ASSESSING THE IMPACT OF GARDENING WELLNESS AND RESPONSIBILITY ON THE WORK-LIFE BALANCE OF BUSY GARDENER

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Abstract

This study explored the relationship between gardening practices and work-life balance among busy gardeners in the post-pandemic period, focusing on two key variables: Gardening for Wellness and Cultivating Responsibility. Using a quantitative descriptive-predictive design, data were collected from 137 purposively selected respondents through validated questionnaires. Descriptive statistics revealed that participants generally perceive gardening as beneficial for well-being (M = 3.90) and acknowledge a strong sense of responsibility toward plant care (M = 3.45). However, their implementation of work-life balance strategies yielded a neutral response (M = 3.32), indicating challenges in maintaining consistency. Multiple linear regression analysis revealed that both well-being (β = 0.139, p < .001) and sense of responsibility (β = 0.206, p < .001) significantly influenced work-life balance, with responsibility exhibiting a more pronounced effect. These findings suggest that while gardening promotes psychological well-being and responsibility, practical barriers, such as time constraints, limit the achievement of a consistent work-life balance. The study recommends STEM-based innovations to facilitate gardening tasks and educational programs to enhance time management and promote sustainable gardening practices. Future research should broaden the sample and investigate additional influencing factors to deepen understanding. Overall, the study confirms that gardening remains a meaningful activity that contributes positively to personal well-being and work-life integration.

Keywords: *Gardening, Mental Health, Post-Pandemic, Responsibility, STEM Innovation, Work-Life Balance*

1.0 INTRODUCTION

Understanding work-life balance has long been a central focus in organizational and behavioral research, with theories like

Zedeck's (1992) Spillover Theory and Staines' (1980) positive spillover model (as discussed in the review of Khateeb, 2021) describing how experiences and emotions in one life domain, such as work, affect outcomes in another, like home life. These theories highlight the significance of examining the interplay between personal and professional roles, particularly in achieving a balance between satisfaction, stress, and well-being. In the context of busy gardeners, investigating whether gardening activities positively impact work-life balance offers a promising area for empirical exploration.

Despite extensive studies on work-life balance across industries, gaps remain regarding how leisure and passion-based roles—like gardening—impact this balance, particularly in post-pandemic contexts where time pressures have intensified (Sia, Tan, & Er, 2023). Recent reports highlight that around 30% of plants raised during the pandemic risk neglect due to gardeners' reduced time availability (Powell, 2022), raising concerns about whether these once-fulfilling hobbies now compete with, rather than complement, work-life demands.

Qualitative studies have demonstrated that gardening provides emotional relief, enhances mood, and fosters mental resilience (Soga, Gaston, & Yamaura, 2017; Antillon, Cagalawan, Cruz, Apuya, & Pelegrino, 2024). However, few quantitative studies have measured how these wellness benefits translate into broader outcomes, such as life satisfaction and work-life balance. Without measurable data, it remains unclear whether the perceived well-being from gardening meaningfully supports the overall balance between work and life.

To address this, the current study focuses on two key independent variables —Gardening for Wellness and Cultivating Responsibility —which are hypothesized to influence the dependent variable, Work-Life Balance, among busy gardeners. Prior research suggests that gardening improves psychological well-being, providing stress relief, better sleep, and a sense of purpose (Kingsley, Foenander, & Bailey, 2019; Santos et al., 2022). Thus, the first hypothesis aims to test if wellness benefits from gardening significantly enhance work-life balance.

H_{01}: A gardener's perceived well-being does not significantly influence their work-life balance.
H_{A1}: A gardener's perceived

well-being significantly influences their work-life balance.

Simultaneously, gardening fosters responsibility, requiring consistent care, attention, and adaptation, even among those juggling multiple roles (Liu et al., 2023). This cultivated responsibility may promote a structured approach to time and task management, potentially influencing how individuals manage broader life demands.

H_{02}: The gardener's perceived cultivating responsibility does not significantly influence their work-life balance.

H_{A2}: The gardener's perceived cultivating responsibility significantly influences their work-life balance

Additionally, the study builds on the findings of Koay and Dillon (2020), who observed that gardening fosters social connection and non-judgmental spaces, thereby further supporting wellness. Such dimensions may collectively strengthen the gardener's capacity to maintain a balance between personal passions and external obligations. Figure 1 presents the framework of this study.

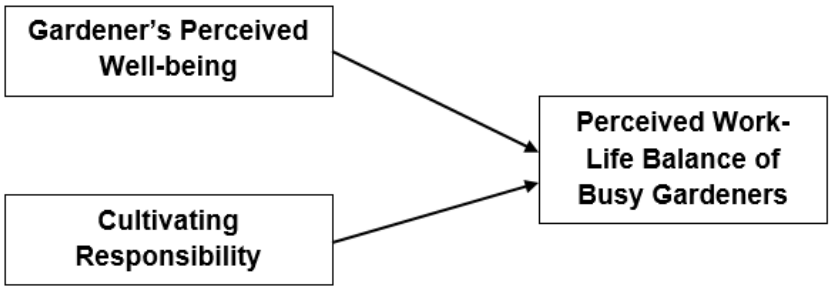


Figure 1. Conceptual Framework of the Study

In line with the argument of Perreault and Perreault (2021), individuals often employ maladaptive strategies when balancing responsibilities. This study seeks to determine whether engaging in structured, responsibility-driven hobbies offers adaptive pathways that enhance work-life balance, providing meaningful alternatives to stress and burnout.

Lastly, this research addresses a methodological gap: while past studies have predominantly employed quali-

tative approaches, this study adopts a quantitative approach, enabling the relationships between wellness, responsibility, and work-life balance to be tested and generalized across larger populations. This contribution not only fills the current literature gap but also informs practical interventions to support busy individuals.

2.0 METHODOLOGY

Research Design

This quantitative study employed a descriptive-predictive design to investigate the impact of cultivating responsibility and gardening for wellness on the work-life balance of busy gardeners. The approach enabled the researchers to measure and describe existing patterns while predicting potential outcomes based on variable relationships (Creswell & Creswell, 2018). This design offered valuable insights into the behaviors and characteristics of busy gardeners.

Respondents of the Study

This study used purposive sampling to select 137 respondents with relevant gardening experience and work-life commitments. Purposive sampling allows researchers to select participants who meet specific criteria intentionally (Rai & Thapa, 2015). The inclusion criteria required participants to be either students or adult gardeners residing in Cagayan de Oro City, Misamis Oriental, who had experienced increased responsibilities following the COVID-19 pandemic. Exclusion criteria eliminated individuals who were not actively maintaining a garden or had significant academic or professional duties. This targeted approach ensured that the sample accurately represented busy gardeners facing real challenges, aligning with the study's objectives (Marshall & Rossman, 2016). Table 1 shows the demographic profile of the respondents.

Table 1. *The Demographic Profile Busy Gardeners (n = 137)*

Variable	Frequency	Percentage
Sex		
Male	53	38.7
Female	81	59.1
Others	3	2.2
Age		
16-19 yrs old	44	32.1
20-29 yrs old	49	35.8
30-39 yrs old	19	13.9
40-49 yrs old	12	8.8
50+ yrs old	13	9.5
Occupation		
Student	81	59.1
Worker	56	40.9

Research Instrument

The research instrument used in this study was developed based on the qualitative phase of the research, following the recommendation of Antillon et al. (2024), which emphasizes building quantitative tools from qualitative findings. The constructs—Cultivating Responsibility, Gardening for Wellness, and Work-Life Balance—were derived from the themes that emerged in the initial qualitative study. Question items were formulated using participant narratives and supported by related literature to ensure relevance and contextual accuracy. Each item was measured using a 5-point Likert scale (1 = Strongly Disagree (SD); 5 = Strongly Agree (SA)). Since the instrument was researcher-constructed, it underwent both validity and reliability testing. For content validity, a panel of experts in content, research methodology, and language reviewed the items to ensure clarity, coherence, and alignment with the study's objectives. Following expert evaluation, a pilot test was conducted among 30 respondents with characteristics similar to those of the actual participants. The collected data were then analyzed using Cronbach's Alpha

via Jamovi software to determine internal consistency. Table 2 presents the results of the instrument's reliability test.

Table 2. *Cronbach's Alpha Reliability Test*

Input	Output
No. of Items	30
Sum of Item Variance	27.34
Variance of Total Scores	120.91
Cronbach's Alpha	0.80

Based on Cronbach's Alpha analysis (Table 2), the instrument achieved an alpha value of 0.80, indicating good internal consistency. This meets the accepted reliability range of 0.70 to 0.95 (Hair, 2021), confirming the questionnaire's suitability and reliability for measuring the study's constructs.

Data Collection

Before data collection, the researchers secured informed consent from all participants, ensuring they understood the study's purpose, procedures, and their rights, including confidentiality and voluntary participation (Creswell & Creswell, 2018). Data were gathered through both online and in-person methods using Google Forms, providing participants with a convenient and accessible platform (Namoco, 2019). This flexible approach supported efficient data management and organization. To ensure that only eligible respondents were included, a filtering question was embedded at the start of the form. This screening step effectively excluded individuals who did not meet the inclusion criteria (Namoco S. O., 2021).

Data Analysis

This study used demploycriptive statistics to summarize and analemployed desnaire data and employ measures such as means and standard devia, utilizingamine participants' gardening practices, work-life balance, and psychological well-being (Fischer & Marshall, 2008). Frequency and percentage distributions were also applied to profile respondent

demographics, providing a clear overview of the sample (Upton & Cook, 2014). Before conducting inferential statistics, necessary statistical assumptions—including normality, linearity, and homoscedasticity—were tested and satisfied to ensure the validity of the analysis (Field, 2018). To test the hypotheses, multiple linear regression analysis was conducted to assess the influence of the independent variables on work-life balance.

Ethical Considerations

This study was conducted with strict adherence to ethical standards, ensuring fairness, transparency, and impartiality. Informed consent was obtained after participants were provided with clear information on the study's purpose, procedures, risks, and benefits, ensuring voluntary participation (Creswell & Creswell, 2018). To maintain anonymity, no identifying details were collected, and all responses were anonymized. Confidentiality was maintained by securely handling data to prevent unauthorized access to the (Grady, 2015). Additionally, the study guaranteed that no harm would come to participants, and findings were reported in aggregate form to protect individual identities, safeguarding the rights and privacy of all respondents throughout the research process.

3.0 RESULTS AND DISCUSSION

Level of Perception of the Well-being of Busy Gardeners

The first objective of this study was to examine the perceptions of busy gardeners regarding their overall well-being. As presented in Table 3, the results indicate that respondents perceived Gardening for Wellness with an overall mean score of 3.90 (SD = 0.17), corresponding to an "Agree" interpretation. This suggests that gardeners generally view gardening as a valuable activity that promotes emotional satisfaction, calmness, and mental rejuvenation. High

ratings on items related to stress relief, mental clarity, and a deeper connection to nature highlight the restorative and therapeutic benefits of gardening (Van Den Berg & Custers, 2011). However, neutral responses on items concerning the physical demands of gardening and the time pressures involved reveal a diversity of experiences. While many participants find gardening invigorating, others perceive it as burdensome when faced with limited time and competing commitments (Nicklett, Anderson, & Yen, 2014). These findings indicate that although gardening is widely regarded as beneficial for mental health, its overall impact on well-being varies depending on individual circumstances, particularly in terms of time management and workload balance.

Table 3. *Perceived Level of Perception of Well-Being of Gardeners*

Question Items	Mean	SD	Description
1. Gardening helps me manage stress and anxiety.	4.28	0.89	SA
2. I feel mentally refreshed after engaging in gardening activities.	4.27	0.82	SA
3. Gardening improves my overall mood throughout the day.	4.18	0.84	SA
4. I feel less satisfied with my life when I cannot meet my gardening responsibilities.	3.56	0.93	A
5. Engaging in gardening helps me maintain a healthy work-life balance.	4.10	0.87	A
6. My gardening routine makes me feel more connected to nature and the environment.	4.50	0.82	SA
7. Gardening allows me to detach from work-related stress.	4.15	0.88	A
8. I often feel that gardening is not a source of additional pressure in my already busy life.	3.36	1.24	N
9. Gardening feels more like a source of joy than a chore, even when I am mentally unwell.	3.23	1.23	N
10. I feel that the physical demands of gardening do not detract from my overall well-being.	3.33	1.14	N
Overall Mean	3.90	0.17	A

Level of Perception of the Cultivating Responsibility of Busy Gardeners

The second research question examined the gardeners' perceived sense of responsibility in maintaining their plants despite their home and work commitments. As shown in Table 4, the overall mean score for Cultivating Responsibility was 3.45 (SD = 0.10),

indicating an interpretation of "Agree." This suggests that most gardeners feel a strong sense of commitment to caring for their plants despite their busy schedules. High-rated items, such as "I feel a sense of pride when I successfully care for my plants" (M = 4.25), highlight the personal fulfillment gardening provides (Home et al., 2019; Zhou & Zeng, 2023). However, neutral responses (M = 2.64) reveal difficulties in balancing responsibilities. These findings suggest that while gardening promotes dedication and personal growth, external pressures can hinder consistent care, reinforcing the need for practical support (Koay & Dillon, 2020; Joyce & Warren, 2016).

Table 4. *Perceived Sense of Responsibility of Busy Gardeners*

Question Items	Mean	SD	Description
1. I feel a strong sense of responsibility to care for my plants, no matter how busy I am.	3.99	0.87	A
2. often feel guilty for not giving my plants enough attention.	3.70	1.01	A
3. I feel a sense of pride when I successfully care for my plants.	4.25	0.90	SA
4. I often feel capable of managing my responsibilities for caring for my plants.	2.64	1.03	N
5. Caring for my garden is an important responsibility to me.	4.01	0.87	A
6. I find it manageable to keep up with my plant care routine despite work demands.	2.76	1.11	N
7. I find ways to make time for my plants, even when I am busy.	3.78	0.93	A
8. I tend to prioritize my plants even when I am overwhelmed by other tasks.	3.04	1.12	N
9. Gardening is a priority in my daily schedule.	3.41	0.93	A
10. I find it difficult to postpone gardening, even when I am busy with work or family.	2.93	1.10	N
Overall	3.45	0.10	A

Level of Perception of the Work-Life Balance of Busy Gardeners

The third problem this study answered is the extent to which busy gardeners implement strategies to maintain a balanced work-life routine in the post-pandemic period. This analysis offers insight into how respondents balance work, personal life, and gardening, revealing both their strategies and the challenges they face in maintaining equilibrium. As shown in Table 5, the overall mean score for Work-Life

Balance Strategies is 3.32 (SD = 0.12), interpreted as "Neutral." This indicates that while gardeners employ specific strategies, maintaining consistency remains a challenge. Notably, the item "Time management strategies have helped me maintain a healthy work-life-gardening balance" (M = 4.02) reflects the effectiveness of structured routines. Conversely, the lower score of 2.60 on allocating time without affecting other responsibilities suggests ongoing difficulties. These results highlight the need for more targeted and practical solutions to help gardeners better integrate gardening into their busy lifestyles (Kingsley et al., 2022).

Table 5. *Perceived Extent of Implementing Strategies to Maintain a Balanced Work-Life Routine in the Post-Pandemic Period of Busy Gardeners*

Question Items	Mean	SD	Description
1. I have developed effective routines to balance my work and gardening responsibilities.	3.68	0.98	A
2. I do not struggle to maintain a balanced routine between my job and garden care.	3.02	1.17	N
3. Setting aside specific time for gardening does not hinder my ability to manage other responsibilities.	2.60	0.92	D
4. I often feel that gardening supports my work-life balance.	3.36	1.13	N
5. I find it easy to stick to a schedule that includes both gardening and leisure activities.	2.91	1.17	N
6. Gardening does not take up too much of my free time.	3.25	1.21	N
7. Time management strategies have helped me maintain a healthy work-life-gardening balance.	4.02	0.89	A
8. I rarely find myself sacrificing gardening time to manage work tasks.	3.02	1.18	N
9. Gardening is an important part of my work-life balance routine.	3.87	0.95	A
10. My attempts to balance gardening and work are usually successful.	3.50	1.08	A
Overall Mean	3.32	0.12	N

Perceived Influence of Well-Being and Sense of Responsibility on Work-Life Balance of Busy Gardeners

The problem "Do cultivating responsibility and gardening for wellness significantly influence the work-life balance of busy gardeners?" was analyzed

using multiple linear regression analysis to quantify the influence of these two predictors (Field, 2018). Table 6 presents the model fit measures, indicating a statistically significant overall model ($F = 35.8$, $p < .001$), which suggests that Perceived Well-Being and Perceived Sense of Responsibility together significantly influence Work-Life Balance. However, the model's explained variance ($R^2 = 0.063$) indicates that only 6.3% of the variation in Work-Life Balance is accounted for, suggesting that other significant factors contribute to this outcome.

Table 6. *The Model Fit Measures of the Influence of Well-Being and Sense of Responsibility on the Work-Life Balance of Busy Gardeners*

Model	R	R^2	Adjusted R^2	F	df1	df2	p
1	0.251	0.063	0.061	35.8	2	1067	< .001

Table 7 reveals that both predictors had significant positive effects. Well-Being ($\beta = 0.139$, $p < .001$) and Sense of Responsibility ($\beta = 0.206$, $p < .001$) both improved Work-Life Balance, with Sense of Responsibility showing a more substantial influence. This suggests that fostering responsibility plays a slightly greater role than well-being alone in helping busy gardeners achieve balance. These findings align with prior research highlighting the importance of commitment and structured practices in sustaining work-life balance (Joyce & Warren, 2016; Chalmin-Pui et al., 2021; Soga et al., 2017), emphasizing the need for holistic approaches that integrate both personal wellness and a sense of duty toward gardening.

Table 7. *The Model Coefficients of the Influence of Well-Being and Sense of Responsibility on the Work-Life Balance of Busy Gardeners*

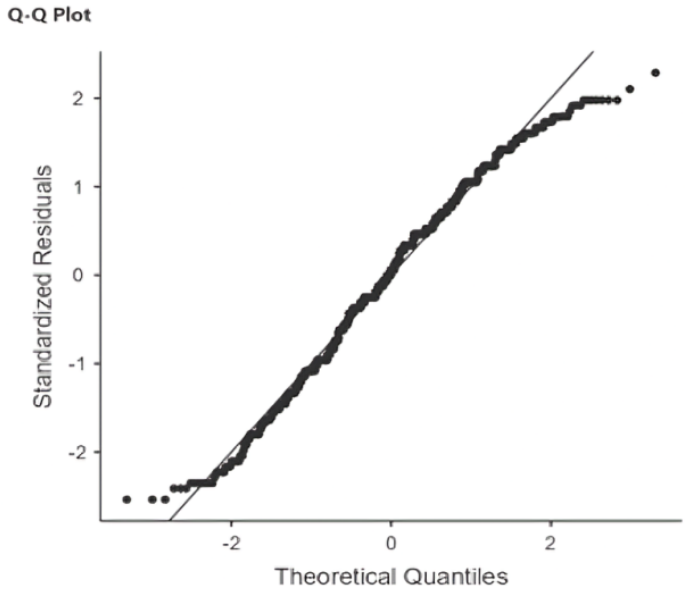
Predictor	Estimate	SE	t	p	Null Hypothesis
Well-Being	0.139	0.156	13.5	< .001	Rejected
Sense of Responsibility	0.206	0.029	6.9	< .001	Rejected

Statistical Assumptions

The Shapiro-Wilk test (W = 0.986, p < .001) indicated a significant deviation from normality (Ghasemi & Zahediasl, 2012). Q-Q plots (Figure 2) further confirmed this, showing noticeable deviations at the tails but alignment along the central portion (Pandit, 2018). Although normality was not fully met, most residuals followed the expected pattern, and the large sample size supports the robustness of the regression model despite mild non-normality (Schmidt, 2018; Pek, 2018). These results suggest that while minor skewness or outliers exist, they likely do not compromise the validity of the findings. Bootstrapping could strengthen reliability (Hair, 2014).

Table 8. *Statistical Assumption for Normality*

Statistics	p-value
0956	<.001



4.0 CONCLUSION

This study investigated the perceptions and experiences of busy gardeners in balancing gardening with work and home responsibilities in the post-pandemic period. First, the findings revealed that gardeners generally perceive gardening as highly beneficial for their well-being, reporting feelings of satisfaction, calmness, and stress relief (M = 3.90). Second, respondents expressed a strong sense of responsibility toward plant care (M = 3.45), highlighting their commitment despite time constraints. Third, the study found a neutral response (M= 3.32) regarding the implementation of strategies to maintain work-life balance, suggesting that while gardeners apply certain routines, consistency remains a challenge. Finally, regression analysis confirmed that both perceived well-being and sense of responsibility have a significant and positive influence on work-life balance, with the sense of responsibility showing a more substantial impact. Overall, the study concludes that gardening enhances well-being and fosters responsibility, both of which contribute meaningfully to maintaining work-life balance.

5.0 RECOMMENDATIONS

Based on the findings, it is recommended that STEM students develop innovative and smart gardening solutions, such as automated irrigation systems and mobile applications equipped with plant care reminders and progress tracking features. These technologies can help busy gardeners manage their responsibilities more efficiently by integrating time-saving tools that reduce the burden of daily plant care. STEM students and developers are encouraged to create user-friendly systems that monitor environmental conditions and help gardeners schedule tasks effectively, promoting sustainable and accessible gardening practices.

In the field of education, it is advisable to incorporate gardening programs into community education and wellness initiatives. These programs should focus on teaching sustainable gardening techniques, practical time management strategies, and the mental health benefits of gardening. Schools and local organizations can offer workshops or digital learning

modules that equip individuals with the skills to balance gardening with other life commitments, fostering both environmental responsibility and personal well-being.

For future research, a longitudinal quantitative study with a larger and more diverse sample is recommended to validate and expand upon the current findings. Future studies may also explore additional variables, such as social support networks, environmental challenges, and financial constraints, to better understand the multifaceted influences on work-life balance among gardeners. This broader scope will provide deeper insights and more generalizable results.

REFERENCES

Antillon, J. P., Cagalawan, Y. E., Cruz, K. L., Apuya, K. M., & Pelegrino, S. E. (2024). Gardening as a Lifeline for Busy, Stressed, and Responsible Gardeners During the Post-Pandemic: A Phenomenological Study.

Boone Jr., H. N., & Boone, D. A. (2012, April). Analyzing Likert Data. Journal of Extension, 50(2). From http://www.joe.org/joe/2012april/tt2p.shtml

Chalmin-Pui, L. S., Griffits, A. J., Heaton, T., & Cameron, R. (2021). Why garden? – Attitudes and the perceived health benefits of home gardening. Cities, 112. doi:https://doi.org/10.1016/j.cities.2021.103118

Cleave, P. (2021, December 24). SmartSurvey. Pilot Testing Questionnaires. From https://www.smartsurvey.co.uk/blog/pilot-testing-questionnaires

Creswell, J. W., & Creswell, J. (2018). Reseach Design: Qualitative, Quantitative, and Mix Methods Approaches (5 ed.). SAGE Publications.

Field, A. P. (2018). Discovering Statistics Using IBM SPSS Statistics. Newbury Park: Sage.

Fischer, M. J., & Marshall, A. P. (2008). Understanding descriptive statistics. Aust Crit Care, 22(2), 93-97. doi:10.1016/j.aucc.2008.11.003

Frost, J. (n.d.). QQ Plot: Uses, Benefits & Interpreting. Retrieved November 28, 2024 from Statistics By Jim: https://statisticsby-

jim.com/graphs/qq-plot/

Gliem, J. A., & Gliem, R. R. (2003, January). Calculating, Interpreting, And Reporting Cronbach's Alpha Reliability Coefficient For Likert-Type Scales. From https://www.researchgate.net/publication/31591315_Calculating_Interpreting_And_Reporting_Cronbach's_Alpha_Reliability_Coefficient_For_Likert-Type_Scales

Grady, C. (2015). Institutional Review Boards: Purpose and Challenges. Chest, 148(5), 1148-1155. doi:10.1378/chest.15-0706

Grimes, D. A., & Schulz, K. F. (2002, January 12). Descriptive studies: what they can and cannot do. The Lancet, 359(9301), 145-149.

Hair, J. F. (2021, September). Executing and interpreting applications of PLS-SEM: Updates for family business researchers. Journal of Family Business Strategy, 12(3). From https://www.sciencedirect.com/science/article/abs/pii/S1877858520301194

Joyce, J., & Warren, A. (2016). A Case Study Exploring the Influence of a Gardening Therapy Group on Well-Being. Occupational Therapy in Mental Health, 32(2), 203-215. doi:10.1080/0164212X.2015.1111184

Khateeb, F. R. (2021). Work Life Balance - A Review of Theories, Definitions and POlicies. Cross-Cultural Management Journal, 23(1).

Kingsley, J., Foenander, E., & Bailey, A. (2019). "You feel like you're part of something bigger": exploring motivations for community garden participation in Melbourne, Australia. BMC Public Health, 19, 745. doi:https://doi.org/10.1186/s12889-019-7108-3

Knief, U., & Forstmeier, W. (2018, December 20). Violating the normality assumption may be the lesser of two evils. 13. From https://www.biorxiv.org/content/10.1101/498931v2

Koay, W. I., & Dillon, D. (2020). Community Gardening: Stress, Well-Being, and Resilience Potentials. Int J Environ Res Public Health, 16(17), 6740. doi:10.3390/ijerph17186740.

Liu, S., Su, C., Zhang, J., Takeda, S., Liu, J., & Yang, R. (2023). Cross-Cultural Comparison of Urban Green Space through Crowdsourced Big Data: A Natural Language Processing and Image Recognition Approach. Land, 12(4), 767. doi:https://doi.org/10.3390/land12040767

Marshall , C., & Rossman, G. (2016). Designing Qualitative Research (6th edition ed.). Thousand Oaks, CA: SAGE Publications.

Namoco, S. O. (2019). Eeny-meeny-miny-moeing" the use of web 2.0 tools in the teaching practice among public university educators in northern mindanao, philippines. Science InternationalLahore,30(6),959-964.

Namoco, S. O. (2021). Determinants in the Use of Web 2.0 Tools in Teaching among the Philippine Public University Educators: A PLS-SEM Analysis of UTAUT. Asia Pacific Journal of Educators and Education, 36, 77-98.

Nicklett, E. J., Anderson, L. A., & Yen, I. H. (2014). Gardening Activities and Physical Health Among Older Adults: A Review of the Evidence. J Appl Gerontol, 35(6), 678-690. doi:10.1177/0733464814563608.

Perreault, M., & Perreault, G. P. (2021). Journalists on COVID-19 Journalism: Communication Ecology of Pandemic Reporting. American Behavioral Scientist, 65(7). doi:https://doi.org/10.1177/0002764221992813

Powell, S. (2022). Impact of the COVID-19 Pandemic on Gardening in the United States: Post-Pandemic Expectations. From https://ashs.org/news/602185/Impact-of-the-COVID-19-Pandemic-on-Gardening-in-the-United-States-Post-Pandemic-Expectations.htm

Rai, N., & Thapa, B. (2015). A Study on Purposive Sampling Method in Research. Kathmandu School of Law, : Kathmandu.

Santos, M., Moreira, H., Cabral, J. A., Gabriel, R., Teieira, A., Bastos, R., & Aires, A. (2022). Contribution of Home Gardens to Sustainable Development: Perspectives from A Supported Opinion Essay. Int J Environ Res Public

Health, 19(20). doi:0.3390/ijerph192013715

Schimidt, A. F., & Finan, C. (2018, May 18). Journal of Clinical Epidemiology. From Linear regression and the normality assumption: https://www.sciencedirect.com/science/article/abs/pii/S0895435617304857

Sia, A., Tan, P. Y., & Er, K. B. (2023). The contributions of urban horticulture to cities' liveability and resilience: Insights from Singapore. Plants People Planet, 5(6), 828-841. doi:https://doi.org/10.1002/ppp3.10377

Soga, M., Gaston, K. J., & Yamaura, Y. (2017). Gardening is beneficial for health: A meta-analysis. Preventive Medicine Reports, 5, 92-99. doi:https://doi.org/10.1016/j.pmedr.2016.11.007

Sullivan, G., & Artino, A. R. (2013, December). Analyzing and Interpreting Data From Likert-Type Scales. Journal of Graduate Medical, 5(4), 541-2.

The Belmont Report. (n.d.). From U.S. Department of Health and Human Services: https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/index.html

Upton, G. J., & Cook, I. (2014). Pearson's Coefficient of Skewness. In Oxford Dictionary of Statistics (3rd edition ed., pp. 81-82). Cambridge: Oxford University Press.

Van Den Berg, A. E., & Custers, M. H. (2011). Gardening promotes neuroendocrine and affective restoration from stress. Journal of Health Psychology, 16(1), 3-11. doi:10.1177/1359105310365577

Zedeck, S. (1992). Exploring the domain of work and family concerns. In Work, families and organizations. San Francisco: Jossey-Bass Publishers.