

# Biophilic-Arts

connecting creativity, nature, & health

For Healthcare Settings



*Cactus Garden* (2018). Photo courtesy of Jay Pierstorff

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*Biophilic Art meets health challenges  
with creativity, inspiration, and  
innovation.*

# What is biophilic-art?

- 1. Biophilic-Art** Includes but is not limited to a representation (painting, sculpture, garden, design, video, and or experience that evokes the innate capacity to create and appreciate art that deepens our understanding of and relationship with the natural world.

Biophilic-Art is a combination of two words Biophilia and Art. When combined, it describes a style of art that seeks ethical, sustainable, and sensitive approaches to creative experiences, new ways of thinking, and problem-solving that include human and non-human living biological organisms as well as natural and built environments.

Biophilic-Art practice is viewed as a style of art that taps into our innate affinity and attraction to nature and creative thinking and actions.

## 2. Biophilia

“Biophilia is the passionate love of life and all that is alive; it is the wish to further growth, whether in a person, a plant, an idea, or a social group” (Fromm, 1973, p. 858).

“Biophilia is not a single instinct but a complex of learning rules that can be teased apart and analyzed individually...woven into symbols composing a large part of culture” (Wilson, 1993, p. 32).

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## 3. Art

Art is a way of knowing and understanding the world that is derived or evoked through sensory experience (Eisner, 2002).

“Art is an intrinsic part of human behavior [...] Art can be made by any of us [...] Art is appreciated by all of us [...] Art is a species-specific behavior [...]” (Aiken, 1998, p. 174).

# The Value of Biophilic-Arts

Art that provides meaning and value to one's life by supporting the innate need for connections with nature can improve our quality of living. Biophilic art encourages respectful and responsible living with all human and non-human living organisms.

1. **Promotes opportunities for social bonding:** In the Women's Prayer Garden Study and Urban Eden, the outdoor garden spaces and the process of working together to design the spaces were perceived as highly beneficial social settings, conducive for gathering with others, learning new social habits, such as sharing, parenting, and recreation. This aligns with literature on the arts that suggests individuals and communities benefit from engagement in the arts as a social bonding activity and a way to alleviate feelings of isolation and loneliness (Balode, 2014; Chilton & Leavy, 2014; Galvanese et al., 2013).
2. **Supports individuals during stress, trauma, and illness:** Nature-themed art can be calming, enjoyable, and encouraging during health challenges. Such responses align with behavioral studies assessing the effects of nature interventions in healthcare experiences (Annerstedt, 2013; Kaplan et al., 1972; Ulrich et al., 1993)  
  
Research suggests that nature-themed art and depictions of nature offer an adaptive means for coping with medical procedures (surgery, recovery, prescriptive treatments, pain) (Aletraris et al., 2014; Berman et al., 2012; Beukeboom et al., 2012; Kaplan & Kaplan, 1989; Ulrich et al., 2003).
3. **Provides a salutogenic response to health challenges:** Experiences of engagement in biophilic arts act as a salutogenic way to resist the impact of illness, trauma, and disease by framing experiences from a health-oriented viewpoint (Mittelmark et al., 2017).  
  
According to the salutogenic theory, health is defined as something more than the

absence of disease and links meaning and value in life with individual perceptions of health and the manageability of life events (Bauer, 2017; Eriksson, 2017; Mittelmark & Bauer, 2017)

4. **Presents evidence for an innate desire to connect with nature and creativity:** Cross-section data analysis revealed that engagement with biophilic arts provided more than improved medical outcomes such as lower blood pressure, better moods, or distractions from pain. Engagement in biophilic arts also aligned with the nine values typology (Kellert, 1993) as an expression of the innate tendency in humans to affiliate with nature. In this study, perceived changes in emotions and physical and mental states of being were attributed to values closely aligned with Kellert's Nine Biophilic Values Typology (Kellert, 1993; Shorb & Schnoeker-Shorb, 2010).

If human connections with creativity and art-making are innate (Aiken, 1998; Coe, 1992; Dissanayake, 2002, 2017; Dutton, 2009), and affiliation with nature is innate (Kellert & Wilson, 1993; Wilson, 1984), then these aspects of our nature or being are our “birthright” and our future (Kellert, 2012, p. xiii). Kellert suggests that through learning, culture, and creativity, humans can create an inventive and independent perspective (Kellert, 2012, p. xiv).

5. **Connects with a spiritual experience or higher power:** People often connect engagement with nature and the arts with a concept of God, higher power, or spirituality (Kellert, 1997, 2012). For those identifying nature with spirituality, biophilic art can consistently support individuals' deep-seated meaning and values (Coholic, 2010; Kellert, 1997, 2012; Koen, 2013; Koenig, 2012, 2013; Low, 2011; Whitley, 2009).

# Biophilic Art in Healthcare is a Systems Approach

It is in our most vulnerable states that we are forced to look beyond ourselves for answers. Healthcare professionals certainly play an important role, but the artist too is a necessary component of community health. The artist or researcher interested in biophilic art can increase the success of a project or work of art within healthcare settings requires a view that planning, implementing, and sustaining biophilic art is a process with multiple intersecting and interconnected variables. For example, systems are not limited to but may include the local community, funding sources, non-profit and institutional government healthcare systems, the judicial system, family services, the environment, and more. Viewing healthcare intersections as a component of community living enhances the opportunity for success by considering biophilic art beyond a one-time event and a part of everyday living.

## What is a healthcare setting?

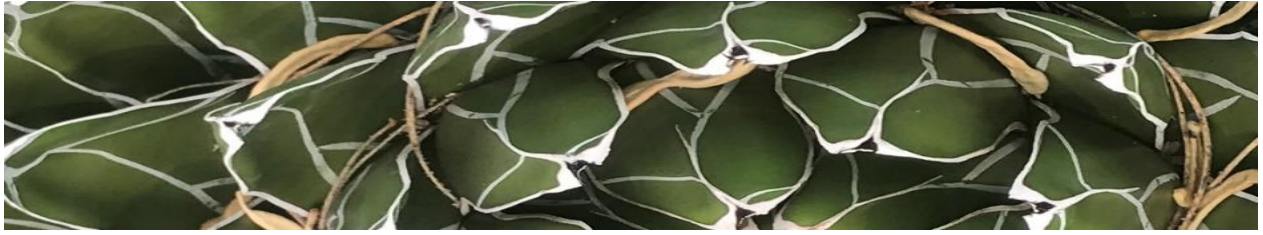
*Healthcare Settings:* is used broadly to allow artists and researchers to move beyond hospitals or government agencies. Using the World Health Organization's (WHO) glossary of definitions, health settings are "the place or social context in which people engage in daily activities in which environmental, organizational, and personal factors interact to affect health and wellbeing" (Nutbeam & Muscat, 2021, p. 1596). According to Nutbeam and Muscat (2021), health settings typically include defined physical boundaries, including cities, schools, workplaces, prisons, and hospitals.

# The Ethics of Biophilic Art

Because many forms of art might not be considered beneficial to the health and wellbeing of patients, clients, healthcare professionals, and other users of healthcare institutions, it is important to consider ethical standards for both artistic content and conduct. The following is a basic list of ethical standards for artists, facilitators, and researchers of biophilic art.

- The artist engages in the professional protocols that will ‘Do No Harm’ to living organisms or ecosystems during the making, installation, or documentation of Biophilic Art.
- Presentation of art is culturally sensitive and does not purposely evoke fear, phobias, cultural taboos, or create art that is known to induce anxiety during health challenges, such as fragmented art, images of predatory animals or insects, harmful plants, threatening faces, or loud noises.
- Production and display of art are viewed as a holistic and inclusive process that incorporates input from patients, the local and indigenous communities, healthcare decision-makers, artists, and others who may be responsible for the care and maintenance of said artwork.
- The artist, researcher, or designer will make an effort to avoid toxic materials that might be harmful to the environment or its inhabitants in the design, production or installation of artwork.





## Nine Principles of Biophilic Art

The following nine principles of biophilic art are considered fundamental guidelines for incorporating meaningful and enjoyable forms of biophilic art within the healthcare setting.

Contact with art and nature is considered essential for human health rather than superfluous to one's optimal state of being. The following list was adapted from Kellert's (2018) *Nature by Design* biophilic design principles (p.18-22). The principles maintain Kellert's original intentions to develop design principles for architectural spaces. However, the principles for biophilic art go beyond design by incorporating philosophical, theoretical, and arts-based elements.

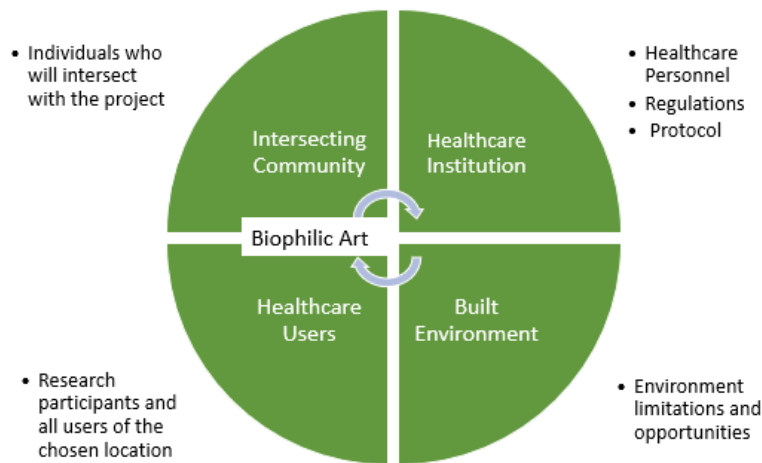
1. Biophilic art is viewed as a combination of two intrinsic human behaviors. The first is the innate response to nature, as proposed by Wilson and Kellert (1993). Second, is the innateness of creating art as an essential aspect of human social behavior (Aiken, 1998, 2013; Dissanayake, 2002).
2. Biophilic art within healthcare supports an integrative holistic health perspective, including physical, spiritual, mental, environmental, and social aspects.
3. Biophilic art encourages engagement with natural materials and processes.

Representations of nature are not limited to the visual arts and can be represented in multiple creative ways that evoke connections with nature.



4. Biophilic art strengthens the human ability to cope with health challenges by promoting health inducing, evidence-based representations of nature by adding meaning and value to experiences.
5. Biophilic art integrates living organisms, when possible, into the interior or exterior built environment (e.g. garden site within a hospital, live plants, aquariums).
6. Successful biophilic art evokes a positive emotional response to the environment which includes human and non-human living organisms as well as inanimate natural elements.
7. Biophilic art fosters feelings of belonging to a community that includes human and nonhuman organisms and species.
8. Biophilic art can be found in multiple settings, including interior, exterior, transitional spaces, and landscapes.
9. Biophilic art seeks to understand and integrate multiple responses towards nature from the values typologies (Aesthetic, Negativistic, Humanistic, Naturalistic, Symbolic, Scientific, Utilitarian, Dominionistic, Moralistic) from Kellert (1993). (Create hyperlink)

## Biophilic Arts in Healthcare



*Intersecting components of a biophilic art within healthcare settings. Central to the project is the art and the creator or facilitator of the artwork. From this central position, the artist, facilitator, or researcher connects with the four areas of influence as presented in the diagram.*

***Biophilic art partners with nature & art for creative healthcare solutions.***

# Intersecting variables

**Biophilic Art in Healthcare** requires evaluation of the interrelatedness and intersections among diverse groups of people, the existing built environment, desired artistic representation, and existing limitations, and opportunities

- Artist/Researcher
- Community
- Population
- Built Environment
- Artwork
- Collaborative Partners
- Healthcare Institution

Community and public healthcare projects are situated within larger systems such as government agencies, healthcare systems, and private or public hospitals. Therefore, the artist/researcher operates within both the larger institutional systems and in cooperation with decision-makers to determine the type of artistic output, choice of materials, and installation locations. Consider the following: artist/researcher, community, population, built environment, artwork, collaborative partners, and healthcare institutions.

## Recommended Actions

- **Artist/Researcher:** Consider the strengths and weaknesses of the artist/researcher's experience, expertise, material knowledge, people skills, and ability to manage biophilic art projects. Build on strengths and seek outside expertise or knowledge from others as needed. Collaboration and interdisciplinary projects can lead to unexpected benefits. Be prepared to spend many hours engaging with emails, phone calls, and in-person meetings to ensure everyone who needs to be included in the project is well-apprised and in regular communication streams.

- **Community:** Take inventory of your local, national, and global community for knowledge building. Connect with other artists interested in health and wellbeing from a nature-oriented perspective. Connect with nature-oriented cultural centers, gardens, and more for valuable local knowledge of resources and the environment.
- **Population:** Individual and multi-populous. Know your population ahead of time. Visit potential sites, read about the services, and, if possible, volunteer or conduct preliminary interviews to better understand the needs and preferences of your target population.
- **Built Environment:** Understand the current use of space, including environmental restrictions, maintenance, associated costs, type of space, ease of access, structural elements (wall, building, landscape, coffee shops, atriums, gardens), or (open room, classroom, open hallway). Conduct preliminary site visits and speak with decision-makers to explore options for both interior and exterior projects.
- **Artwork:** Evaluate the site and population before developing the artwork to understand the location's best material and design options. If the work of art is an object, painting, or installation, consider non-toxic materials, paints, adhesives, framing, or digital media. Plant materials for interior or exterior spaces are one creative approach to design. Many artists have made themselves ill through the continued use of toxic materials. The use of potentially harmful materials in healthcare spaces may need to be closely evaluated (Gottsegen, 1997; Grabo, 1997; Jacobs, 1994).
- **Collaborative Partners:** Research local non-profits, cultural centers, and other organizations that may be good collaborators with biophilic projects. Consider plant nurseries, animal non-profits, and other unique non-profits that might be willing to donate resources to a community project. Community members and national corporations with

local business branches may be viable funding sources. Consider researching local family foundations that support similar projects.

- **Healthcare Institutions:** Consider healthcare institutional protocols, safety, microbial restrictions (exclusion/inclusion of living plants), sound restrictions, and light restrictions (individual treatment considerations). Medical and social service systems often operate at a corporate level. Therefore, understanding that many approvals must be done before a plan can take place will help ease researcher tensions.

# *Stages of Implementation*

## 1. Creation & Creativity

Theory: Biophilic art employs the of a combined effect of the inherent inclination to affiliate with nature and the inherent inclination to be creative. Interest in the combination of nature and creativity operates within the artist/researcher as a strong motivating force for exploring biophilic art production and research.

## 2. Creativity & the Nine Biophilic Values

Foundation for Application: Biophilic art understands and incorporates aspects of the Nine Values Typology (Kellert, 1993) that categorizes human responses to nature. (Aesthetic, Negativistic, Humanistic, Naturalistic, Symbolic, Scientific, Utilitarian, Dominionistic, Moralistic).

## 3. Preliminary Investigation

Before Beginning: Biophilic art in healthcare settings is viewed as a collaborative process that includes researching a site, population, and funding resources to explore the best options. Working within healthcare settings requires an awareness of institutional and national healthcare regulations. Artist/researcher explores and welcomes community collaboration.

## 4. Health Inducing Biophilic Art Production

Production and Installation: Biophilic art ascribes to Do No Harm to living species in the artwork's production, installation, or documentation. The artwork is viewed as a way to strengthen human health rather than focus on preventing or curing disease or illness.

## 5. Sustainability

Future-Oriented Perspective: Biophilic art aims for sustainable, everyday access for the targeted population and setting. Artist/researcher considers maintenance, care, and a sense of responsibility towards representations and living works of art such as gardens.

## 6. Evaluation

Assessment; Evaluate the artwork based on feedback from multiple participants and partners. Ensure that representatives beyond the artist/researcher provide insights and evaluations for assessing the art's success, value, and benefits.  
Biophilic art welcomes an inclusive and diverse array of institutions and individuals working together as valued partners for future sustainable biophilic art solutions.

# Glossary

- *Bioartography* is the study of nature and art as a style of art known as biophilic art.
- *Bioartographer* is an arts practitioner who engages in the applied development, production, and implementation of biophilic art.
- *Biophilia* is the evolutionary and biocultural “innate tendency to focus on life and life-like processes” (Wilson, 1984, p. 1).
- *Biophilic Art* is a representation including but not limited to a (painting, sculpture, garden, design, video, and more) or experience that evokes the innate capacity to create and appreciate art and deepens our understanding of a mutually beneficial relationship with the natural world.
- *Biophilic Values* are the nine categories developed and categorized as “dimensions of the biophilia tendency;” aesthetic, negativistic, humanistic, naturalistic, symbolic, scientific, utilitarian, dominionistic, and moralistic (Kellert 1993, p. 44; Shorb & Schnoeker-Shorb, 2010).
- *Client* “a rejection of the medicinal significance of “patient.” Instead of a patient who needs a clinician to offer treatment, a client seeks the assistance [...] as more of a confidential teammate for improving a bio-psycho-social aspect of life” (Spector, 2023).
- *Health* definitions are varied and complex in their approach. Therefore, biophilic art in healthcare aligns with a philosophy derived from holistic nursing to explore attributes of health and healing. “Whole systems healing is defined as a focus on overarching, patient-centered outcomes such as wellbeing, energy, happiness clarity, and purpose, rather than a focus on physiological biomarkers or specific symptoms” (Koithan, 2014, p. 9). This



system of healing includes the “interconnectedness of all living systems” (Koithan, 2014, p. 9).

- *Nature*: “[...] an organic environment where the majority of ecosystem processes are present (e.g., birth, death, reproduction, relationships between species). This includes the spectrum of habitats from wilderness areas to farms and gardens (and parks). Nature also refers to any element of the natural environment (such as plants, animals, soil, water, or air) and includes domestic and companion animals and cultivated pot plants. Nature can also refer collectively to the geological, evolutionary, biophysical, and biochemical processes that have occurred throughout time to create the Earth as it is today” (Maller et al., 2005, p. 46).
- *Patient, according to the dictionary*, is “an individual waiting for or under medical care and treatment; one that is acted upon” (Merriam-Webster, *Patient*, 2023).
- *Salutogenesis*: Based on the Theory of Salutogenesis, the salutogenesis model was developed by Aaron Antonovsky (1979). Salutogenesis represents the patient or client’s innate ability to cope and make meaning during health challenges (Mittelmark & Bauer, 2017). Antonovsky (1977) asks “What makes people healthy,” and explores strengthening resources (both internal and external) “promoting health over preventing disease outcomes” (Bauer, 2017, p. 153).

*A Typology of The Nine Biophilic Values Adapted to Include Functions of Creativity and the Arts*

<b>Biophilic Value</b>	<b>Definition</b>	<b>Function</b>	<b>Creative Arts Interconnectedness</b>
<b>Aesthetic</b>	Sensory response, repulsion or attraction and appeal to survivalist instincts	Pleasure, calm, harmony, heightened sensory details as a function of survival or pleasure.	Attraction to materials, colors, textures, and forms from everyday aesthetics and nature-based
<b>Negativistic</b>	Danger or threat response	Increase in awareness and observational skills, avoidance responses, survival from weather, habitat, disease, or other threats	Materials and artistic representations in response to threat or danger such as ritual, ceremony, or creative representations for the function of healing or protection
<b>Humanistic</b>	Strong connection to nature and human membership	Family and group bonding with non-human living elements, attachment, and a sense of companionship	Collaboration, group connections facilitate creative art making and or experiences, reach beyond the individual experience
<b>Naturalistic</b>	Satisfaction and connection with direct experiences in nature	Holistic response to nature, direct engagement, emotionally, cognitively, and physically challenging, sense of discovery	Creative response to nature or the production of art in a natural setting, using material from nature in the production of art
<b>Symbolic</b>	Gives meaning to experiences, enhances creative means of expressing a relationship with nature	Reflects the human use of nature to facilitate communication and thought. Nature as a symbol	Communication of thoughts and language through the creative use of nature audio, visual, ceremonial, technological
<b>Ecological-Scientific</b>	Systematic observation and study of nature through categorization, labeling, defining	Precise study and systematic inquiry of the natural world	Scientifically driven forms of art and representations of elements of the nature

<b>Biophilic Value</b>	<b>Definition</b>	<b>Function</b>	<b>Creative Arts Interconnectedness</b>
<b>Utilitarian</b>	Practical and material use of natural resources includes the use and misuse of resources, relates to the material value of resources	Addresses security and survival needs that underlie desires for the use and misuse of natural resources	Creative expressions through utilitarian objects, and other daily items
<b>Creativity &amp; Confidence</b>	Encounters with nature that encourage a sense of accomplishment, ingenuity, self-confidence, sense of mastery of the natural world	Beyond control of nature, experience that fosters increased knowledge of the natural world, assessing nature in terms of mastery for survival reasons	Creative representation in the arts that expresses courage, pride, self-worth, and confidence, mastery of skills in making or presentation of nature-themed artistic representations
<b>Spirituality</b>	Spiritual connection with nature and or sense of responsibility and care for nature, conservation, stewardship	Encompasses strong feelings of affinity, ethical responsibility, reverence for the natural world	Art that represents spiritual connections, reverence for the natural world, and the human-nature connectedness, art with conservational messaging responsibility

- *Note.* Creative aspects of the values are a function of the biophilic arts framework. The primary nine biophilic values, descriptions, and functions are from Kellert (1993) and Shorb & Schnoeker-Shorb (2010)

## References

- Aiken, N. (1998). *The biological origins of art*. Westport, Conn: Praeger.
- Aletraris, L., Paino, M., & Bride, B. E. (2014). The use of art and music therapy in substance abuse treatment programs. *Journal of Addictions Nursing*, 25(4), 190-196. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4268880/>
- Annerstedt, M., Jonsson, P., Wallergard, M., Johansson, G., Karlson, B., Grahn, P., . . . Wahrborg, P. (2013). Inducing physiological stress recovery with sounds of nature in a virtual reality forest- Results from a pilot study. *Physiology & Behavior*, 118, 240-250.
- Antonovsky, A. (1987). *Unraveling the mysteries of health: How people manage stress and stay well*. San Fransico, CA: Jossey-Bass. Retrieved from <https://archive.org/details/unravelingmyster00aaro/page/n8/mode/1up?view=theater>
- Balode, L. (2014). The social aspect of open space in rehabilitation gardens and parks. *Science-Future of Lithuania*, 6(3), 310-322. Retrieved from <https://doi.org/10.3846/mla.2014>
- Bauer, G. (2017). The application of salutogenesis in everyday settings. In M. B. Mittelmark, M. Eriksson, G. F. Bauer, J. M. Pelikan, B. Lindstrom, & G. A. Espnes (Eds.), *The handbook of salutogenesis* (pp. 153-158). Switzerland: Springer International.
- Berman, M. G., Kross, E., Krpan, K. M., Askren, M. K., Burson, A., Deldin, P. J., . . . Jonides, J. (2012). Interacting with nature improves cognition and affect for individuals with depression. *Journal of affective disorders*, 3(140), 300-305.
- Beukeboom, C. J., Langeveld, D., & Tanja-Dijkstra, K. (2012). Stress-reducing effects of real and artificial nature in a hospital waiting room. *the Journal of Alternative and Complementary Medicine*, 18(4), 329-333.
- Chilton, G., & Leavy, P. (2014). Arts-based research: Merging social research and the creative arts. In P. Leavy (Ed.), *The Oxford handbook of qualitative research* (2nd ed., pp. 601-632). Thousand Oaks, CA: SAGE Publishing. Retrieved from <https://ebookcentral.proquest.com/lib/uaz/detail.action?docID=1995726&pq-origsite=primo>
- Coe, K. (1992). Art: The replicable unit-an inquiry into the possible origin of art as a social behavior. *Journal of social and evolutionary systems*, 15(2), 217-234. Retrieved from [https://doi.org/10.1016/1061-7361\(92\)90005-X](https://doi.org/10.1016/1061-7361(92)90005-X)
- Coholic, D. (2010). *Arts activities for children and young people in need: Helping children develop mindfulness, spiritual awareness and self-esteem*. London, UK: Jessica Kingsley.
- Dissanayake, E. (2002, 1988, 1990)). *What is art for? (5th edition)*. Seattle: University of Washington Press. Retrieved from <https://ebookcentral.proquest.com/lib/uaz/reader.action?docID=4306002>
- Dissanayake, E. (2017). Ethology, interpersonal neurobiology, and play: Insights into the evolutionary origin of the arts. *American Journal of Play*, 143-168. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1141577.pdf>

- Dutton, D. (2009). *The art instinct: Beauty, pleasure, & human evolution*. New York, Berlin, London: Bloomsbury Press.
- Eisner, E. (2002). *Arts and the creation of mind*. New Haven: Yale University Press.
- Eriksson, M. (2017). The sense of coherence in the salutogenic model of health. In M. B. Mittlemark, S. Sagy, M. Eriksson, G. F. Bauer, J. M. Pelikan, B. Lindstrom, & G. A. Espnes (Eds.), *The handbook of salutogenesis* (pp. 91-96). Switzerland: Springer International.
- Fromm, E. (1973). *The anatomy of human destructiveness (first edition)*. New York, New York: Hold, Rinehart and Winston.
- Galvanese, A., Nascimento, A., & D'Oliveira, A. (2013). Art, culture and care in psychosocial healthcare services. *Revista De Saude Publica*, 47(2), 360-367.
- Gottsegen, M. (1997). Safe use of art materials: Who is responsible? *Environmental Health Perspectives*, 105(7), 687-687. Retrieved from <https://doi.org/10.1289/ehp.105-1470099>
- Grabo, T. (1997). Unknown toxic exposures arts and crafts materials. *AAOHN Journal*, 45(3), 124-130. Retrieved from <https://www-proquest-com.ezproxy1.library.arizona.edu/docview/1013462367/fulltextPDF/A9B0C42E162E4D51PQ/1?accountid=8360>
- Jacobs, J. (1994). The art of art therapy may be toxic. *Journal of American art therapy association*, 11(4), 271-277.
- Kaplan, R., & Kaplan, S. (1989). *The experience of nature: A psychological perspective*. Cambridge: Cambridge University Press.
- Kaplan, S., Kaplan, R., & Wendt, J. s. (1972). Rated preference and complexity for natural and urban visual material. *Perception & Psychophysics*, 12(4), 354-356.
- Kellert, S. R. (1993). The biological basis for human values of nature. In S. R. Kellert, & E. O. Wilson (Eds.), *The biophilia hypothesis* (pp. 42-72). Washington D.C.: Island Press.
- Kellert, S. R. (1997). *Kinship to mastery: Biophilia in human evolution and development*. Washington D.C.: Island Press.
- Kellert, S. R. (2012). *Birthright: People and nature in the modern world*. New Haven, Conn: Yale University Press.
- Kellert, S. R., & Wilson, E. O. (Eds.). (1993). *The biophilia hypothesis*. Washington, D.C., Covelo: Island Press.
- Koen, B. (2013). My heart opens and my spirit flies: Musical exemplars of psychological flexibility in health and healing. *Ethos*, 41(2), 174-198. Retrieved from <https://www-jstor-org.ezproxy3.library.arizona.edu/stable/24029800>
- Koenig, H. G. (2012). Religion, Spirituality, and Healing: Research, dialogue and directions. In B. D. Koen (Ed.), *The Oxford Handbook of Medical Ethnomusicology* (pp. 1-24). Oxford University Press. doi:10.1093/oxfordhb/9780199756261.013.0003

- Koithan, M. (2014). Concepts and principles of integrative nursing. In M. J. Kreitzer, & M. Koithan (Eds.), *Integrative nursing* (pp. 3-16). New York: Oxford University Press.
- Low, C. (2011). Birds and KhoeSan: Linking spirits and healing with day-today life. *Africa*, 8(2), 295-313. Retrieved from . [https://link-gale-com.ezproxy4.library.arizona.edu/apps/doc/A258909819/WHIC?u=uarizona\\_main&sid=WHIC&xid=646da99a](https://link-gale-com.ezproxy4.library.arizona.edu/apps/doc/A258909819/WHIC?u=uarizona_main&sid=WHIC&xid=646da99a)
- Maller, C., Townsend, M., Pryor, A., Brown, P., & St. Leger, L. (2005). Healthy nature healthy people: 'contact with nature as an upstream health promotion intervention for populations. *Health Promotion International*, 21(1), 45-54.
- Merriam-Webster Dictionary. (2023). *Patient*. Retrieved from Merriam-Webster Dictionary: <https://www.merriam-webster.com/dictionary/patient>
- Mittelmark, M. B., Bauer, G. F., Vaandrager, L., Pelikan, J. M., Sagy, S., Eriksson, M., . . . Magistretti, C. M. (Eds.). (2017). *The handbook of salutogenesis (Second edition)*. Switzerland: Springer. Retrieved from <https://link-springer-com.ezproxy4.library.arizona.edu/book/10.1007/978-3-030-79515-3>
- Mittelmark, M., & Bauer, G. (2022). Salutogenesis as a theory, as an orientation and as the sense of coherence. In M. B. Mittelmark, G. F. Bauer, L. Vaandrager, J. M. Pelikan, S. Sagy, M. Eriksson, . . . C. Meir Magistretti (Eds.), *The handbook of salutogenesis* (pp. 11-17). Springer Publishers.
- Nutbeam, D., & Muscat, D. (2021, April 5). Health promotion glossary 2021. *Health Promotion International*, 36(6), 1578-1598. Retrieved January 8, 2023, from <https://doi.org/10.1093/heapro/daaa157>
- Shorb, T., & Schnoeker-Shorb, Y. (2010). *The Kellert-Shorb biophilic values indicator: A workbook*. Prescott, AZ: Native West Press.
- Spector, H. (2016, October 5). *Client or patient? Using the right lingo in your practice*. Retrieved from Simplepractice: <https://www.simplepractice.com/blog/client-patient-using-right-lingo-practice/>
- Ulrich, R. S. (1993). Biophilia, biophobia and natural landscapes. In S. R. Kellert, & E. O. Wilson (Eds.), *The biophilia hypothesis* (pp. 73-137). Washington DC: Island Press.
- Ulrich, R. S., Simons, R. F., & Miles, M. A. (2003). Effects of environmental simulations and television on blood donor stress. *Journal of Architectural and Planning Research*, 38-47.
- Whitley, D. (2009). *Cave paintings and the human spirit: The origin of creativity and belief*. New York: Prometheus.
- Wilson, E. O. (1984). *Biophilia*. Cambridge: Harvard University Press. Retrieved from <https://ebookcentral.proquest.com/lib/uaz/detail.action?docID=3300337&pq-origsite=primo>
- Wilson, E. O. (1993). Biophilia and the conservation ethic. In S. Kellert, & E. O. Wilson (Eds.), *The biophilia hypothesis* (pp. 31-41). Island Press/Shearwater Books.