

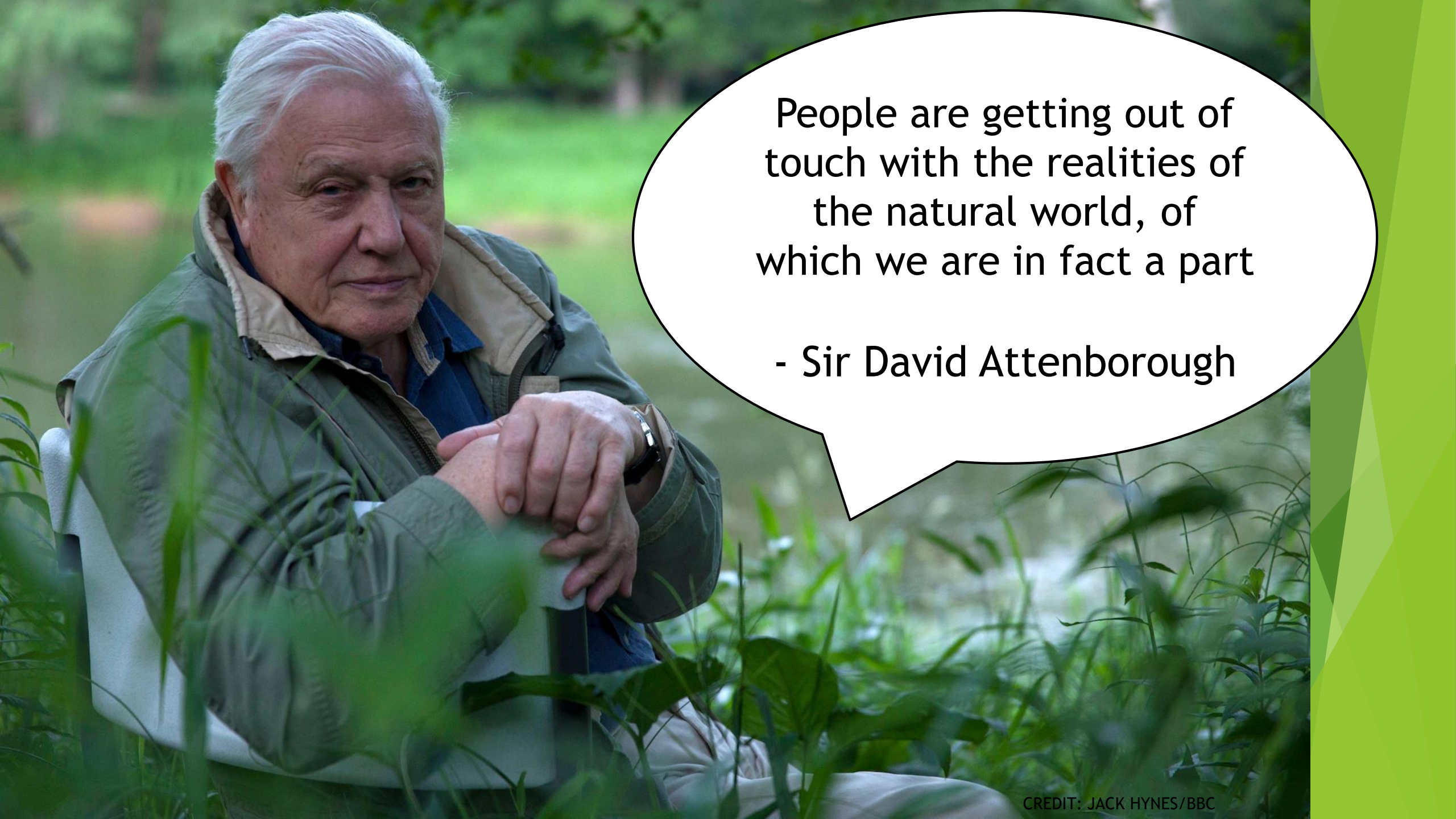


Who cares? Environmental context in facilitating adolescent nature relatedness and wellbeing

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A photograph of Sir David Attenborough, an elderly man with white hair, wearing a green jacket over a blue shirt. He is sitting in a field of tall green grass, looking directly at the camera with a slight smile. His hands are clasped in his lap. A large white speech bubble with a black outline is positioned to his right, containing a quote. The background is a soft-focus green field.

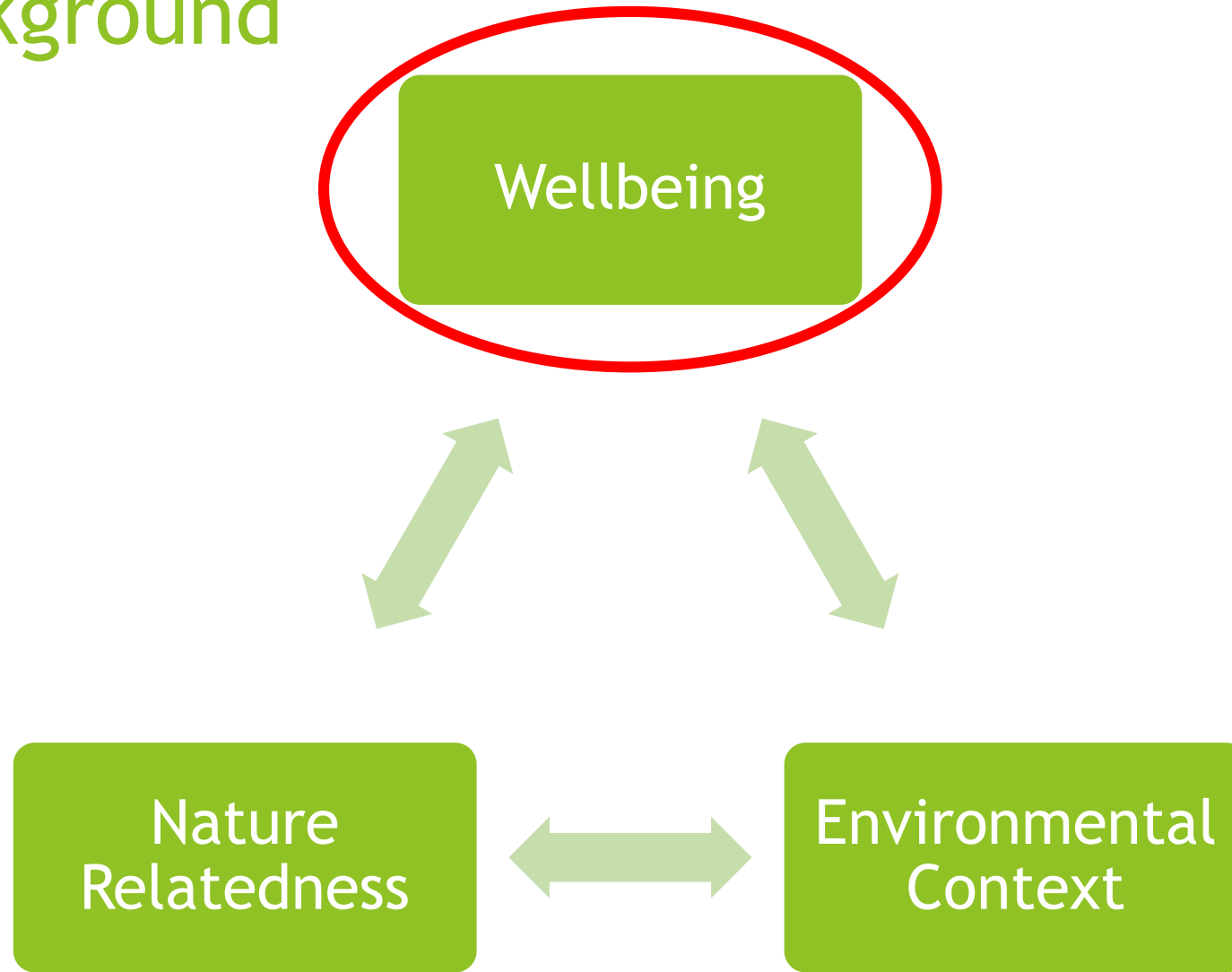
People are getting out of
touch with the realities of
the natural world, of
which we are in fact a part

- Sir David Attenborough

Nature Relatedness

- ▶ The human desire to relate to the natural environment -> the biophilia hypothesis.
- ▶ People with high nature relatedness have been found to spend more time outside in the natural environment, be more environmentally concerned and endorsed pro-environmental attitudes and behaviours.
- ▶ Provide human benefits as well as provide spaces for physical and social activities to take place.
 - ▶ In schools -> improved self-esteem, mental wellbeing, stress reduction, ability to concentrate, and alleviating depression.

Background



Wellbeing (well-being or well being)

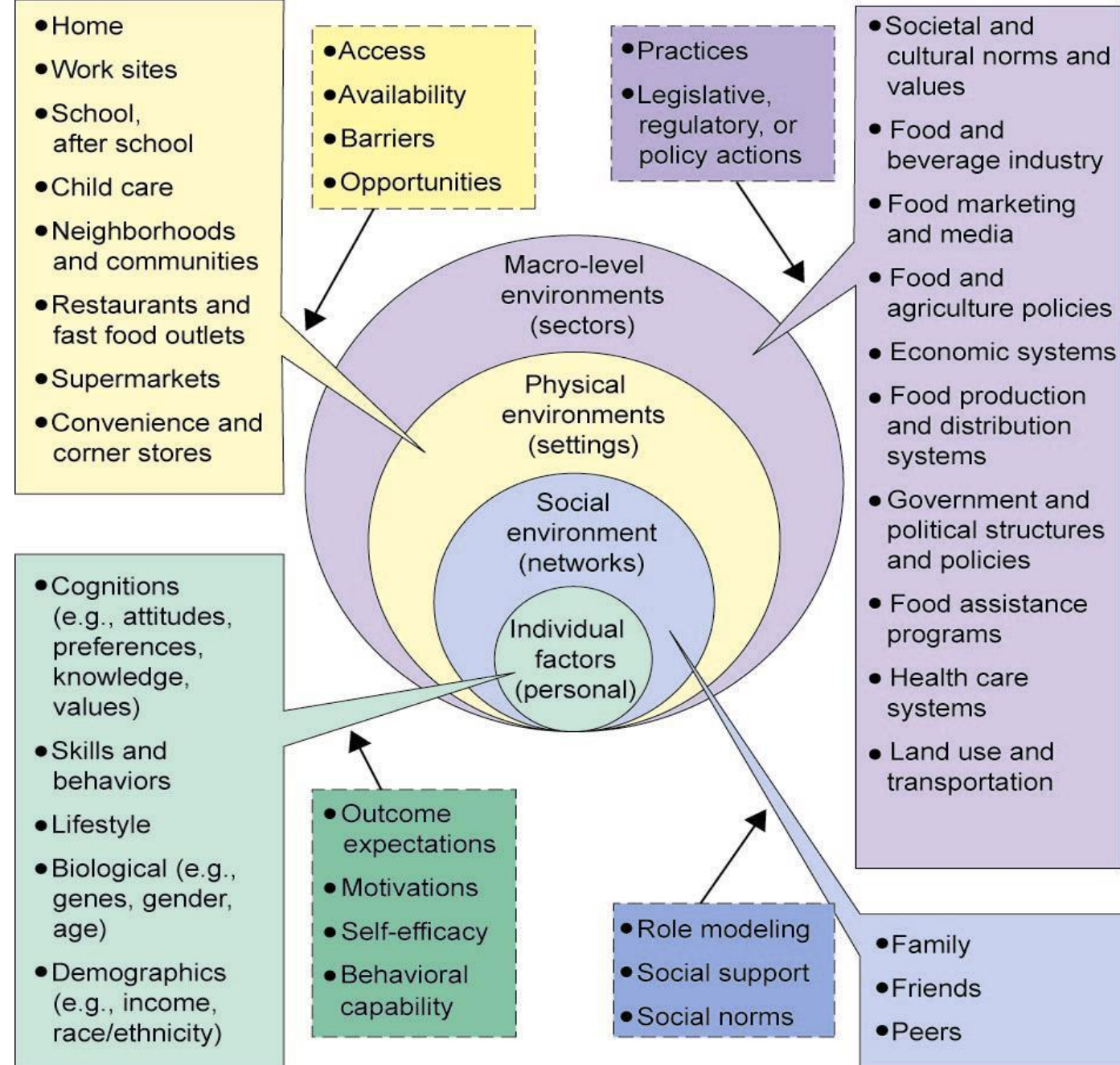
- ▶ Literature on wellbeing includes aspects of physical health, psychological/mental/emotional health, economic health, environmental health, social health as well as spiritual health.
- ▶ Generally speaking wellbeing is a good, satisfactory, and desirable state of personal existence or life.



<https://wellbeinghi.com/what-does-well-being-mean>

Ecological Framework

- An ecological approach that demonstrates connections between people and their environments.
- Schools have a unique opportunity to provide and model healthy behaviours to children.



Significance

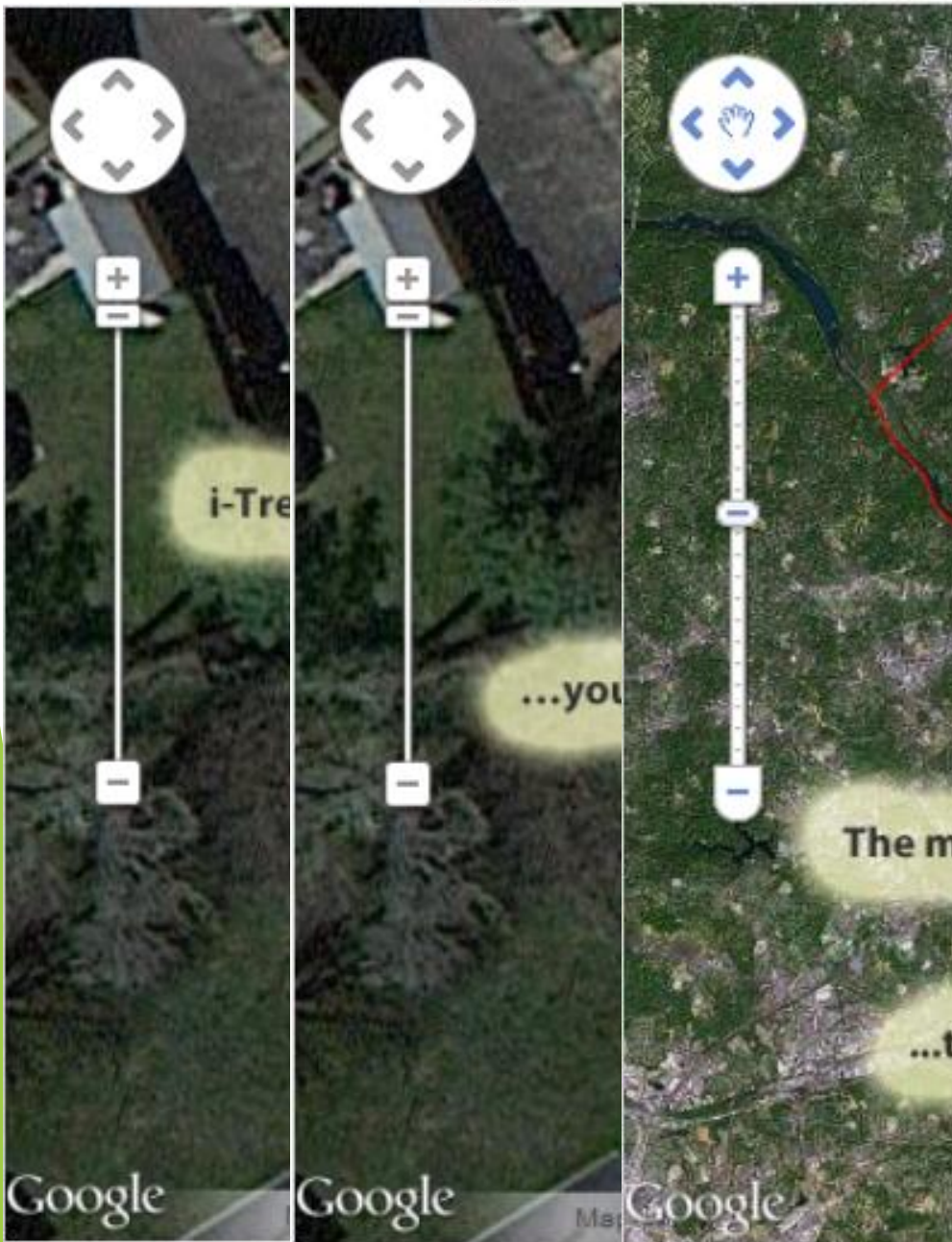
- ▶ Pressures on Cities.
- ▶ Generally cities are already nature-poor, with inhabitants living busy lives, there are fears that people are increasingly disconnected through an extinction of experience from the natural world in both quality and quantity.
- ▶ Urban children and adolescents are the next generation and childhood is a crucial period of socialization.
- ▶ Habits developed during childhood and adolescence prevail into adulthood.

Study Methodology

- ▶ A two phase approach using a combination of survey and photovoice:
 - ▶ 1. Surveys will allow for an efficient measure of qualitative and quantitative data to be collected on large numbers of adolescents anonymously.
 - ▶ 2. Photovoice allows adolescents to express themselves through photos that they feel represent their views and reality. Furthermore it provides an aid to facilitate discussions and insights when sharing their views with adults.

At three public high schools with differing Natural Environments:

- Rural HS;
- Ag Programs HS; and a
- City HS.



i-Tree Canopy Cover Report



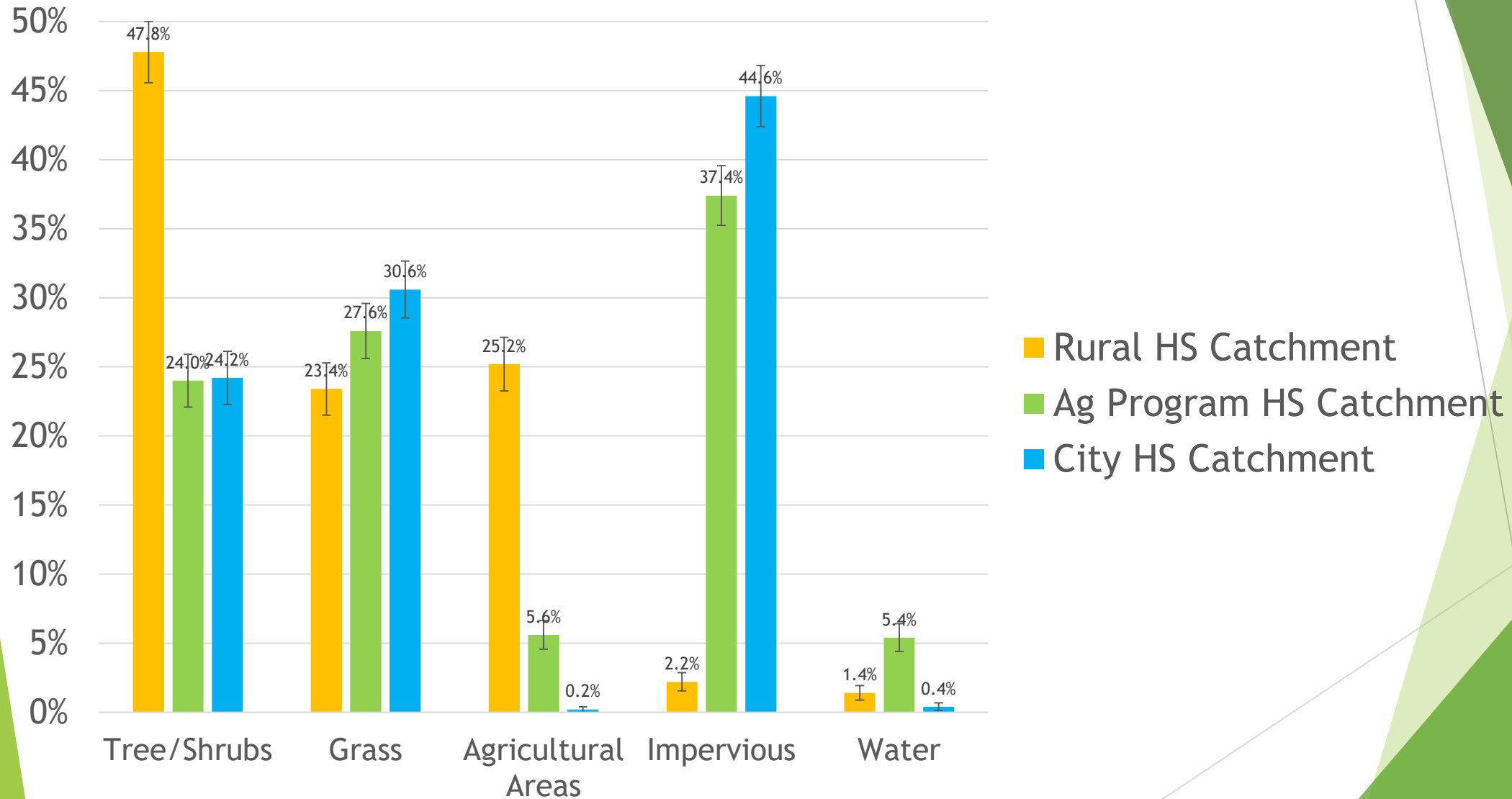
Cover Class	Description	Abbr.	Points	% Cover
Grass/Herbaceous		H	113	22.6 ± 1.87
Tree/Shrub		T	131	26.2 ± 1.97
Impervious Buildings		IB	74	14.8 ± 1.59
Impervious Road		IR	43	8.60 ± 1.25
Impervious Other		IO	105	21.0 ± 1.82
Water		W	21	4.20 ± 0.90
Soil/Bare Ground		S	13	2.60 ± 0.71

Tree Benefit Estimates

Abbr.	Benefit Description	Value	±SE	Amount	±SE
CO	Carbon Monoxide removed annually	50.00	±0.00	0.00	±0.00
NO2	Nitrogen Dioxide removed annually	50.00	±0.00	0.00	±0.00
O3	Ozone removed annually	50.00	±0.00	0.00	±0.00
PM10*	Particulate Matter greater than 2.5 microns and less than 10 microns removed annually	50.00	±0.00	0.00	±0.00
PM2.5	Particulate Matter less than 2.5 microns removed annually	50.00	±0.00	0.00	±0.00
SO2	Sulfur Dioxide removed annually	50.00	±0.00	0.00	±0.00
CO2seq	Carbon Dioxide sequestered annually in trees	50.00	±0.00	0.00	±0.00
CO2stor	Carbon Dioxide stored in trees	50.00	±0.00	0.00	±0.00

Save your project
for later use and
print out a
summary report.

i-Tree Assessment - Physical Environment of the School catchment area



Phase 1: Survey



Adolescent Food Environment and Wellbeing

Student Survey

Thank you for participating in this study. It should only take about 15-20 minutes to finish, and here are a few points to remember:

- There are no right or wrong answers.
- Some questions may seem similar. This is done on purpose and is part of the research approach.
- Answers are completely confidential and you will stay anonymous (meaning that you do not need to provide your name).
- Your participation is voluntary and you can withdraw from the process at any time. If for whatever reason you feel uncomfortable with any of the questions, you can choose to skip the question or ask to stop the survey altogether. If you choose to withdraw after the data is collected, and it is possible to identify which data you gave, it will not be used in the study and will be destroyed.

Should you wish to clarify anything or need more information, you can speak directly to Kora Uhlmann on k.uhlmann@uq.edu.au. If you would prefer to discuss any queries with the project leader you can contact Professor Helen Ross at helen.ross@uq.edu.au or 0408 195 324.

This study adheres to the Guidelines of the ethical review process of The University of Queensland and the National Statement on Ethical Conduct in Human Research. If you would like to speak to an officer of the University not involved in the study, you may contact the Ethics Coordinator on 3365 3924.

Please note that the survey is being conducted using SurveyMonkey Inc. software which is based in the United States of America. Information you provide on this survey will be transferred to a SurveyMonkey server in the United States of America. By completing this survey, you are agreeing to this transfer.

Many thanks for taking the time to participate.

* 1. By clicking the box below you are agreeing to the following sentence:

- ☐ I have read the information provided about the research project and understand my involvement. I understand any information I provide is completely confidential. I have parental consent and agree to take part in this research as outlined and understand I can withdraw at anytime.

- 59 Students (50 items)
- 31 Parents (37 items)
- 91 Teachers (25 items)

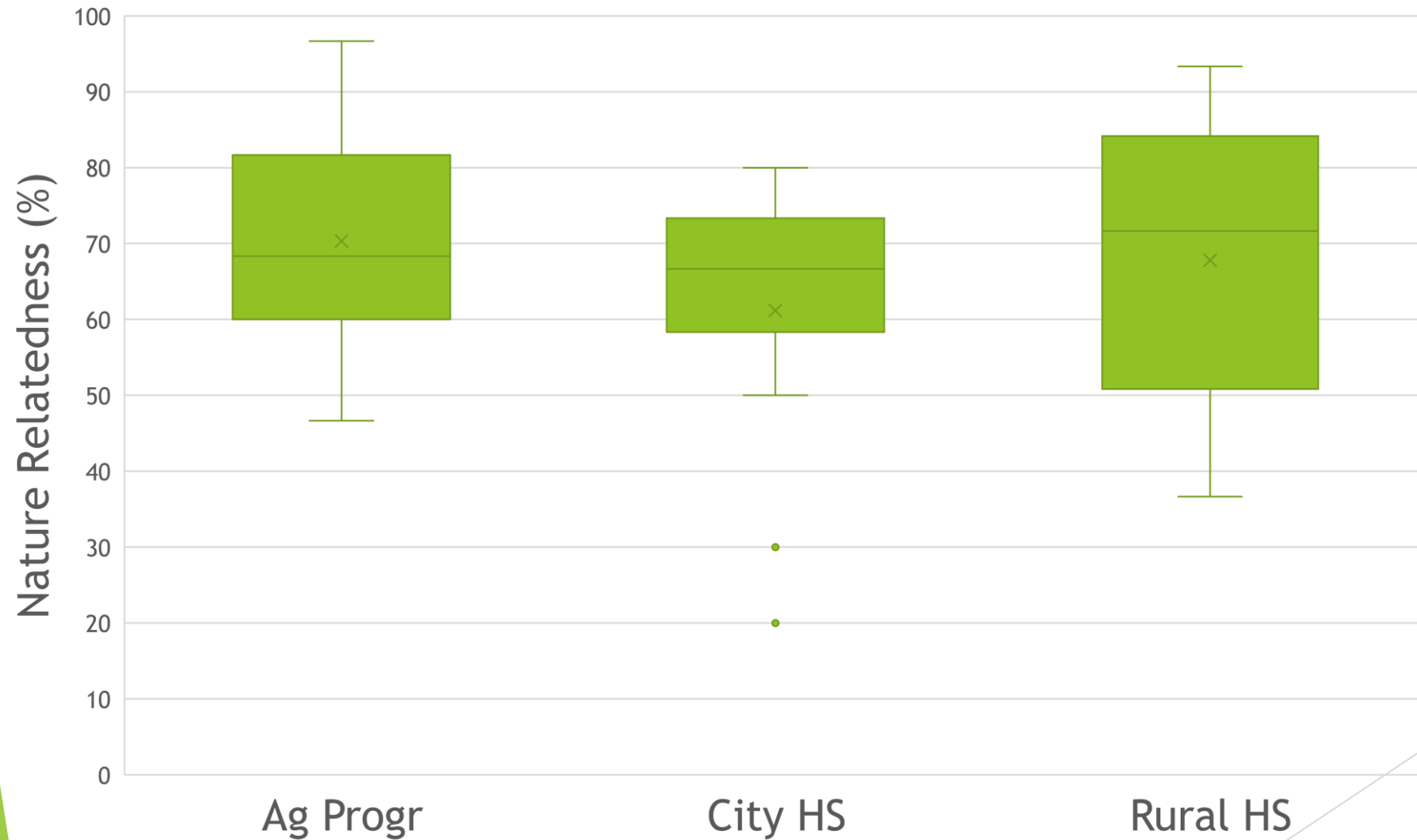
Phase 2: Photovoice



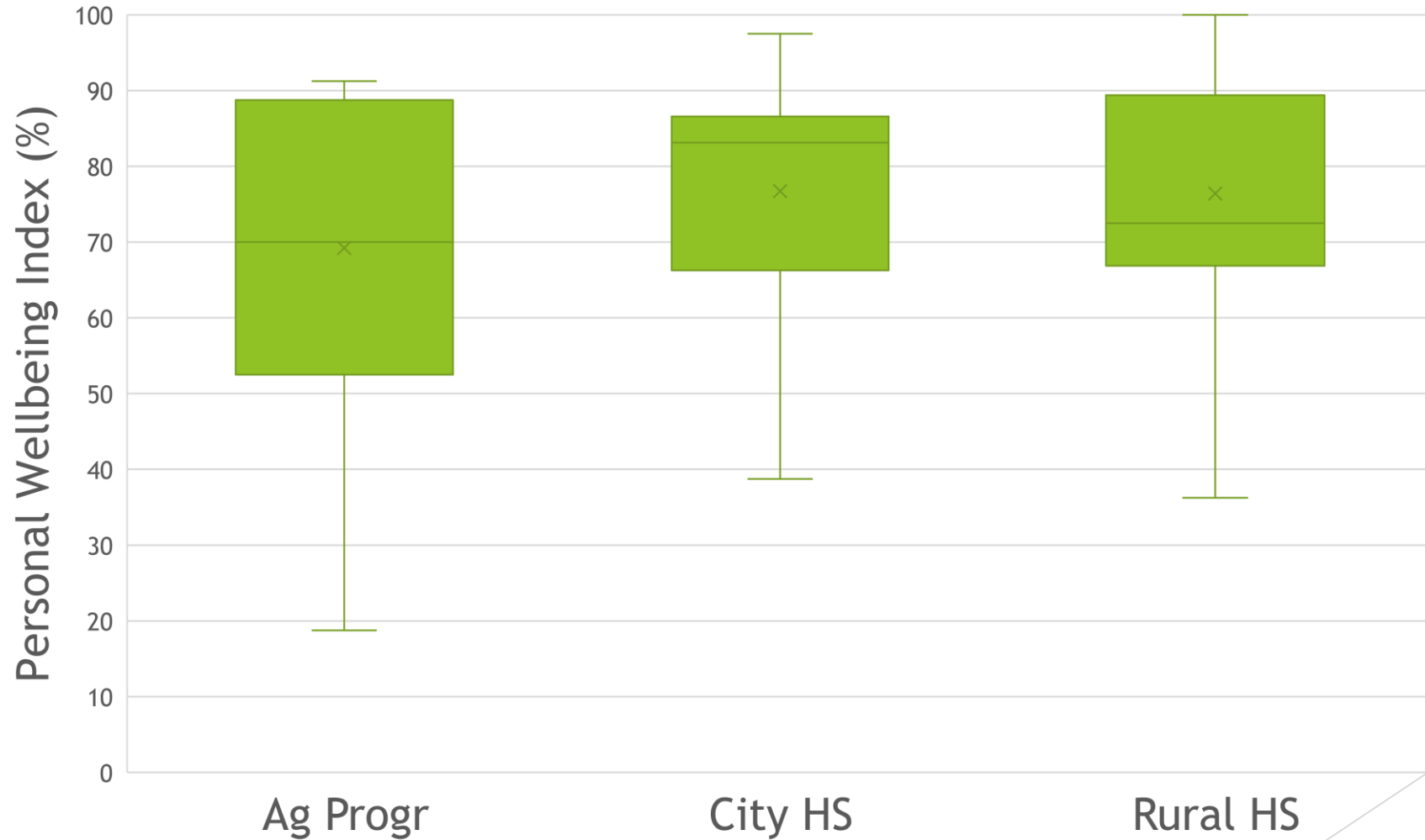
www.sheknows.com/parenting/articles/1009431/nutritious-boxed-foods-for-your-family

- “Food in my life”
- 32 Participants

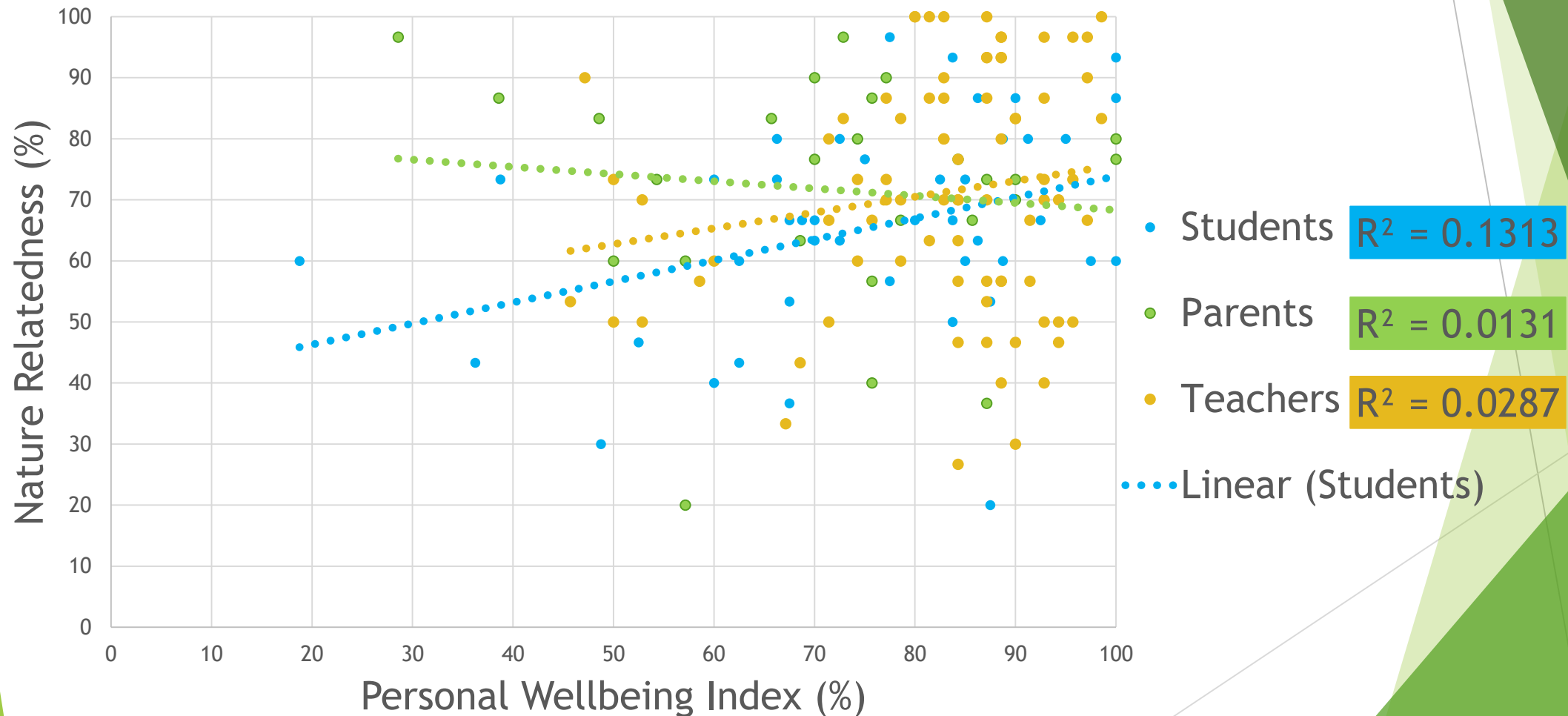
Connection with Nature



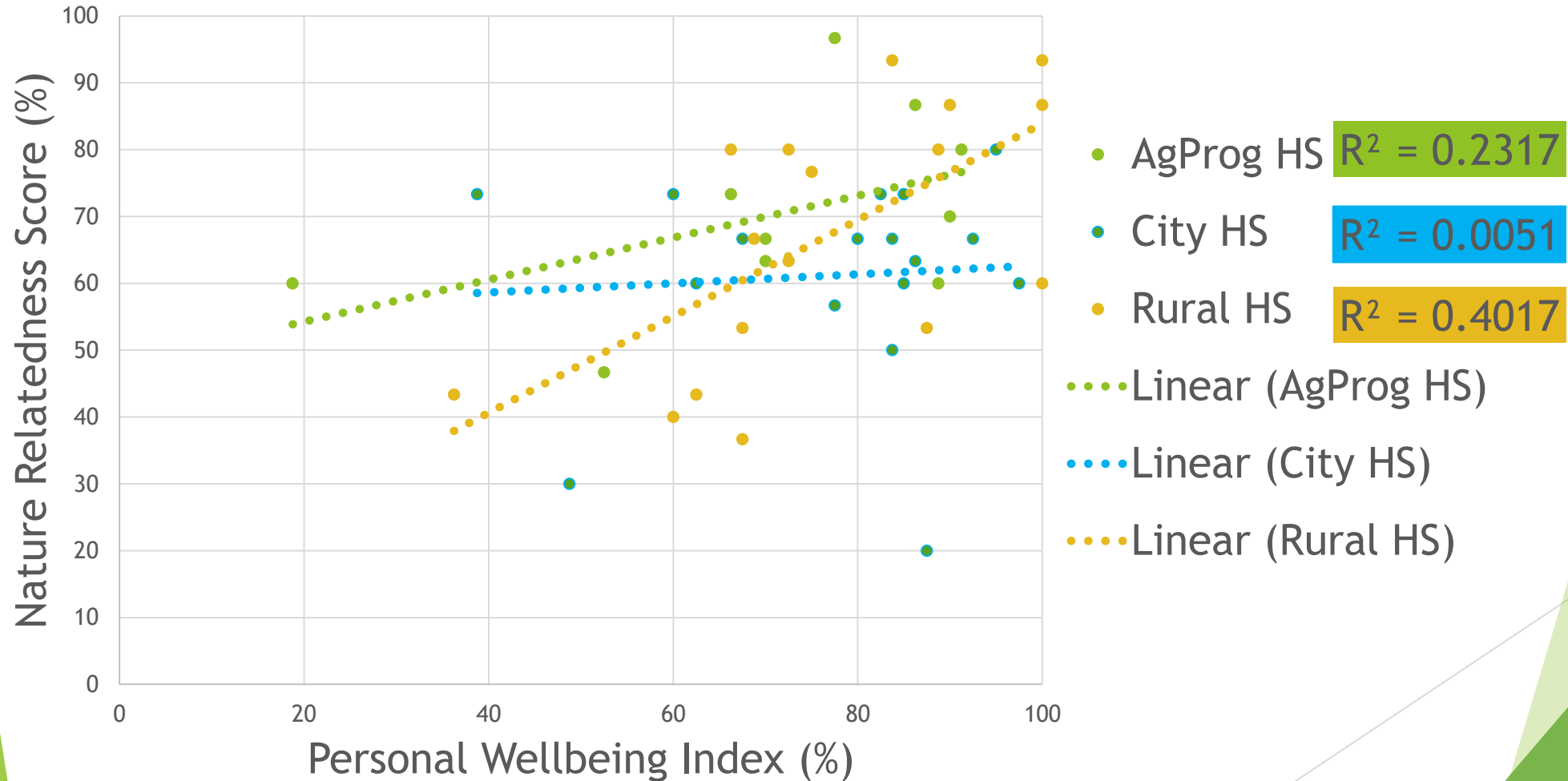
Sense of Wellbeing



Is there a relationship between Nature Relatedness and Wellbeing?



Is there a relationship between Nature Relatedness and Wellbeing?



Implications for Urban Environmental Management

- ▶ We are in fact, part of it
- ▶ Nature/Green City
- ▶ “To care” is “to be connected”, so how we are connected therefore influences how we care and what we care about (Carolan, 2015).
- ▶ Have it! → we need to feel
- ▶ Can we CODE or FACILITATE the next generations connection with nature

Questions?

