



# The Biopsychosocial Approach: Towards Holistic, Person-Centred Psychiatric/Mental Health Nursing Practice

## 8

José Carlos Santos, Marie Bashaw, Will Mattcham, John R. Cutcliffe, and Kelly Graziani Giacchero Vedana

### 8.1 Background and Overview

Somewhat uncomfortable with the then prevailing biomedical orthodox view of people, health and how to respond to health challenges, Engel (1977, 1980) advanced a counter narrative. He made the case if health-care practitioners wanted to offer substantive, adequate and effective responses to a person's suffering, then they needed to consider and respond to needs arising out of the biological, psychological and social dimensions of their experience. As a result, Engel (1977) authored the Biopsychosocial (BPS) model and, in so doing, tried to reverse the dehumanization of health sciences and disempowerment of patients (Borrell-Carrió et al. 2004; Smith et al. 2013). In this context, the BPS model, patient-centred and humanistic approaches can be and have been used in P/MH nursing to bring about improvements in clinical practice

---

J.C. Santos (✉)

Escola Superior de Enfermagem de Coimbra, Nursing School of Coimbra, Coimbra, Portugal  
e-mail: [jcsantos@esenfc.pt](mailto:jcsantos@esenfc.pt)

M. Bashaw

Assistant Professor of Nursing, Wright State University, Ohio, USA

W. Mattcham

Assistant Professor of Nursing, Cleveland State University, Ohio, USA

J.R. Cutcliffe

Cutcliffe Consulting, Kingston, Canada

School of Nursing, Coimbra, Portugal

e-mail: [jcutcliffe@outlook.com](mailto:jcutcliffe@outlook.com)

K.G. Giacchero Vedana

Ribeirão Preto College of Nursing - PAHO/WHO Collaborating Centre for Nursing Research Development, University of São Paulo, Butantã, Brazil

© Springer International Publishing Switzerland 2018

J.C. Santos, J.R. Cutcliffe (eds.), *European Psychiatric/Mental Health Nursing in the 21st Century*, Principles of Specialty Nursing,  
[https://doi.org/10.1007/978-3-319-31772-4\\_8](https://doi.org/10.1007/978-3-319-31772-4_8)

(Borrell-Carrió et al. 2004; Henningsen 2015; Smith et al. 2013). This model considers the need to include consideration of individuals' experience, perceptions, function in daily life, intellectual capacity, emotional stability, productivity, performance of social roles and social determinants (Fava and Sonino 2008).

According to Borrell-Carrió et al. (2004), the BPS model is both a philosophy of clinical care and a practical clinical guide. Key philosophical ideas include the notion that suffering, illness and the well-being of the person can be affected and impacted by multiple levels of influence, from the social aspects to the biological. At the practical level, it is a way of attempting to understand the patient's subjective experience and 'weaving' this understanding, as it is an essential consideration, into the care episode (Borrell-Carrió et al. 2004).

The BPS approach can be traced back to Engel's (1977) theoretical and clinical evolution away from the 'one-dimensional' (and linear) Biomedical model. For Engel (1977) restricting or limiting one's conceptualisation of suffering and experiences of 'ill-health' to those available within the Biomedical model did not provide an adequate 'frame' to understand and respond to the person's suffering and experiences. An adequate response from the practitioner, according to Engel (1977), required him/her to understand the person's suffering and to communicate this sense of understanding. And to do so, the practitioner required him/her to be mindful of and respond to the whole multidimensionality of the suffering/experience and thus consider the biological, psychological and social dimensions of suffering/experience/illness (Henningsen 2015).

Engel (1977) can thus be seen to be eschewing reductionist views of the person- and health-related responses. For Engel (1977) there was a further element of this approach; he argued that his ideology might help combat or serve as a counterpoint to the dehumanization of medicine and disempowerment of patients that he perceived. Interestingly, perhaps especially to those Psychiatric/Mental Health (P/MH) nurses that have a 'bent' or preference for qualitative research methods (see Cutcliffe and Goward 2000), his model 'made room' for possibility that the subjective experience of the person was amenable to scientific study (Engel 1977, 1980). Engel's (1977) model subsequently became known as 'the Biopsychosocial model'. As a further interesting element in the origins and early development of the model, Engel (1977) did not focus on mental health; indeed he never tried to demonstrate the models' application or relevance to mental health; rather, he assumed it (Ghaemi 2009). Rather Engel (1977) focused on medical conditions and physiological (rather than psychological) suffering.<sup>1</sup>

As pointed out, Engel posited that to appreciate health in general, one must first consider the psychological, behavioural and social dimensions that contribute to illness-related events (Henningsen 2015). For Engel, the interactions between biological, psychological and social factors determine the cause, manifestation and outcome of wellness and disease. The BPS model posits that any one factor is not sufficient; it is the interaction between people's physical verdure (biology), mental health and behaviour (psychology) and social and cultural context that determine the course of their health-related outcomes ([www.boundless.com](http://www.boundless.com), n.d.) (Alderfer et al. 2009; Borrell-Carrió et al. 2004; Fava and Sonino 2008; Smith et al. 2013). The BPS approach has been described as an integrative perspective that added patients' psychological and social health

---

<sup>1</sup> Though this may not be entirely surprising given Engel's background as an internist, with a specialism and interest in gastrointestinal disorders.

concerns to the Biomedical model (Smith et al. 2013), because it considers the relationship between mental and physical aspects of health is complex and health cannot be reducible to laws of physiology (Borrell-Carrió et al. 2004). Thus, this model is directly opposed to a tendency to reductionism and compartmentalization of the variables that influence health conditions (Friedman et al. 2012). This model includes consideration of individuals' experience, perceptions, function in daily life, intellectual capacity, emotional stability, productivity, performance of social roles and social determinants has emerged as a crucial part of clinical investigation and patient care (Fava and Sonino 2008). The Biopsychosocial factors may operate to facilitate, sustain or modify the course of illness because they are important determinants of susceptibility, severity and course of illness (Borrell-Carrió et al. 2004; Fava and Sonino 2008).

---

## 8.2 Essential Theoretical Elements of the Biopsychosocial Model

The Biopsychosocial model has a number of theoretical underpinnings. In no order of priority necessarily, the authors can identify:

- The model incorporates holistic views of the person.
- The model draws upon systems theory.
- The model draws upon ecological theory.
- The model draws upon experiential thinking and experiential learning.
- The model emphasizes 'person-centred' health-care approaches.

### 8.2.1 Holism and Multidimensionality

A clear emphasis in Engel's (1977, 1980) original works is that of rejecting certain pervasive views in medicine at the time, as he wished to 'rehumanize' medical care. Accordingly, he eschewed the dominant, Cartesian reductionist views of people and their health. In contrast, a holistic approach, which should be familiar to twenty-first-century P/MH nurses (see, e.g. Long and Baxter 2001; American Holistic Nurses Association and American Nurses Association 2013; Zahourek 2008), refers to a comprehensive view of the person, and his/her health, wherein the person has physical, emotional, social, economic and spiritual domains. Moreover, these domains or dimensions of the person are in intimate contact with one another, to the extent that they have a reciprocal influence on each other and cannot be understood in isolation of the other dimensions. Thus as a further contrast to reductionist philosophy, a holistic view of the person sees him/her as more than the sum of his/her individual parts (Long and Baxter 2001; American Holistic Nurses Association and American Nurses Association 2013; Zahourek 2008).<sup>2</sup> For the authors of this

---

<sup>2</sup>While some authors appear to have co-opted or adopted the term holism and use this to refer to a collection of 'new age', complimentary and/or 'alternative' health-care 'treatments', the authors deliberately limit their use of the term holism to refer to a holistic approach and a holistic view of the person (ala—Engel's original works).

chapter, holistic P/MH nursing then refers to contemporary nursing practice that expresses and operationalizes this philosophy and view of the person. For Engel, health problems or challenges, including mental health problems, have an origin or antecedent in at least three dimensions. The person's health problem will have a biological component (which considers a person's genes, nutritional status, neuro-endocrine and neurological issues), a psychological component (which considers a person's emotions, thoughts, behaviours) and a social component (which considers the person's background and experience of trauma, stress and the environment).

### **8.2.2 General Systems Theory**

The theoretical underpinnings of the biopsychosocial model include 'General Systems theory' (Von Bertalanffy 1976). According to von Bertalanffy, systems theory refers to and is concerned with the structure and properties of systems in terms of 'relationships' the system contains. Understanding these relationships between variables in the system leads to a deeper and more comprehensive understanding of the whole. Interestingly, systems theory is multi- or transdisciplinary in nature as it draws together theory and concepts from various domains of science including physics, philosophy, biology and engineering. In advancing his ideas about systems theory, von Bertalanffy highlighted the interrelatedness and interdependence of phenomena—be they physical, biological, psychological, social and cultural in nature. Systems then, for von Bertalanffy, are integrated wholes, and understanding the properties of the system will not be advanced by adopting a reductionist view.

### **8.2.3 Ecological Perspectives**

Ecological views of health are predicated on the premise that health, behaviour and their determinants are interrelated (Crosby et al. 2013). In recognizing that health is influenced by a range of interrelated factors, ecological views of health consider a combination of individual, social, environmental, interpersonal, organizational, community and public policy issues/factors (Bronfenbrenner 1979; McElroy et al. 1988; Nurse and Edmondson-Jones 2007; Bentley 2013). Ecologically based views of health regard it as axiomatic that no one, single factor can provide an adequate or comprehensive explanation as to why some people or groups are at higher risk of experiencing health challenges and problem. Accordingly, the ecological proposition of the existence of multiple layers of influence, both 'inside' and 'outside' the person, which can have a profound affect and effect on the health and well-being of the person, is highly congruent with the ideas underpinning the BPS approach.

### 8.2.4 Experiential Knowledge and Experiential Learning

Experiential learning is the process of learning through experience and is often referred to as learning through reflection on doing. As opposed to traditional ‘classroom’ learning, experiential knowledge is knowledge gained through experience. Dewey (1938), often credited as the originator of experiential learning, argued that it can also be contrasted both with propositional (textbook) knowledge and with practical knowledge. Moreover, experiential learning incorporates the notion that any learning that supports ‘students’ in applying their knowledge and conceptual understanding to real-world problems, even when this knowledge is acquired in ‘classroom’ settings (Wurdinger and Carlson 2010). Accordingly, when the BPS refers to the need to consider the person’s experience and perceptions as a crucial part of clinical assessment patient care, then the value of client’s learning from their own experience of suffering and health challenges can be seen to be woven into the theoretical underpinning of the BPS approach.

### 8.2.5 Person-Centred Health Care

According to McCance et al. (2011), person-centred (PC) care is a way of thinking about and delivering health care in a manner that sees the people using health and social services as equal partners in planning, developing and monitoring care to make sure it meets their needs. This means an inversion of the traditional models of health care whereby ‘patients’ (not clients, users or persons) were largely passive recipients of care, not active and ‘equal’ participants. Person-centred care then means putting people and their families at the centre of decisions and seeing them as experts, working alongside professionals to get the best outcome (Cloninger 2011). The relevant literature shows that there is no consensus on a definition of person-centred care; however, there appear to be some common elements shared across these various definitions and conceptualisations. These include—in no order of priority necessarily:

1. Putting clients at the centre of care.
  2. Respecting client values and choices.
  3. Power sharing, involving family and/or significant others (if the client wishes).
  4. Individualizing responses and care.
  5. Communicating empathy, compassion, understanding and being non-judgmental.
- In order to offer person-centred care, it is argued (see Cutcliffe et al. 2015) that services need to change to be more flexible to meet people’s needs in a manner that is best for them. In forming partnerships with clients, the underlying philosophy is enacted—it is about working with people, rather than ‘doing to’ them (Cutcliffe et al. 2015).

---

### 8.3 The Biopsychosocial Approach and Mental Health Care

As stated, the BPS approach presupposes the existence of different hierarchical levels of systems structurally and functionally interconnected. An understanding of the phenomena that can be characterized as ‘biological level’ (e.g. atoms, molecules, cells, tissues, organs and body systems) is necessary, but not sufficient to explain, let alone respond to health conditions. The higher complex levels such as the psychological (human being perspective, experience and behaviour) and social or environmental (relationships, family context, community, society and environment) also need to be considered. For some authors, these factors are all relevant, in all cases, at all times (Ghaemi 2009).

While the approach does require the P/MH nurse to view the person through a holistic, multidimensional lens, the relevance and contribution of each domain can vary from illness experience to illness experience, from one person to another and even between two different episodes of the same illness in the same person (Fava and Sonino 2008). This is because the relative importance of biological, psychological and social factors in explaining health conditions constantly changes over time (Henningsen 2015). Thus, the model provides a background to the holistic evaluation and practice, but there is no assumption of proportional representation of the domains (Jull 2017). The linear view of causality is substituted by a circular causality considering a complex interaction among psychological, sociological and physiological variables and feedback mechanisms. The literature regarding a biopsychosocial-oriented clinical practice recommends that assistance includes self-awareness, active cultivation of trust, empathy, self-calibration, educating the emotions, using informed intuition and communicating clinical evidence to foster dialogue, not just the mechanical application of protocols (Borrell-Carrió et al. 2004).

There are criticisms of BPS model that consider it not testable (vaguely defined, with unclear boundaries), overly general (non-selective eclecticism, inefficient and time-consuming), without specific method (to be operationalized) (Ghaemi 2009; Smith et al. 2013). In response of these criticisms, the literature regarding BPS model constructed well-defined, consistent and repeatable patient-centred interviewing methods to identify the psychological and social components of the BPS model.

---

### 8.4 Evidence of Efficacy: Evaluation and Criticism of the Biopsychosocial Model

Revolta et al. (2016) used the BPS model to help health-care staff to understand, formulate and develop interventions for people with dementia. Through using the BPS model, complex factors that influence a person’s well-being can be identified. Through understanding a person’s difficulties, the health-care practitioner is able to select appropriate interventions to combat the illness and enhance the patient’s well-being. The Biopsychosocial model additionally allows for the consideration of such issues as the belief factors associated with healing and the societal conception of disease. Advantages of the BPS model are found in its holistic awareness of levels

in nature and inclusiveness of diverse perspectives. Proponents for BPS advocate that when contemplating illness, one must consider the social and behavioural factors that play a significant role in health overall (e.g. poor eating habits, obesity, smoking, excessive alcohol consumption, recreational drugs, risk taking behaviour, stress, anxiety, depression, etc.). Focusing only on the physical symptoms of illness does not give us the complete picture and understanding of these phenomena. In Habtewold et al. (2016) study on co-morbidity of depression and diabetes, the biopsychosocial variables included marital status, experience of a negative life event in the last 6 months, occupation, diabetic complication and poor social support which significantly increased average depressive symptoms score. Evidence-based interventions focusing on these identified biopsychosocial factors are useful in alleviating depressive symptoms.

The BPS model developed a general framework with the two dominant conceptions of so-called mental illness: (1) the biological psychiatry view that ‘mental disorders’ arise from faulty biology and (2) the psychodynamic view that emphasizes the psychological dimensions of maladaptive patterns of thinking, feeling and acting and relating could be reconciled. Thus, BPS became the most frequently adopted perspective in psychiatry. As stated by Jensen et al. (2015) in their study on hypnosis, BPS models have proven to be useful in understanding other complex issues, including chronic pain, depression and substance abuse. Importantly, biopsychosocial models allow for the possibility that many factors can play a role and contribute to hypnotic responding. It has been accepted for a long time, in both research and practice, that it is necessary to consider the biological, psychological and social elements of an individual in order to enhance understanding and treatment (Carey et al. 2014). The BPS model is a useful intervention for medical practitioners (Pilgrim 2015).

While there are proponents for the BPS model, it is not without criticism. The most generally cited problem is the inclusiveness of the BPS model that results in an unscientific, pluralistic approach. This model potentially justifies an ‘anything goes’ approach to psychiatry, medicine and health. This pluralistic approach is quite the opposite of the analytic scientific approach that breaks the world into its component parts. Ghaemi (2009) postulates that the unclear boundaries of BPS can confuse treatment and is a poor model for addressing costs of managed care in the area of psychiatry. Further, Ghaemi (2009) explains that while the biopsychosocial model was valuable in its day as a reaction to biomedical reductionism, its historical role has played out. So-called mental illness is complex; biology is not enough; but the biopsychosocial model is not enough either. In the view of Ghaemi (2009), psychiatry should look to less eclectic, less generic, less vague alternatives.

---

## 8.5 Assessment

A number of authors and agencies have advanced guidelines for and/or produced BPS assessment instruments (see, e.g. De Jonge et al. 2001; Pai et al. 2008; Alderfer et al. 2009; Andrasik et al. 2015; MIND 2008). And to a greater or lesser extent,

each of these features contain certain rudimentary elements and underpinnings. Not least, given the nature of the BPS approach, the assessment must be holistic and must have assessments of a variety of ‘domains’ or ‘dimensions’. Engel’s (1977) original approach focused on the biological, psychological and social dimensions. More contemporary BPS instruments tend to expand the areas of assessment and include additional domains and dimensions. Andrasik et al. (2015), for instance, declare that, within the biological domain, assessment should also focus on physical, physiological, biochemical, nutritional or genetic domains. Similarly, the same authors argue that assessment within the psychological domain should also include focus on emotional, affective, cognitive, behavioural, spiritual and personality domains. And with regard to the social domain, Andrasik et al. state that assessment should include attention to environmental, cultural, family, work and interpersonal domains. While individual BPS assessment instruments share different emphases (Andrasik et al. 2015) and will dedicate more attention to different domains, many of the instruments, in the opinion of the authors, still tend to favour and overemphasize biological/pharmacological—in line with this biomedical emphasis in P/MH care in most parts of the world (see Barkley 2009). Given the focus of this book, however, the authors have advanced an assessment guideline that reflects a more person-centred, less biomedical-orientated approach.

Biopsychosocial assessments, as with other assessments in mental health care, need to occur within the context of a therapeutic relationship; the P/MH assessor will need to establish a healthy degree of rapport (MIND 2008). In so doing, the accuracy of the assessment is enhanced. Indeed, some authors have advanced the argument that to operationalize a genuine BPS assessment, the style of communication needs to move away from ‘traditional’ assessment methods. For instance, in his paper on interviewing and provider-patient relationships in the BPS approach, Smith et al. (2013) underscore the central role of communication and make the argument that there is a need to educate and train mental health-care providers (Smith focuses on physicians) in patient-centred interviewing methods.

Given that the rationale for an assessment is to gain a comprehensive, holistic ‘picture’ of the person, his/her specific challenge(s) or mental health problem(s), the P/MH nurse should encourage the person to speak, perhaps initially focusing on recent experiences, stressors, changes and traumatic events, and then the conversation can be widened to include the more historical events and experiences. It would be wise to explore and seek to understand the person’s sense of connectedness, his/her relationships and strengths/current limitations. The person should be encouraged to talk about his history—psychiatric (if any) and medical—and, importantly for a BPS assessment, the person’s lifestyle (e.g. hobbies, diet, exercise, drug/alcohol use, social support and relationships). And a ‘formal’ mental health assessment may also be undertaken (see below).

Comprehensive assessments ought to include an exploration of the person’s strengths and challenges (MIND 2008), and it is perhaps tautological to point out that accurate and thorough documentation of the assessment must be maintained. And the facility exists for additional, more specific areas, and issues can/could be considered and assessed—such as the potential for or risk of aggression/violence,



potential for or risk of self-harm and/or suicidal thoughts/feelings/risk. The authors would advance the view that such specialized areas are perhaps best assessed by a combination of the clinical interview and validated risk assessment instruments (Cutcliffe and Santos 2012). Any assessment interview, for the authors at least, will have increased validity and accuracy, if the P/MH nurse attempts to foster and communicate an atmosphere of understanding and empathy (see also Stein et al. 1998). Indeed, for a genuine application of the BPS approach, then an atmosphere of empathy is necessary (but not sufficient). Creating a permissive atmosphere, one where eliciting the client's perspective is also vital. The assessment should seek the client's ideas and views about his/her situation/experience/health challenge. Ensuring that these qualities, behaviours and attitudes are present and influential during the assessment interview can help establish rapport/build trust, it can further encourage and facilitate the exchange of information, and it both demonstrates and communicates a sense of care, concerns and hope. All of which will, according to Zucarello (2015), increase the likelihood the client 'buys in' to the agreed treatment plan.

---

## 8.6 Example of a Biopsychosocial Assessment

Basic Information:

Name

Date of birth/age

Race/ethnicity

Address/contact details

### 8.6.1 Presenting Concern(s)

What brought you here today?

What/how would you describe your major (presenting) issues/problems?

What background/history to your problem(s)—if you are aware of any—exists here?

What are you hoping to get from this 'treatment episode'?

What support systems and/or people do you have in your life? Where (to whom) do you go when you need support?

### 8.6.2 Previous Attempts and/or Experiences with Trying to Resolve Your Issue/Problem

What previous experiences of formal mental health care—if any—do you have?

Please list any 'talk therapy', counselling and psychotherapy you have experienced previously.

Please comment on these previous experiences—how useful/not useful was it? What was particular helpful/unhelpful? What brought this to an end?

What previous experiences of psychotropic medication—if any—do you have?

Please list any ‘drugs’, dosages and frequency you have taken previously or are currently taking.

Please comment on these previous experiences—how useful/not useful did you find the medication? What was particular helpful/unhelpful? What brought this to an end?

What previous formal psychiatric mental health diagnosis—if any—do you have?

Please list any ‘hospitalisations’ for psychiatric issues you have had.

Please comment on these previous experiences—how useful/not useful was it? What was particular helpful/unhelpful? What brought this to an end?

What previous or existing medical problems do you have? What previous experiences of formal health care—if any—do you have?

Please list any treatment you have received previously for any/all medical problems.

Please list any (surgical) procedures you have received previously for any/all medical problems.

Please comment on these previous experiences—how useful/not useful was it? What was particular helpful/unhelpful? What brought this to an end?

### **8.6.3 Previous Use and/or Experiences with Substances and/or Alcohol**

Have you ever used drugs or alcohol for recreational purposes? If yes, which substance(s)?

How frequently and what quantity of the substance did you use?

Were there particular experiences or situations that seemed to precipitate your use of the substance/alcohol?

### **8.6.4 Traumatic and Childhood History**

Have you ever been abused or witnessed abuse (physical/emotional/sexual)?

Experience of learning difficulties/impairments or had testing?

How would you describe your childhood?

Educational experience—school experience and highest academic level achieved.

### **8.6.5 Family History**

What, if any, previous experiences of formal mental health care do any of your family members have?

Please list any ‘talk therapy’, counselling and psychotherapy they have experienced previously.

Please list any ‘drugs’, dosages and frequency of any psychotropic drugs that your family member has taken previously.

Please list any ‘hospitalisations’ for psychiatric issues that your family member had.

### 8.6.6 Employment Status and History

Employed/self-employed/unemployed/student/disabled?

How would you describe your work situation? Work relationships?

Stress related to work situation?

### 8.6.7 Social/Relationship Status

Single, married, committed relationship?

Do you have children? Relationship with them?

Previous relationships—how did they end?

Living/accommodation situation? Who lives in your home? How adequate/inadequate do you feel your accommodation is?

Exercise? Type, frequency, duration.

Are there any family relationships that are of particular concern for you? Please describe.

Criminal record, history of incarceration?

Do you hold any particular religious/spiritual beliefs—if so—what are these?

How, if at all, do these beliefs help you/add to your current problem(s), issues and challenges?

What do you do to cope with stress?

What do you enjoy doing with your free time?

What do you consider your strengths?

#### Box 8.1 Mini Mental Health Exam Assessment Areas/Questions

(Adapted from MIND 2008)

Appearance: Age, gender, ethnicity, build, evidence of grooming/personal hygiene

Physical disability, clothing choices

Behaviour: Friendly, hostile, guarded/defensive,

recalcitrant, lascivious, level of eye contact, level of alertness

Motor: Stillness/restlessness/agitation, psychomotor retardation, ‘overexuberance’, catatonia, dystonia, abnormal movements, gait

Mood/affect: Manic, hypomanic (euphoric), flat affect, depressed, lability, range, appropriate emotional responses, incongruence

Thinking/thoughts: Obsessive thinking, delusional thoughts, ruminations, ideas of reference, intrusive thoughts, persistent thoughts of self-harm and/or suicide, attention/concentration span, coherence, logical, neologisms, thought blocking, thought transmission

Perception: Hallucinations, illusions, depersonalisation

Cognition: Orientated to time, person, place, memory, concentration

## References

- Alderfer MA, Mougianis I, Barakat LP, Beele D, DiTaranto S, Hwang W-T, Rielly AT, Kazak AE (2009) Family psychosocial risk, distress, and service utilization in pediatric cancer: predictive validity of the Psychosocial Assessment Tool (PAT). *Cancer* 115(8):S4339–S4349
- American Holistic Nurses Association & American Nurses Association (2013) *Nursing: scope and standards of practice*. In: *Nursing books*, 2nd edn. Silverspring, San Jose
- Andrasik F, Goodie JL, Peterson AL (2015) *Biopsychosocial assessment in clinical health psychology*. Guilford Press, New York
- Barkley J (2009) Biopsychosocial assessment: why the biopsych and rarely the social? *J Can Acad Child Adolesc Psychiatry* 18(4):344–347
- Bentley M (2013) An ecological public health approach to understanding the relationships between sustainable urban environments, public health and social equity. *Health Promotion International*. doi: [10.1093/heapro/dat028](https://doi.org/10.1093/heapro/dat028). First published online: May 9, 2013 <http://heapro.oxfordjournals.org/content/early/2013/05/08/heapro.dat028.full>
- Borrell-Carrió F, Suchman AL, Epstein RM (2004) The biopsychosocial model 25 years later: principles, practice, and scientific inquiry. *Ann Fam Med* 2(6):576–582. doi:[10.1370/afm.245](https://doi.org/10.1370/afm.245)
- Bronfenbrenner U (1979) *The ecology of human development*. Harvard University Press, Cambridge, MA
- Carey TA, Mansell W, Tai SJ (2014) A biopsychosocial model based on negative feedback and control. *Front Hum Neurosci* 8:94. <http://doi.org.ezproxy.libraries.wright.edu/10.3389/fnhum.2014.00094>
- Cloninger CR (2011) Person-centred integrative care. *J Eval Clin Pract* 17(2):371–372
- Crosby RA, Salazar LF, Diclemente RJ (2013) Ecological approaches in the new public health. In: DiClemente RJ, Salazar LF, Crosby RA (eds) *Health behavior theory for public health: principles, foundations and applications*. Jones and Bartlett, New York, pp 231–252
- Cutcliffe JR, Goward P (2000) Mental health nurses and qualitative research methods: a mutual attraction? *J Adv Nurs* 31(3):590–598
- Cutcliffe JR, Santos JC (2012) *Suicide and self-harm: an evidence-based approach*. Quay Books, London
- Cutcliffe JR, Santos JC, Kozel B, Taylor P, Lees D (2015) Raiders of the lost art: have psychiatric/mental health nurses lost, forgotten or abandoned the therapeutic use of self? The case of acute psychiatric settings in the United Kingdom, Portugal, Canada, Switzerland, Germany and Australia. *Int J Ment Health Nurs* 24:375–385
- De Jonge P, Huyse FJ, Stiefel FC et al (2001) Intermed – a clinical instrument for biopsychosocial assessment. *Psychosomatics* 42(2):106–109
- Dewey J (1938) *Experience and education*. Kappa Delta Pi, USA
- Engel G (1977) The need for a new medical model: a challenge for biomedicine. *Science* 196:129–136
- Engel G (1980) The clinical application of the biopsychosocial model. *Am J Psychiatr* 137:535–544
- Fava GA, Sonino N (2008) The biopsychosocial model thirty years later. *Psychother Psychosom* 77(1):1–2. doi:[10.1159/000110052](https://doi.org/10.1159/000110052)
- Friedman RC, Downey JJ, Editor D (2012) Editorial: the biopsychosocial model. *Psychodyn Psychiatry* 40(3):371–376
- Ghaemi SN (2009) The rise and fall of the biopsychosocial model. *Br J Psychiatry* 195(1):3–4. doi:[10.1192/bjp.bp.109.063859](https://doi.org/10.1192/bjp.bp.109.063859)
- Habtewold TD, Islam MA, Radie YT, Tegegne BS (2016) Comorbidity of depression and diabetes: an application of biopsychosocial model. *Int J Ment Heal Syst* 10:74
- Henningsen P (2015) Still modern? developing the biopsychosocial model for the 21st century. *J Psychosom Res* 79(5):362–363. doi:[10.1016/j.jpsychores.2015.09.003](https://doi.org/10.1016/j.jpsychores.2015.09.003)
- (The) Hunter Institute of Mental Health (HIMH) (2008) *MIND: essentials – a new online resource for nurses and midwives working in hospital and community settings*. file:///C:/Users/jcut/OneDrive/Documents/bio%20psy%20soc%20paper%20res.pdf

- Jensen MP, Adachi T, Tomé-Pires C, Lee J, Osman ZJ, Miró J (2015) Mechanisms of hypnosis: toward the development of a biopsychosocial model. *Int J Clin Exp Hypn* 63(1):34–75. doi:[10.1080/00207144.2014.961875](https://doi.org/10.1080/00207144.2014.961875)
- Jull G (2017) Biopsychosocial model of disease: 40 years on. Which way is the pendulum swinging? *Br J Sports Med*, bjsports-2016-097362. <http://doi.org/10.1136/bjsports-2016-097362>
- Long A, Baxter R (2001) Functionalism and holism: community nurses' perceptions of health. *J Clin Nurs* 10(3):320–329
- McCance T, McCormack B, Dewing J (2011) An exploration of person-centredness in practice. *Online J Issues Nurs* 16(2):1
- McElroy K, Bibeau D, Steckler A, Glanz K (1988) An ecological perspective on health promotion programs. *Health Educ Behav* 15(4):351–377
- Nurse J, Edmondson-Jones P (2007) A framework for the delivery of public health: the ecological approach. *J Public Health Epidemiol* 61(6):555–558
- Pai AL, Patino-Fernandez AM, McSherry M, Beele D, Alderfer MA, Reilly AT, Hwang W-T, Kazak AE (2008) The psychosocial assessment tool (PAT2.0): psychometric properties of a screener for psychosocial distress in families of children newly-diagnosed with cancer. *J Pediatr Psychol* 33:50–62
- Pilgrim D (2015) The biopsychosocial model in health research: its strengths and limitations for critical realists. *J Critical Realism* 14(2):164–180. doi:[10.1179/1572513814Y.0000000007](https://doi.org/10.1179/1572513814Y.0000000007)
- Revolta C, Orrell M, Spector A (2016) The biopsychosocial (BPS) model of dementia as a tool for clinical practice. A pilot study. *Int Psychogeriatr* 28(7):1079–1089. doi:[10.1017/S1041610215002379](https://doi.org/10.1017/S1041610215002379)
- Smith RC, Fortin AH, Dwamena F, Frankel RM (2013) An evidence-based patient-centered method makes the biopsychosocial model scientific. *Patient Educ Couns* 91(3):265–270. doi:[10.1016/j.pec.2012.12.010](https://doi.org/10.1016/j.pec.2012.12.010)
- Stein TS, Nagy VT, Jacobs L (1998) Caring for patients on conversation at a time: musings from the interregional clinician patient communication leadership group. *Permanente J* 2(4):62–68
- Von Bertalanffy L (1976) Perspectives on general system theory: scientific-philosophical studies
- Wurdinger DD, Carlson JA (2010) Teaching for experiential learning: five approaches that work. Rowman & Littlefield Education, Lanham
- Zahourek RP (2008) Integrative holism in psychiatric-mental health nursing. *J Psychosoc Nurs Ment Health Serv* 46(10):31–37
- Zucarello V (2015) The biopsychosocial interview – the foundation of patient care. <https://www.linkedin.com/pulse/biopsychosocial-interview-foundation-patient-care-vic-zucarello>

## URLS

- <http://bjp.rcpsych.org/content/195/1/3>
- <https://www.boundless.com/psychology/textbooks/boundless-psychology-textbook/stress-and-health-psychology-17/introduction-to-health-psychology-85/the-biopsychosocial-model-of-health-and-illness-326-12861/>
- <https://www.psychologytoday.com/blog/theory-knowledge/201510/the-biopsychosocial-model-and-its-limitations>
- <http://www.annfammed.org/content/2/6/576.full>