

The impacts of access to ‘nature’ on inner city highrise residents’ quality of life

Abstract

In recent years there has been an almost three-fold increase in the number of inner city highrise occupants in Melbourne and Sydney, Australia ^{i ii iii}. With the transition from traditional detached house occupancy with private gardens to high density apartment living, opportunities for contact with the natural environment have been reduced for many Australians. Contact with ‘nature’, such as urban parks, gardens, and waterfronts has been shown to minimise some of the negative effects of living in the inner city. Research suggests that contact with nearby nature can enhance highrise residents’ physical, social and mental health and improve their wellbeing and quality of life ^{iv v vi}.

This study investigated the association between differing levels of access to natural environments and the health and wellbeing of highrise residents in inner city Melbourne and Sydney *. Data was collected via two methods: self-completed questionnaires sent to a stratified random sample of highrise residents and semi structured face-to-face interviews conducted with a sub-sample of the surveyed participants. The participants varied in age, gender, socio-economic status, health status, length of residence, city of residence, tenure (owner-occupiers / private renters and public housing tenants) and proximity to natural environments (‘good’ and ‘poor’ access).

This paper presents some of the questionnaire results which indicate that access to nature enhances the quality of life of inner city highrise residents. Participants with ‘good’ access to nature were more satisfied with their quality of life than participants with ‘poor’ access to nature. Results of this study provide urban planners with evidence to ensure that future Australian highrise developments are designed to enhance quality of life, particularly that of public housing residents.

(* residents who live in a building with three or more storeys, within a 10 kilometre radius of the city’s centre.)

People choose to live in the inner city for a number of reasons to be close to work, for places of entertainment, or to simply experience the ambience of city life. However, a growing body of international research suggests that life within, and closely surrounding, the Central Business District of a city may compromise residents' physical, mental, emotional and social wellbeing ^{vii}
viii .

Increasingly, in inner city areas, contact with the natural environment is available only by accessing urban parks. The disengagement of humans from the natural environment, associated with modern living, ^{ix x} is largely due to the shift of people from rural areas into cities^{xi}. Despite the awareness that urban environments can be detrimental to human health ^{xii xiii} and that isolation from nature produces a loss of vitality and health, ^{xiv xv xvi} inner city highrise apartment living in Australia's major cities is increasing rapidly.

At the beginning of the 1990s there were approximately one dozen privately owned or rented highrise apartment buildings in the Central Business District of Melbourne and by 2003 there were over 100^{xvii}. The City of Melbourne ^{xviii} estimates that between 1996 and 2000, the number of inner city apartment dwellers in Melbourne increased almost three-fold. Similarly, Census statistics reveal that there was an increase in the proportion of multi-unit dwellings (including highrise apartment buildings) constructed in the inner city of Sydney during the period 1995-1997^{xix}.

Despite the popularity of renting or owning an inner city highrise apartment, there are some residents who live in public highrise housing via government housing allocation, and with somewhat limited choice. Public highrise housing can be used by governments as a form of crisis accommodation and as a form of housing for people with physical and psychological needs ^{xx xxi xxii}.

Whilst public highrise housing estates can be considered sites of social and economic disadvantage, inflicted with crime ^{xxiii}, Kuo ^{xxiv} recently proposed that there is a connection between contact with 'nature' (eg. green spaces) for highrise residents and their strengthened ability to cope with poverty and the hardships of life in public housing.

Furthermore, research suggests that nearby nature (eg. green common spaces, community gardens, urban parks), and views of the natural environment, can result in positive human health benefits for highrise residents ranging from: enhancement of mental wellbeing ^{xxv xxvi}, to improved social integration ^{xxvii} and to reduction of crime ^{xxviii}.

Given the increase in highrise occupancy in Melbourne and Sydney, the separation of people from natural environments could be compounded in the future unless specific steps are taken to ensure that access to nature is widely available, and the consequent benefits are understood. Whilst some studies on the quality of urban life have been conducted, few have taken into account access to the natural environment as a factor influencing residents' perceptions of wellbeing. This study is original in that it will address this gap by identifying, describing and measuring associations between differing levels of access to natural environments, and the quality of life of residents in inner city highrise developments.

Recruitment for the project was based on stratified random sampling of residents in 27 highrise developments from inner city Melbourne and 27 highrise developments from inner city Sydney, Australia. Each highrise development selected for the project was photographed from a number of vantage points in order to be independently rated to determine its level of access to natural environments (whether there were any green common spaces, parks, gardens or waterfronts near the development). Twenty staff members from four of the project's partner organisations (refer Notes) rated the set of photographs of each residential development on a scale from 0 = not natural at all to 4 = very natural, and the ratings were averaged to give an overall score. Consistent with Kuo's ^{xxix} Photo Rating Technique, a score of 2.0 or above was categorised as 'good access' to nature and a score of 1.9 or less was categorised as 'poor access' to nature.

As well as varying in proximity to natural environments, the participants varied in age, gender, socio-economic status, health status, length of residence, city of residence, and tenure. The participants were categorised into one of four sample groups for each city, these included:

- (i) owner-occupiers/private tenants of highrise apartments with good access to green (common spaces, parks, gardens) and/or blue spaces (bodies of water).
- (ii) owner occupiers/private tenants of highrise apartments with poor access to green and/or blue spaces.

- (iii) public housing tenants in highrise apartments with good access to green and/or blue spaces.
- (iv) public housing tenants in highrise apartments with poor access to green and/or blue spaces.

Data was collected via two methods: mailed self-completed questionnaires and semi-structured face-to-face interviews. This paper presents some of the results of the collated questionnaires of which 221 participants completed (100 having ‘good access’ to nature and 121 having ‘poor access’ to nature). The questionnaire design was based on psychometrically validated self-report measures, including the *Personal Wellbeing Index (2003)*. This newly developed index is an extension of the ComQol (Comprehensive Quality of Life) Scales^{xxx} and is based on the theory of subjective wellbeing homeostasis^{xxx1} (refer Notes).

The *Personal Wellbeing Index (2003)* comprises seven domains of life satisfaction (material wellbeing, health, productivity, intimacy, safety, community, and emotional wellbeing) and utilises an 11-point response scale (0= completely dissatisfied to 10= completely satisfied, with a score of 5 considered neutral). The *Index* is recommended as a measure of subjective quality of life and is considered a reliable, valid and sensitive instrument that is used to measure Australians’ wellbeing each quarter^{xxxii xxxiii}. The types of statements asked in this scale include “How satisfied are you... with your standard of living? ...with your health?with feeling part of your community?” (refer Notes for full list of statements).

Table 1 displays the percentage of participants who reported having green common spaces (area between buildings with trees or grass), gardens (personal, community or rooftop areas set aside for the growing of useful or ornamental plants), parks (area of natural or ‘green’ open space with sporting or other facilities) and views of water (rivers, bays, waterfronts) near their apartment, according to their ‘good’ or ‘poor’ categorisation, tenure, and city of residence.

Table 1: Percentage of participants who reported having Green Common Spaces, Gardens, Parks and Views of Water near their apartment.

Sample Group	Green Common Space	Garden	Park	View of Water	Number of participants
Melbourne private good access	82%	74%	66%	64%	39
Melbourne private poor access	77%	38%	72%	5%	47
Melbourne public good access	87.5%	69%	75%	0%	16
Melbourne public poor access	85%	54%	77%	0%	13
Sydney private good access	91%	88%	79%	32%	34
Sydney private poor access	91%	66%	91%	9%	35
Sydney public good access	100%	100%	91%	9%	11
Sydney public poor access	96%	46%	84%	4%	26

The data presented in Table 1 indicates that the ‘good’ and ‘poor’ access categorisation of the participants, utilising the Photo Rating Technique, was consistent with the participants’ reported levels of nearby nature, with two exceptions. Two percent more participants from the ‘Melbourne public poor category’ reported having a park near their apartment, than those participants from the ‘Melbourne public good category’ (77% and 75% respectively) and twelve percent more participants from the ‘Sydney private poor category’ reported having a park near their apartment than those participants from the ‘Sydney private good category’ (91% and 79% respectively). However, more participants from the ‘Sydney private good category’ reported having a view of water near their apartment than those residents from the ‘Sydney private poor category’ (32% and 9% respectively), suggesting they lived near an expanse of water (‘blue space’).

Convincingly, the questionnaire data indicates that the participants' self-reported quality of life varies according to their tenure and level of access to natural environments. Participants categorised as having 'good access' to natural environments reported higher levels of quality of life than those participants categorised as having 'poor access'. This is particularly evident when comparing the participants who privately own/rent their apartment with those participants who publicly rent their apartment. Table 2 presents the mean quality of life scores for the study participants, according to their sample group.

Table 2: Participants' Mean Self-Reported Quality of Life Score

Sample Group	Mean QoL Score	Number of participants
Melbourne private good access	7.67	39
Melbourne private poor access	7.54	47
Melbourne public good access	5.32	16
Melbourne public poor access	5.07	13
Sydney private good access	6.70	34
Sydney private poor access	6.45	35
Sydney public good access	4.89	11
Sydney public poor access	4.08	26
Total	6.46	221

N.B. A score of 5 and above indicates moderately high satisfaction with one's quality of life.

The results displayed in Table 2 demonstrate that a difference exists between the mean quality of life scores for the participants from Melbourne and the participants from Sydney, despite the fact that the participants from Sydney more frequently reported having nearby green common spaces, parks, and gardens. This data suggests that other factors could impact on the quality of life of highrise residents and account for city of residence differences, something that was explored in the face-to-face interviews. In addition, the mean quality of life scores for the public housing residents from Sydney, particularly those categorised as having 'poor access', are lower than those of the Melbourne public housing residents (below the neutral level of 5), suggesting that many of the participants from these sample groups are dissatisfied with their quality of life. The degree to which this is due to nearby natural environments was further investigated in the face-to-face interviews where it was revealed that crime, redevelopment, racial tension, drug users, design

features, management bodies, and a variety of other factors were found to impact on public housing residents' quality of life.

Whilst this exploratory data suggests that access to natural environments can enhance the quality of life of inner city highrise residents, it does not dismiss that there may be other influencing factors. It does however provide some evidence to suggest that for disadvantaged populations (e.g. public housing residents), the availability of a park, garden or waterfront, can enhance quality of life. By providing such health benefits of enhanced mental wellbeing^{xxxiv xxxv}, improved social integration^{xxxvi}, and more effective life functioning^{xxxvii}, the inclusion of natural environments in inner city highrise developments should be considered by urban planners.

This consideration was supported by Pyper^{xxxviii} who stated that:

“...the implications for urban planning and design are significant. Much of our (Australia's) greenspace is earmarked for urban development and consolidation, but we know little about the risks to human health and quality of life associated with their deterioration or loss... Could we design or revitalise urban greenspace for positive health outcomes?” (p.10).

I argue that inner city highrise developments should be designed to incorporate the natural environment, either within the complex, or nearby. This is of particular importance to public highrise housing estates where social disadvantage and health inequalities are common^{xxxix}. Green spaces can help to “reduce the inequalities, poor health and social exclusion in deprived areas and reduce the inherent tension between the many social and ethnic groups”^{xl}.

The results of this study suggest that inner city highrise residents require some form of natural environment close to their home in order to enhance their quality of life. Results of this study provide urban planners, park managers, health practitioners and government bodies with evidence which should ensure future Australian highrise developments enhance inner city public health and wellbeing, particularly for inner city populations under stress (eg. public housing residents).

The methods adopted for this study ensure that the information generated by it is applicable beyond just the local or even state context. It provides a basis (Australia-wide) for governments, planners, park management bodies, health policy makers, and service providers to develop policies, strategies and programs that recognise the important role of access to nature in determining health and wellbeing outcomes for residents of high-density inner city housing. Such strategies may also have global relevance.

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NOTES

1. Project's partner organisations are: Parks Victoria, City of Melbourne, Lort Smith Animal Hospital, Centennial and Moore Park Trust, and Parramatta Park Trust.

2. *Theory of subjective wellbeing homeostasis* proposes that just as humans are controlled by a homeostatic management of blood pressure, their subjective wellbeing is controlled and maintained by a set of psychological devices (self-esteem, control and optimism) that function under the control of personality. The operation of these psychological devices is most noticeable at a person's level of general and optimal subjective wellbeing, the level where homeostasis occurs. However, activity may fluctuate above and below the optimum level of subjective wellbeing resulting in delusion or depression.

3. *Personal Wellbeing Index* items:

- 1) Thinking about your own life, and personal circumstances, how satisfied are you with your life as a whole?
- 2) How satisfied are you with your standard of living?
- 3) How satisfied are you with your health?
- 4) How satisfied are you with what you achieve in life?
- 5) How satisfied are you with your personal relationships?
- 6) How satisfied are you with how safe you feel?
- 7) How satisfied are you with feeling part of your community?
- 8) How satisfied are you with your future security?
- 9) How satisfied are you with your religion or spirituality?
- 10) How satisfied are you with your financial security?
- 11) How satisfied are you with your situation so far as savings and investments are concerned?
- 12) How satisfied are you that your financial security is within your control?
- 13) How satisfied are you that your financial situation is going to improve?