

Socio-Ecological Wellness Wheel: Applied to Community Gardens to Measure Green Gentrification

Micajah Daniels, Courtney Coughenour, PhD
 School of Public Health, University of Nevada, Las Vegas
 Ronald E. McNair Summer Research Institute

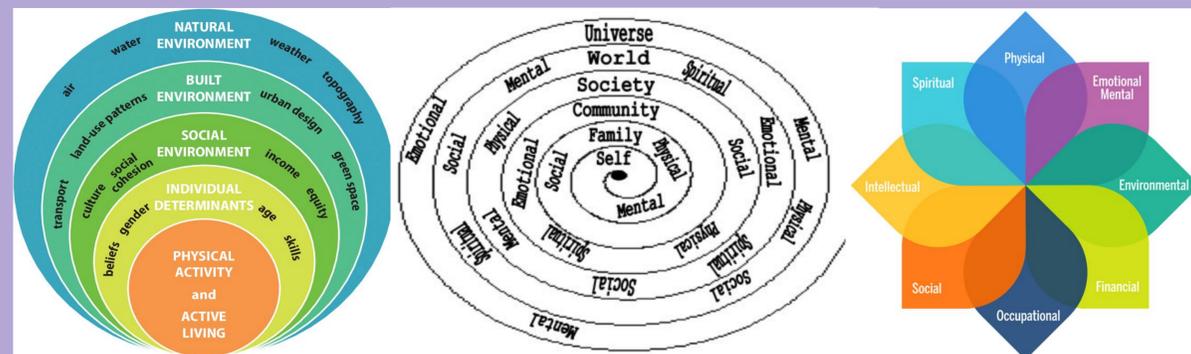


INTRODUCTION

Community garden is a term to describe green spaces developed for vegetation. Interdisciplinary approaches have been used to measure community gardens' impact on intersectional components of society. Both benefits and unintended consequences have been found in correlation to the addition of green spaces. The biotic and abiotic environmental impacts may have benefits regarding health outcomes. The operations of the garden, conflict over resources, and meaning of the space are variables which may influence who is benefitting from the green space. The nutrition environment of the community gardens may influence fruit and vegetable consumption of food insecure populations. On the other hand, the financial impact of the garden may heighten social inequities. An empirical and systematic way of measuring garden quality would be beneficial in better understanding this phenomena and its' effect on the socioeconomic status of the community. Creating an audit tool could help measure this relationship.

LITERATURE REVIEW

Green gentrification is a term to describe the relationship between green spaces on economic improvement of the surrounding area for those who are in positions of privilege and displacement of low-income residents (Gould et al., 2016). In these instances, folks who have limited financial capabilities are displaced from their neighborhoods by being priced out of their homes and excluded from spaces that become privatized. Although they lived through the environmental "degradation", they are less likely to benefit from revitalization. Those with capital benefit from these spaces through profit and ecology. This exclusion has been found when the racialized history of the area, the built environment, class conflict, and environmentalism are considered. Anguelovski et al. (2018) in Barcelona, Spain, Kogan et al. (2018) in Washington D.C., Voicu et al. (2008) in New York City, NY, and Braswell (2017) in St. Louis, MO are a few studies among many which used longitudinal and spatial analysis to measure green gentrification. These studies demonstrate that people maintain a social identity which influences access to environmental privileges and economic mobility. For these reasons, health outcomes, human behaviors, and connection to nature should be viewed holistically and with consideration for capitalism.



Left to Right: Premise 1 is that we maintain socioecological identities which influence our health behaviors such as physical activity (Bornstein et al., 2014). Premise 2 is a North American aboriginal model of health which we maintain our whole self at macro and micro levels (Loiselle et al., 2006). Premise 3 is a wellness wheel outlining the variables of human health in modern society (UHS, n.d.). The theory is humans maintain their whole self at each level.

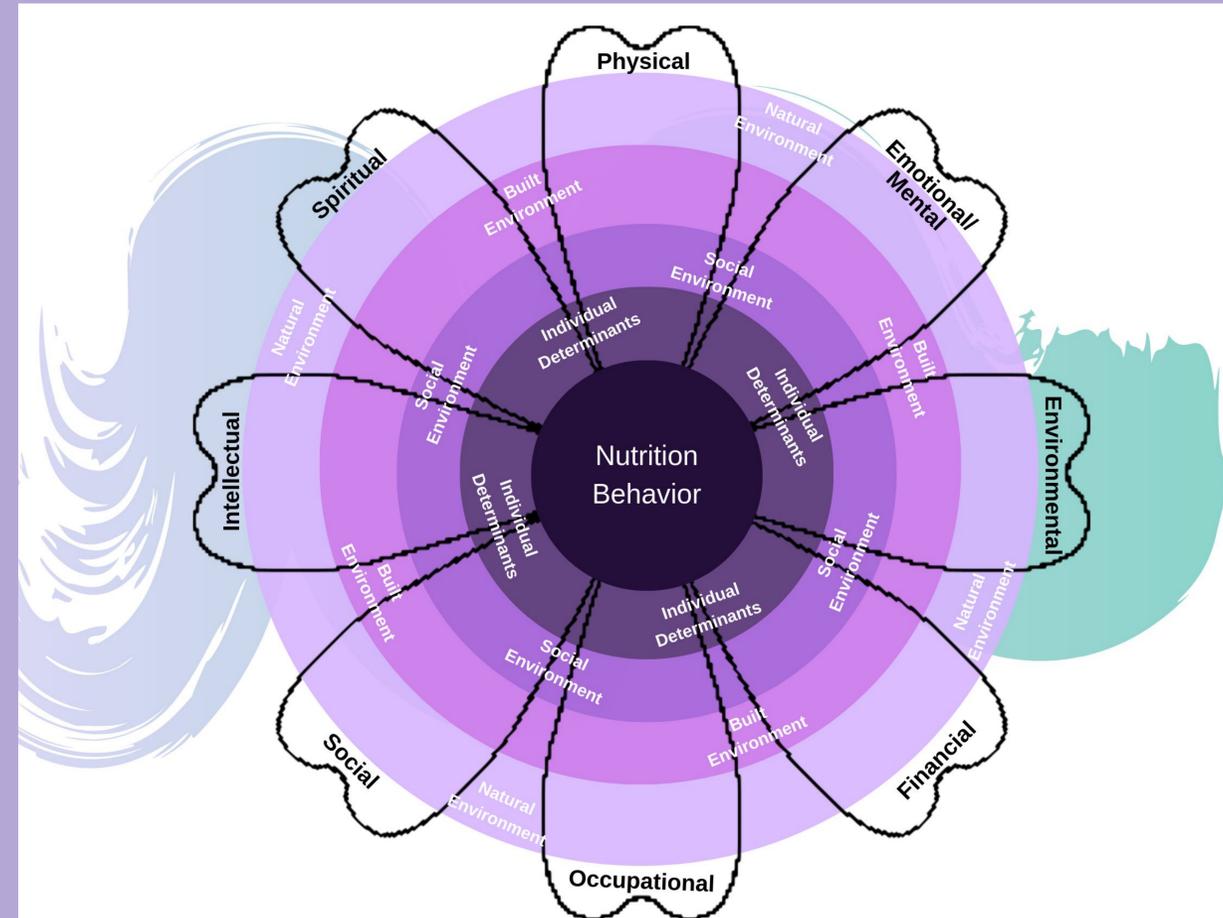
METHODS/METHODOLOGY

Black Feminist Health Studies are used to interrogate the parts of the body which are dismissed (Bailey, et al., 2017). Black feminist studies provide an intersectional framework coined by Kimberle Crenshaw, to analyze the multi-faceted experiences of society (2019). It is exigent to amplify vulnerable populations and critically view social determinants in discourse regarding health. Southern Nevada does not have a centralized database detailing the location, size, open/close dates, and dynamics of community gardens. Initially, this study utilized internet searches and snowball sampling to identify a sample of stakeholders to conduct phone interviews to understand supports and barriers of community gardening in a high desert climate such as Southern Nevada. However, after discovering the location of over 90 community gardens and the existence of hundreds of community garden developments and fruit producing trees, it became more evident that an audit tool would be beneficial in conducting a place study. Using three models of health as premises for how community gardens impact health outcomes, the **Socioecological Wellness Wheel Theory** was designed to map how green spaces influence health. Each color in the map represents the layer being analyzed and what question the investigation seeks to answer. Each petal represents an aspect of holistic health.

CONCLUSIONS

The motivation and target audience of public/private investments in green spaces influences displacement (Kogan et al., 2018). Environmentalism in built environments to improve health outcomes should give consideration for social conditions. Without critical analysis of who is benefitting from revitalization and who is being displaced, social inequities can be exacerbated by green inequity. "Just Green Enough" has been suggested as an option for interventions that provide green equity for public health concerns by providing benefits directly to disadvantaged populations and still providing incentives to the general community (Wolch et al., 2014).

SOCIO-ECOLOGICAL WELLNESS WHEEL



Legend for the wheel: Behavior (black), Indiv Determinants (dark purple), Social Env (purple), Built Env (light purple), Natural Env (very light purple), All Levels (medium purple), Natural/Built Env (lightest purple), Social/Built Env (darkest purple).

FUTURE DIRECTIONS...

The variables listed are among many concepts which can be operationalized to create an audit. A user friendly survey tool (i.e. Qualtrics) can assist to conduct an analysis of green gentrification in Southern Nevada. Initial independent garden variables (address, size, date open/closed, type of fruit/veg grown, quality of upkeep) will be tested in relation dependent variables of socio demographic information from census tract data. Once the data is input to GIS, a geocode of green space activity can yield further analysis.

REFERENCES

Anguelovski, I., Connolly, J., Masip, L., & Pearsall, H. (2018). *Assessing green gentrification in historically disenfranchised neighborhoods: A longitudinal and spatial analysis of Barcelona*. *Urban Geography*, 39(3), 458-491.

Bailey, M., & Peoples, (2017). *Articulating Black Feminist Health Science Studies: Catalyst: Feminism, Theory, and Technoscience*, 3(2), 1-27.

Braswell, T. H. (2018). *Fresh food, new faces: community gardening as ecological gentrification in St. Louis, Missouri*. *Agriculture and human values*, 35(4), 809-822.

Borsten, D.B., & Davis, W.J. (2014). *The Transportation Profession's Role in Improving Public Health*. Institute for Transportation Engineers, 84(7), 18-24.

Crenshaw, K. W. (Ed.). (2019). *Seeing Race Again: Countering Colorblindness across the Disciplines*. Univ of California Press.

Gould, K.A., & Lewis, T.L. (2016). *Green gentrification: Urban sustainability and the struggle for environmental justice*. Routledge.

Kogan, A., Farmer, Barbara, Anguelovski, Isabelle, & Srinivasan, Sumeta. (2018). *Green Gentrification in Washington, D.C. A Methods Study of How GIS Can Be Used to Assess the Effects of Parks on City-wide Gentrification*. ProQuest Dissertations and Theses.

Loiselle, M., & McKenzie, L. (2006). *The wellness wheel: An Aboriginal contribution to social work* (p. 3). Université du Québec en Abitibi-Témiscamingue.

University Health Services. (n.d.) *Wellness Coaching: Optimizing wellness for student success*. University of Michigan. Retrieved Sept. 27, 2019 from: <https://www.uhs.umich.edu/wellness-coaching>

Wolch, J. R., Byrne, J., & Newell, J. P. (2014). *Urban green space, public health, and environmental justice: The challenge of making cities just green enough*. *Landscape and urban planning*, 125, 234-244.

Voicu, I and Vicki Been. (2008). *The Effect of Community Gardens on Neighboring Property Values*. *Real Estate Economics*, 36(2): 241-283.

ACKNOWLEDGEMENTS

I would like to give special consideration to Ruby Duncan and the Black mothers who have fought in the war against poverty in Nevada. Their work has been instrumental in the expansion of food services and the development of youth. Thank you to my mentors, specifically, Dr. Coughenour, Dr. Manning, Dr. Smedley-Lopez, Dr. Barlow, Matt, and Carrie. I am grateful for every opportunity, resource, and effort which enabled this journey. Most importantly, thank you to my son Judah for challenging his mom to help create a world in which he can thrive.

Independent Variables- Audit

Time Survey is Completed	Social, Environmental
Auditor Information	Occupational, Social
Garden Years of Operating	Social, Environmental
Location	Environmental, Physical
Type of Facility	Environmental, Intellectual
Garden Size	Environmental
Operating Times	Social, Environmental
Quality of Upkeep	Environmental
Maintenance Services	Physical, Social
Programs and Services	Physical, Social, Intellectual
Materials Provided	Environmental
Outreach/Marketing Efforts	Social
Target Audience	Social, Intellectual
Community Input	Social, Emotional/Mental
Labor	Financial, Physical
Cost of Participation	Financial
Funders	Financial
Produce Retail	Financial
Retail Location	Environmental, Physical
Food Assistance Programs	Financial
Fruit and Vegetable Production	Environmental
Amenities	Environmental
Water Management	Environmental
Pest Management	Environmental

Dependent Variables

Consumption	All
Health Outcomes	Physical, Intellectual, Emotional/Mental
Age	Social, Environmental, Physical, Intellectual
Race/Ethnicity	Social
Income	Occupational, Financial
Property Value	Financial
Education	Intellectual