ET/D Declaration of Authorship

Manal Jawad Alshakhs

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Declaration for Entire ET/D

In accordance with the University of Tennessee Health Science Center Honor Code and the requirements for integrity and honesty laid out in the College of Graduate Health Sciences’ Electronic Thesis & Dissertation (ET/D) Learning Portal, I (Manal Jawad Alshakhs), declare that this thesis/dissertation titled “Multimorbidity in Diverse Populations: Stratified Analysis of Race/Ethnicity, Age, Obesity, and Healthcare Costs” and the work presented therein are my own. I confirm that:

- This work was done wholly or mainly while being a candidate for a terminal degree at the University of Tennessee Health Science Center.

- There is clear and full disclosure in the thesis/dissertation for any part that was previously submitted for a degree or any other qualification at this University or any other institution or that has been accepted for publication.

- Where I used the published or unpublished work of others, this is clearly attributed.

- Where I have quoted or paraphrased text or have reprinted or modified images, tables, or other data from the work of others, the source is always given, and quotation marks are used for text, following fair use guidelines. Except for such acknowledged instances, this thesis/dissertation is entirely my own work.

- I have acknowledged all other main sources of help (e.g., lab assistance, joint work on projects, consultations/discussions with colleagues/experts, funding).

- Where the thesis/dissertation is based on work done jointly with others, I have made clear what was done by others and what I contributed.

Charisse Madlock-Brown, Ph.D., MLS
Adviser

Charisse Madlock-Brown 03/30/23
Digital reply with confirmation.
Declaration for Previously Published Articles with Several Authors Incorporated into the ET/D (including written, submitted, in press, and accepted articles)

If this declaration is not applicable, please indicate NA here:

Articles with several authors incorporated into my ET/D and my contributions to them:

**Chapter 2 & Appendix A:**
*Citation:* Alshakhs, M., Jackson, B., Ikponmwosa, D. et al. Multimorbidity patterns across race/ethnicity as stratified by age and obesity. Sci Rep 12, 9716 (2022). [https://doi.org/10.1038/s41598-022-13733-w](https://doi.org/10.1038/s41598-022-13733-w)
*My significant contributions:* Analysis, methods, data collection, and writing.

**Chapter 3 & Appendix B:** Prepared manuscript.
*My significant contributions:* Analysis, methods, data collection, and writing.

**Chapter 4 & Appendix C:** Prepared manuscript.
*Citation:* Alshakhs, M., Chinthala, L., Goedecke, P., Weiskopf, N., and Madlock-Brown, C. Assessing the Relationship Between Healthcare Burden and BMI as Stratified by Race in the US. (2023).
*My significant contributions:* Analysis, methods, data collection, and writing.