



## Annex A – Studentship Application Form

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| <p><b>Title of proposed research – Health &amp; Wellbeing pathway</b></p>  |
| <p><b>A biocultural study of the linkages between economic and social insecurity, diet quality, and obesity in urban Mexican adults</b></p>  |
| <p><b>Your research proposal.</b></p> <p><b>IMPORTANT: There is a <u>strict</u> 1300-word limit, fully inclusive of everything except references. This includes all the written text, quotes, in-line citations, section headers, captions, the contents of tables and any foot-/endnotes. Each figure/graphic should be counted as equivalent to 200 words. Tables should be counted as the number of words they contain. Proposals that are found to be overlength will be rejected. Remember that if you are applying to one of our interdisciplinary programmes, a clearly articulated interdisciplinary approach should be evident.</b></p>   |
| <p><b>Rationale</b></p> <p>The proposed project aims to test the association between socio-economic insecurity, diet and obesity in adults in Mexico City using interdisciplinary approaches from anthropology, social policy, and nutrition. Insecurity, defined as the inability to access or accumulate sufficient resources to protect against adverse future circumstances, has been linked to greater abdominal obesity in a few studies conducted in affluent western societies<sup>1-3</sup>. However, to date no study has identified how socio-economic insecurity, food insecurity and obesity interact at the individual level in Low-and-Middle income countries. The few studies that have explored this link have only assessed either food insecurity, or inequality but on a population level<sup>4-6</sup>. Using a novel bio-cultural approach combining qualitative anthropological research methods and quantitative measures of insecurity, dietary patterns, and anthropometry, this research project will determine the plausibility of the 'welfare hypothesis', which links weak national welfare structures with obesity<sup>1,2</sup>. In a (post) COVID-19 society, this study will generate key insights around the effects of welfare protections in crisis situations, and the direct links between magnified insecurity and mental wellbeing, diet, and body weight.</p> <p><b>Positioning of the research</b></p> <p>Mexico has seen a 290.5% increase in obesity prevalence between the late 1980s and 2016, with 72.5% of adults being overweight or obese<sup>7</sup>, which is no exception to the global trend of increase in human Body Mass Index (BMI)<sup>8</sup>. Diet-related non-communicable diseases are the leading cause of early mortality and disability in Mexico (and globally), putting tremendous pressure on public health systems<sup>9</sup>. Concurrently, estimates show that almost 70% of households in Mexico have experienced some degree of food insecurity<sup>10</sup>. As a result of COVID-19, economic projections suggest that the rise in unemployment has had severe repercussions among households that depend on daily wages to acquire basic goods and services<sup>11,12,13,14</sup>. A recent survey conducted during the lockdown (April- June 2020) found a reduction in food security from 38.9% to 24.9%, along with an important increase in the prevalence of anxiety symptoms in adults living in households experiencing severe food insecurity<sup>15</sup>. The dominant explanatory model for the rise in obesity has been to focus on energy balance, and thus tackle factors linked to excessive energy intake and lack of energy expenditure<sup>3,8</sup>. Other models have focused on the nutrition transition and the influence of globalisation in creating 'obesogenic environments'<sup>16,17</sup>. These have been found to be inadequate in explaining the full extent and timing of the obesity epidemic<sup>1-3</sup>. Instead, an alternative explanatory framework can be found in the 'welfare hypothesis', which posits that weak institutional welfare structures, characterised by neoliberalism, drive market competition and insecurity, resulting in deleterious effects on human health, particularly for those in lower socio-economic brackets<sup>2,18</sup>. Indeed, the combination of inequality and work-related insecurity, which includes poor job mobility, lack of union protection, and low income amongst others, has been</p> |



linked to higher incidences of stress and therefore illness in affluent societies at a population level<sup>19</sup>. Little is known about this mechanism at the individual level in relation to obesity specifically, and no literature about this relationship currently exists amongst non-western populations, hence the crucial relevance of this proposed project<sup>2</sup>.

### Research questions

Grounding itself in the theoretical framework outlined above, the research proposed will be set up to answer the following questions:

- 1- How does socio-economic insecurity shape decisions around food acquisition and eating patterns in Mexican adults in a (post) COVID-19 era?
- 2- Do participants within the same income bracket under higher levels of socio-economic insecurity exhibit different mental wellbeing levels and dietary patterns than participants with lower levels of insecurity?
- 3- Is socio-economic and/or food insecurity correlated with overweight and obesity in men and women, specifically those with abdominal obesity?

### Methods

To answer the research questions, the fieldwork will be conducted over a period of 6 months, in the Colonia Centro of Mexico City as it is a centrally located traditionally working-class neighbourhood, which has good access to services. Recruiting participants from one smaller homogeneous geographical area enables to control for external factors as much as possible in a non-experimental setting. As access to social and healthcare security benefits are linked to employment type in Mexico, it is proposed to recruit participants according to their occupation, in order to compare obesity status among varying degrees of insecurity within a low-to-middle income bracket. Participants from the following three categories could be recruited: (1) government employees in the lowest paid job categories, (2) employees in the formal economy that are part of a large company, (3) informal economy sector participants. The adequate sample size will be determined at a later stage using information on the total number of eligible adults residing in the study area.

This approach will require primary data collection for a cross-sectional survey employing quantitative methods, including measures of socio-economic status through proxy indicators such as income bracket, union belonging, ability to save, access to health insurance, pension schemes, and obesity indices. These data can be collected building on existing validated socio-economic questionnaires, as well as anthropometric measures to assess abdominal obesity and BMI. A module focusing on shocks experienced at a household-level due to COVID-19 (including income disruptions and logistical barriers to obtaining food), as well as coping mechanisms, will be included in the survey. Participants will also be asked whether they perceive any changes in their weight pre- and post-pandemic. In addition, semi-quantitative data on nutritional intake, through 24-hour recall questionnaires with a focus on ultra-processed foods, can be used to establish dietary quality indicators. Food security will be measured using the Escala Mexicana de Seguridad Alimentaria (EMSA), a Mexican adaptation of the Latin American food insecurity scale<sup>20</sup>. A culturally validated mental wellbeing questionnaire will also be developed, based on existing methodologies, to measure chronic stress, with comparative questions to assess changes in stress levels pre- and post-pandemic. The data will be analysed using multivariate statistics, and potential issues of collinearity in variables will be addressed in collaboration with the University's statistical expertise.

A sub-sample of survey participants will be invited to attend in-depth qualitative interviews aimed at exploring the lived experience of socio-economic insecurity under the COVID-19 pandemic, as mediated through food. I will explore feeding behaviours as a coping mechanism, as well as the role of gender in experiencing socio-economic insecurity with a focus on the effect of unpaid labour, time poverty, expectations of care and role in feeding dependants. The data will be collected and analysed thematically in Spanish to prevent misinterpretation and select information post-analysis will be translated and presented in English (by myself, being fluent in both written and spoken Spanish) <sup>21,22</sup>.



### Potential limitations and ethical considerations

As this research will involve human participants, and collecting sensitive data, the code of ethics for social and physical anthropology will be rigorously observed<sup>23,24</sup>. Obesity and body weight are topics that have potential to be highly stigmatizing to individuals. As such, potential participants will be approached with care and all data collection processes will be designed to centre participant's comfort.

### Anticipated outcomes

The proposed interdisciplinary research will make novel contributions to the literature by testing, for the first time, the plausibility of the 'welfare hypothesis' in non-western settings and elucidating the links between socio-economic insecurity, diet and obesity. If the hypothesis is confirmed, the implications are profound, as public health policy is likely to fail in curbing the obesity epidemic so long as structural causes of insecurity remain unaddressed. The findings of this proposed project will be disseminated through academic conferences and publications. I also plan to establish a collaboration with the Alianza por La Salud Alimentaria, a Mexican-led alliance of civil society organisations. This will help me hold knowledge-exchange workshops to co-produce a learning agenda pre-fieldwork, but also to validate findings post- fieldwork and develop a collaborative policy brief, in order to maximise the project's impact.

**Word count (please complete): 1286**

### References (Bibliography) (not included in your Word count)

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