video-dept/the-italians-making-music-on-balconies-under-coronavirus-quarantine
Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry, 15*(1), 1–18. https://doi.org/10.1207/s15327965pli1501_01
Van der Kolk, Bessel. *The body keeps the score: Mind, brain and body in the transformation of trauma.* Penguin.
White, E. M., Wetle, T. F., Reddy, A., & Baier, R. R. (2021). Frontline nursing home staff experiences during the COVID-19 pandemic. *Journal of the American Medical Directors Association, 22(*1), 199–203. https://doi.org/10.1016/j.jamda.2020.11.022
Wilson, K. (2014, July). The terror within: A survivor's tale. *The Tower*. Retrieved from http://www.thetower.org/article/the-terror-within-a-survivors-tale
Zeanah, C. H., Egger, H. L., Smyke, A. T., Nelson, C. A., Fox, N. A., Marshall, P. J., & Guthrie, D. (2009). Institutional rearing and psychiatric disorders in Romanian preschool children. *American Journal of Psychiatry, 166*(7), 777–785. https://doi.org/10.1176/appi.ajp.2009.08091438
Zhang, J., Wu, W., Zhao, X., & Zhang, W. (2020). Recommended psychological crisis intervention response to the 2019 novel coronavirus pneumonia outbreak in China: A model of West China Hospital. *Precision Clinical Medicine, 3*(1), 3–8. https://doi.org/10.1093/pcmedi/pbaa006