

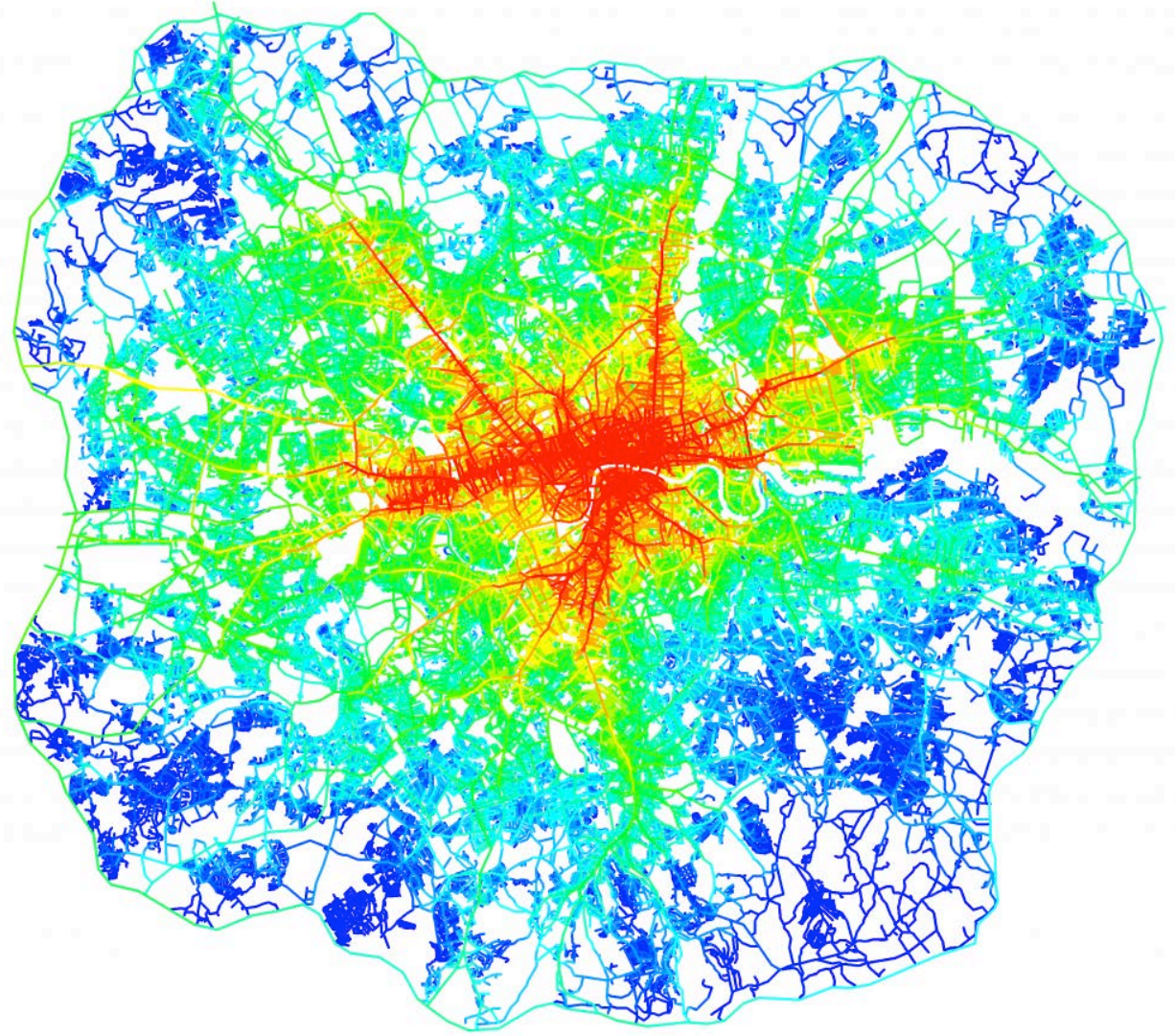


Examining Urban Oppressiveness in Real and Virtual Settings

Robin Mazumder B.Sc, M.Sc OT, PhD (cand), Prof. Colin Ellard, Prof. Hugo Spiers

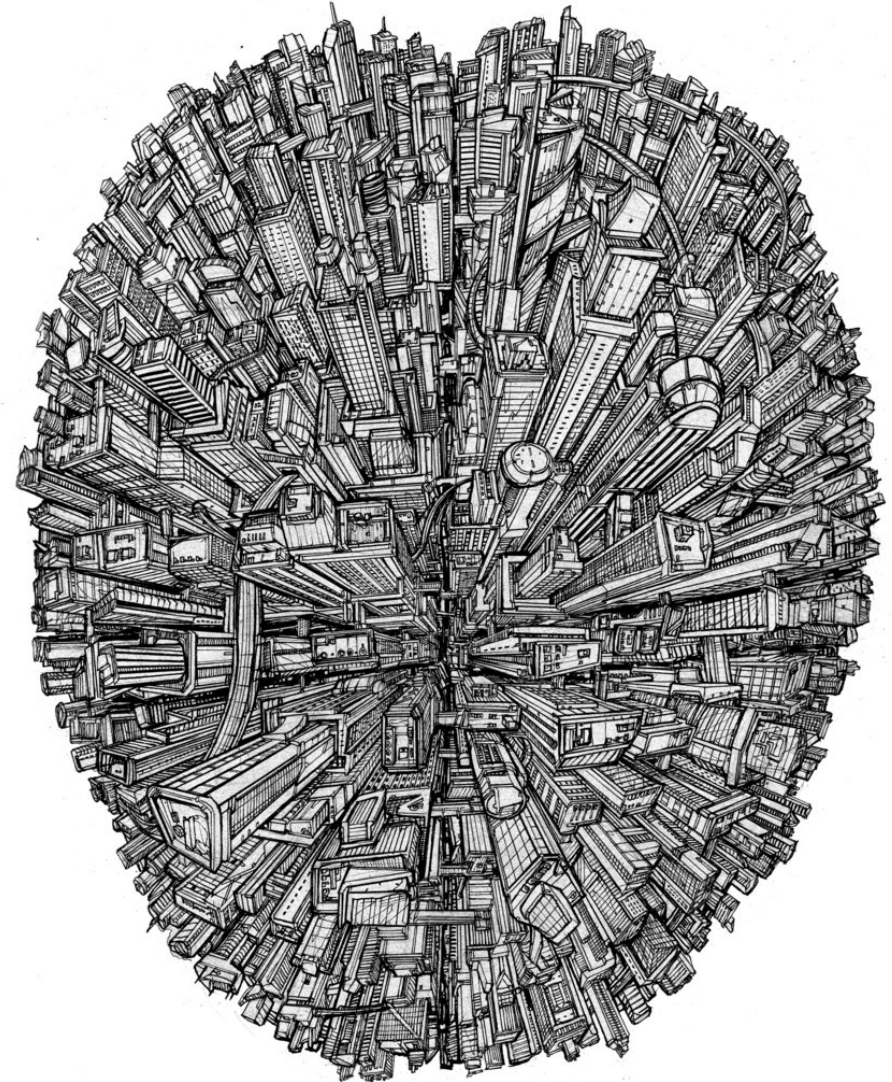
Outline

- Study 1: Central London Oppressiveness Study
- Study 2: 360 Video Study



Why study the psychological impacts of urban design?

- 80% of Canadians live in cities (Stats Canada, 2011)
- 50% of the world's population lives in cities (UN Habitat, 2015)
- 1 in 5 Canadians experience mental illness (CAMH, 2015)
- Annual economic burden is \$55 billion dollars (CAMH, 2015)
- Mental illness is higher in cities compared to rural areas (Peen, 2009)







DON

St. Laurence's Church

St. Dunstons Church

St. Richard's

St. James

St. Andrew's

St. Martin's

St. Andrew's

St. Dunstons Church

FLUVIUS



The London skyline debate

Architecture

How a high-rise craze is ruining London's skyline

Ken Livingstone ushered in a new skyscraper era during his time as London mayor. But the dash for height has continued under Boris Johnson. Most of the 20-plus towers being built or breaking ground are of inferior quality and fail to meet guidelines, argues our architecture critic. What has happened to the planning system... and where is all the money coming from?



Rowan Moore

Sun 2 Dec 2012 00.05 GMT



39 403



Advertisement



Bose® featuring
Headrest Speakers



Available in the
2018 Nissan KICKS.

DISCOVER

LEGAL

News

Opinion

Sport

Culture

Lifestyle

More ▾

Books Music TV & radio Art & design Film Games Classical Stage

The London skyline
debate
Architecture

Horror storeys: the 10 worst London skyscrapers

From St Paul's to the Gherkin, London's skyline is full of history – and character. Will the new tower frenzy spoil all that? Oliver Wainwright lists his top 10 worst upstarts

● [Stunners in the sky: London's top 10 towers](#)



Oliver Wainwright

@ollywainwright

Mon 28 Apr 2014 19.00 BST



6,530

680



Advertisement

Microsoft Azure

Ad ▾

Build AI apps with just a
few lines of code

Try Azure free >



[UK](#) ▶ [UK politics](#) [Education](#) [Media](#) [Society](#) [Law](#) [Scotland](#) [Wales](#) [Northern Ireland](#)

The London skyline debate

London

Londoners back limit on skyscrapers as fears for capital's skyline grow

With more than 400 high-rises planned, major survey shows residents want numbers curbed

Rob Davies

🐦 @ByRobDavies

Sat 27 Aug 2016 22.00 BST



788

1,104

🕒 This article is over 2 years old



Advertisement

AdChoices

Now you can apply for a mortgage pre-approval online.



Architecture and design blog

Architecture

Oliver Wainwright

🐦 @ollywainwright

Thu 14 Aug 2014 11:14 BST



1,871 277

'Killer towers': how architects are battling hazardous high-rises

As outlandish proposals to tame Leeds' lethal wind-tunnel tower are unveiled, we look at how architects have dealt with other epic fails



Advertisement

INNOVATION IS
LOOKING AT
THE SAME THING
DIFFERENTLY.

 ACURA

Articles from The Globe and Mail

Report on Business | I'LL GO FIRST



Q&A: Bruce Linton
of Canopy Growth
on being a nerd
and cannabis
'spokesman'

READ NOW



How Canada's
cannabis
industry can
avoid the

The London skyline debate

Architecture



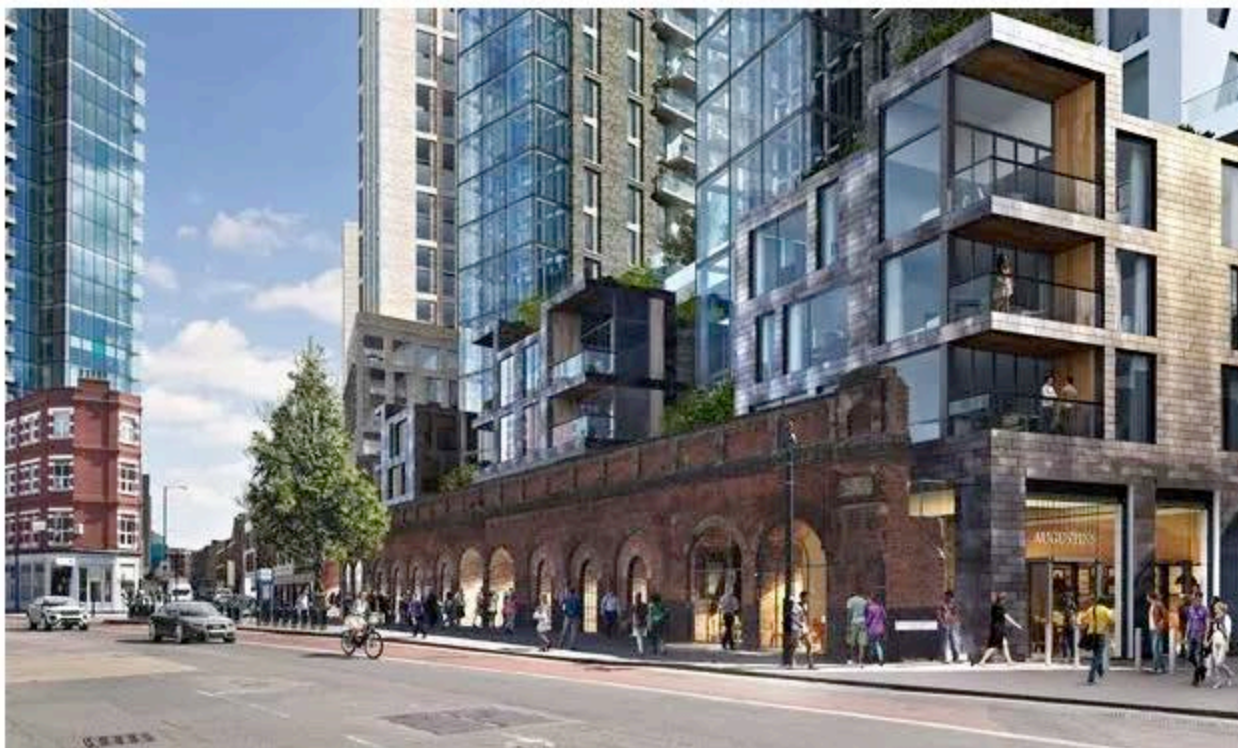
Rowan Moore

Sun 18 Jan 2015 08.15 GMT



The last thing east London needs is another seven towers

Boris Johnson's support for a luxury high-rise development on Bishopsgate Goodsyard illustrates his contempt for localism



Advertisement

Here's Where the Perfect Getaway Begins

Honda FALL EXCURSIONS EVERY

Financing from **1.9%*** for 24 months on select models

[View Offers](#)

[home](#)**Guardian sustainable
business**Redesigning Cities

City-dwellers are prone to depression – are high-rises to blame?

Residents of high-rise blocks tend to suffer from more stress, mental health difficulties and neurosis



“In a sense life in the high-rise had begun to resemble the world outside - there were the same ruthlessness and aggression concealed within a set of polite conventions.”

— J.G. Ballard, High-Rise

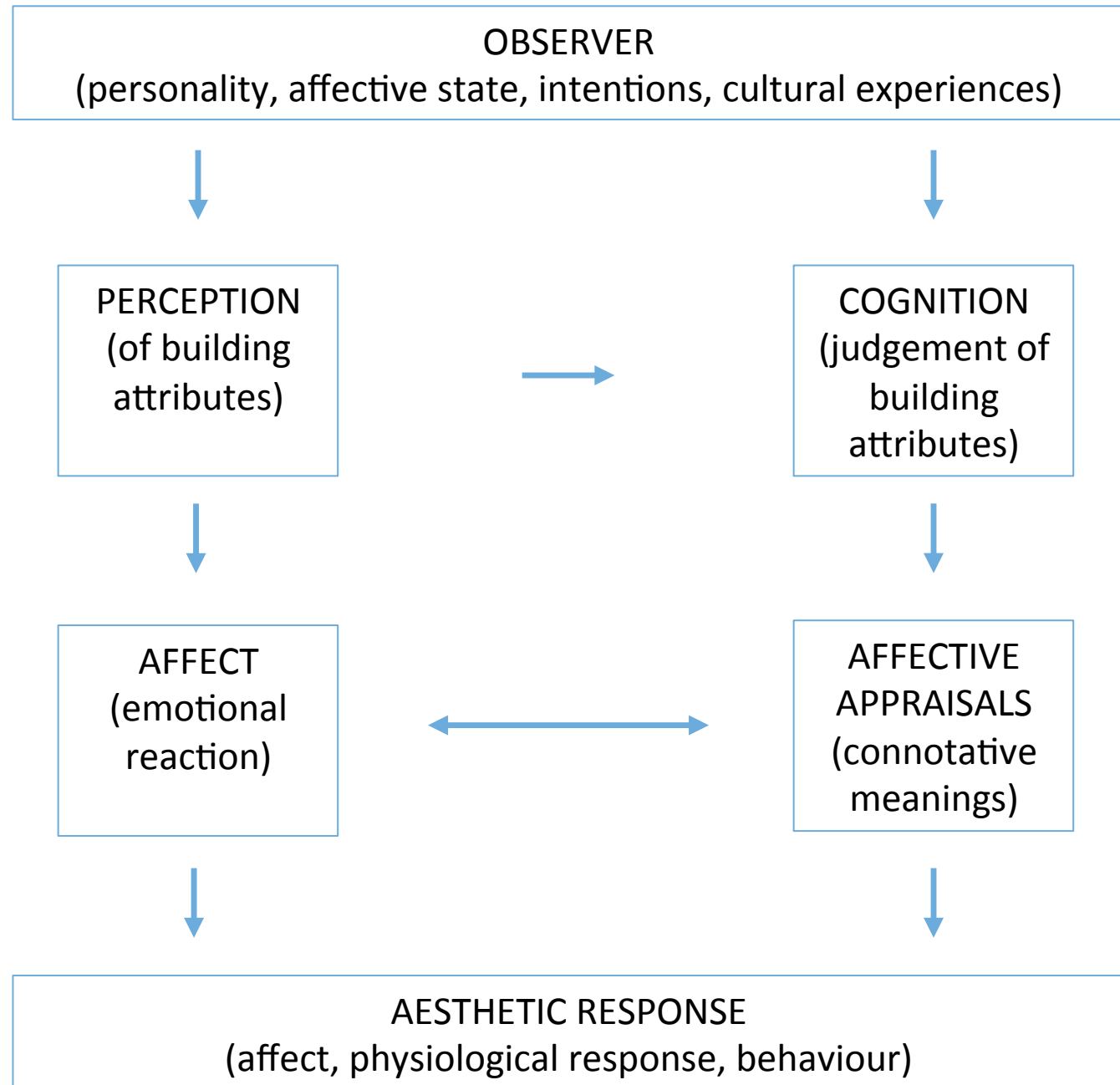
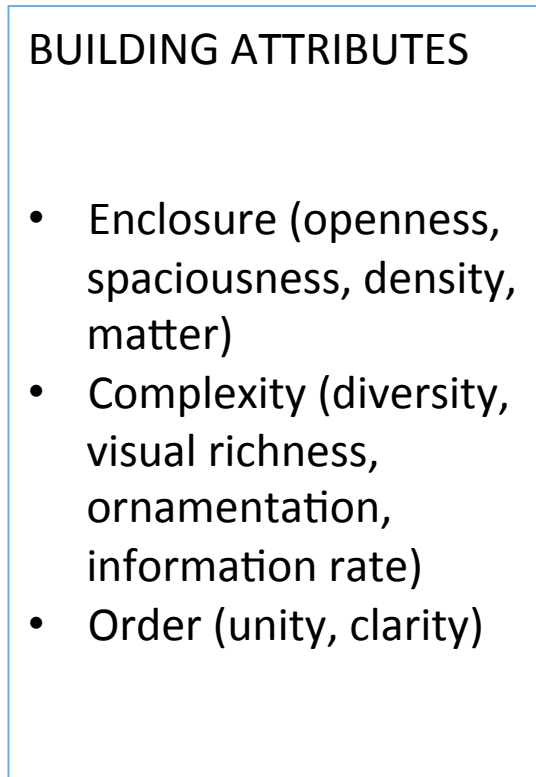






- Building height had a negative effect on restoration likelihood (Lindal & Hartig, 2013)
- Tall buildings cause behavioural freezing (Joye and Dewit, 2016)
- Tall buildings are “oppressive” (Asgarzadeh et al, 2012)





appakukan







Results

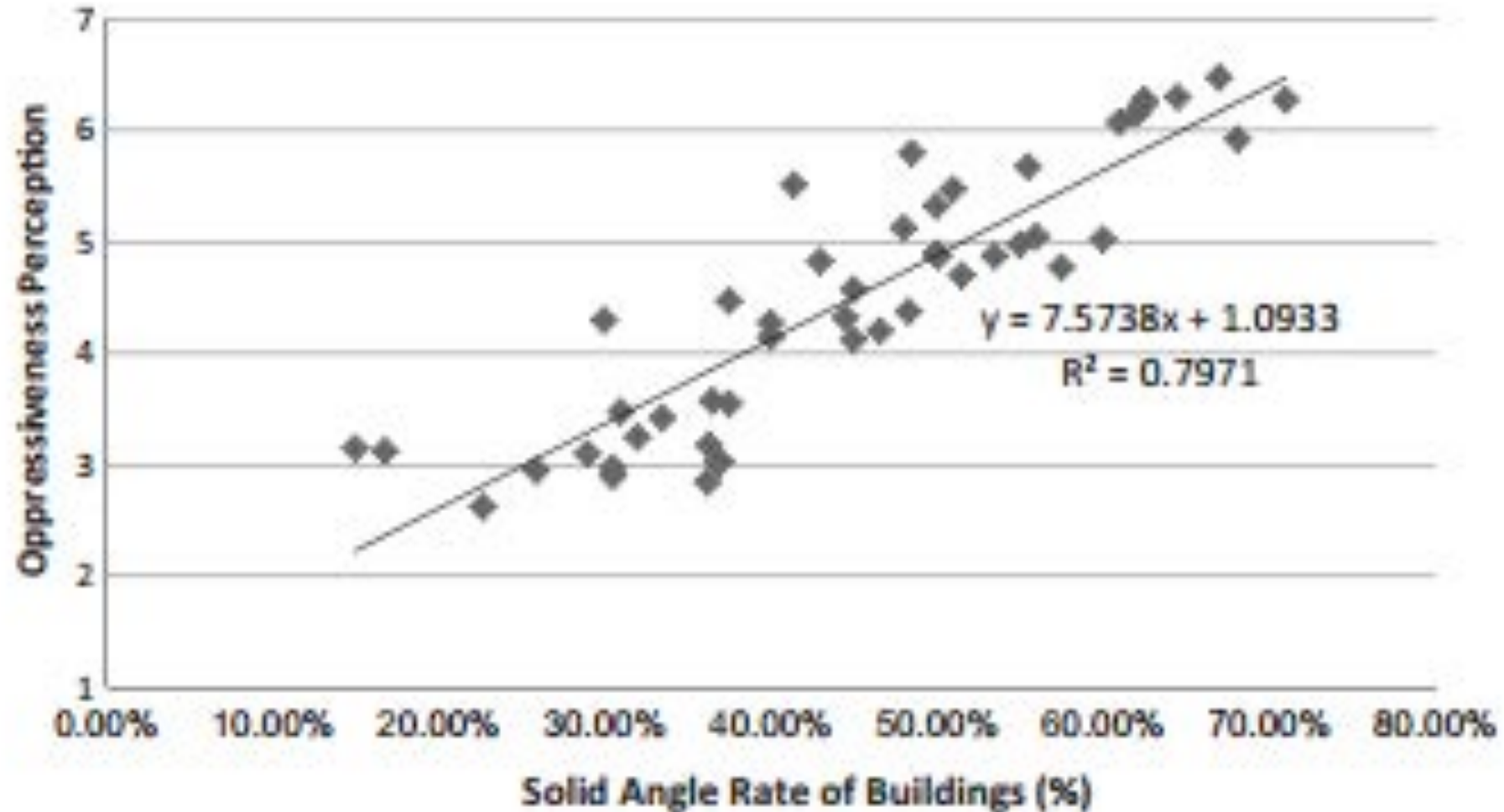
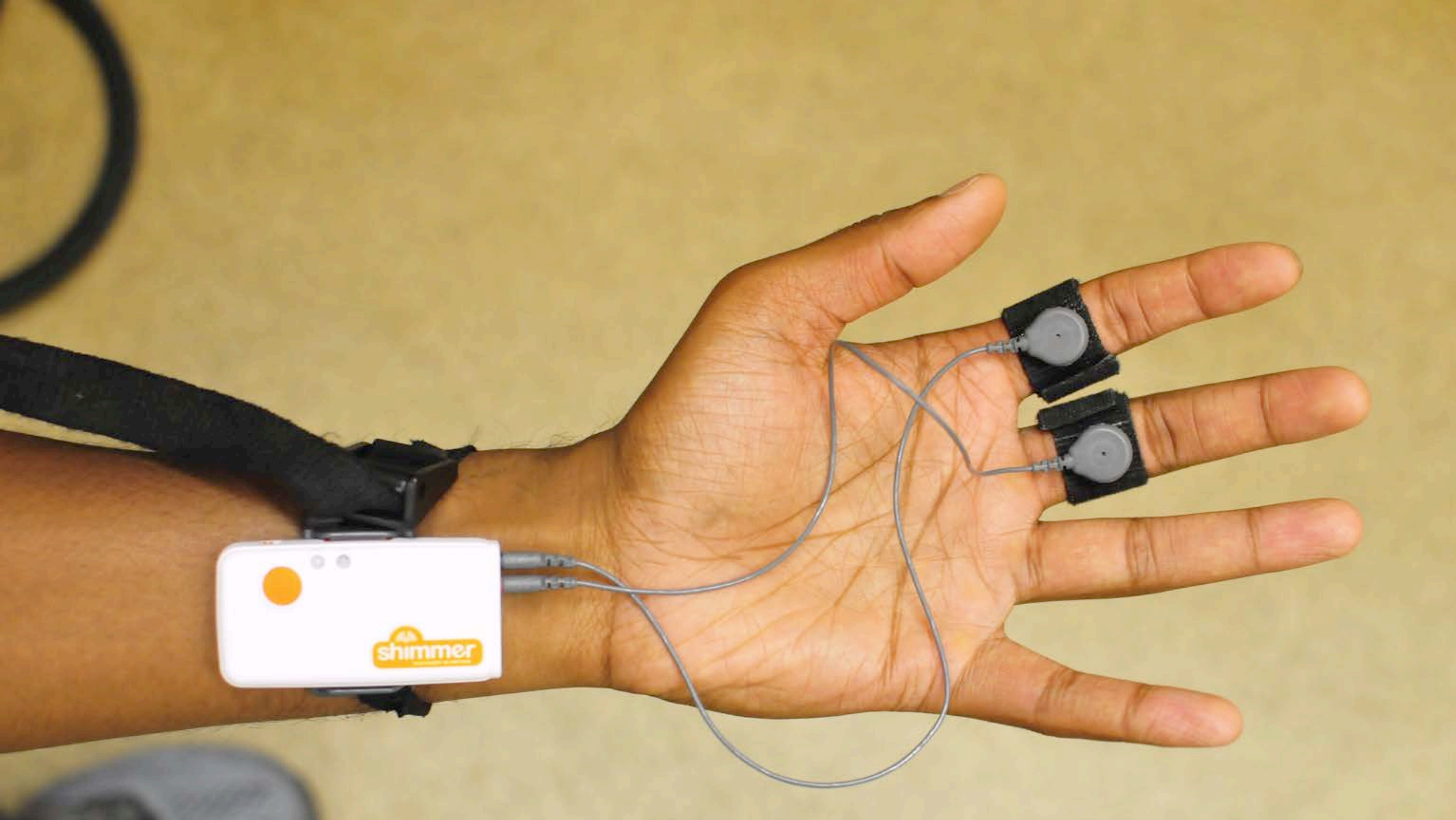


Fig. 5. Effect of building solid angle on oppressiveness.

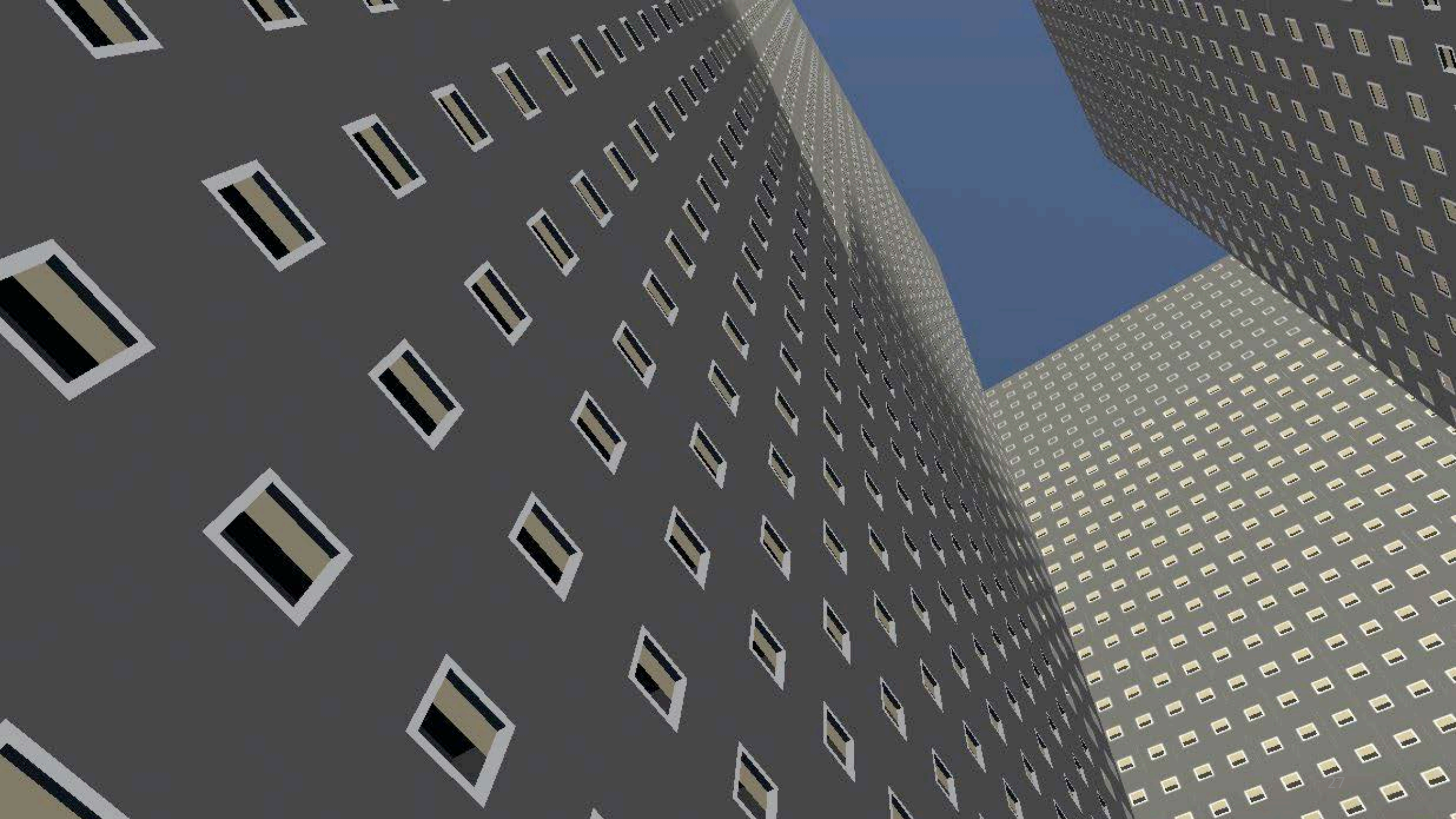




Oppressiveness Questions

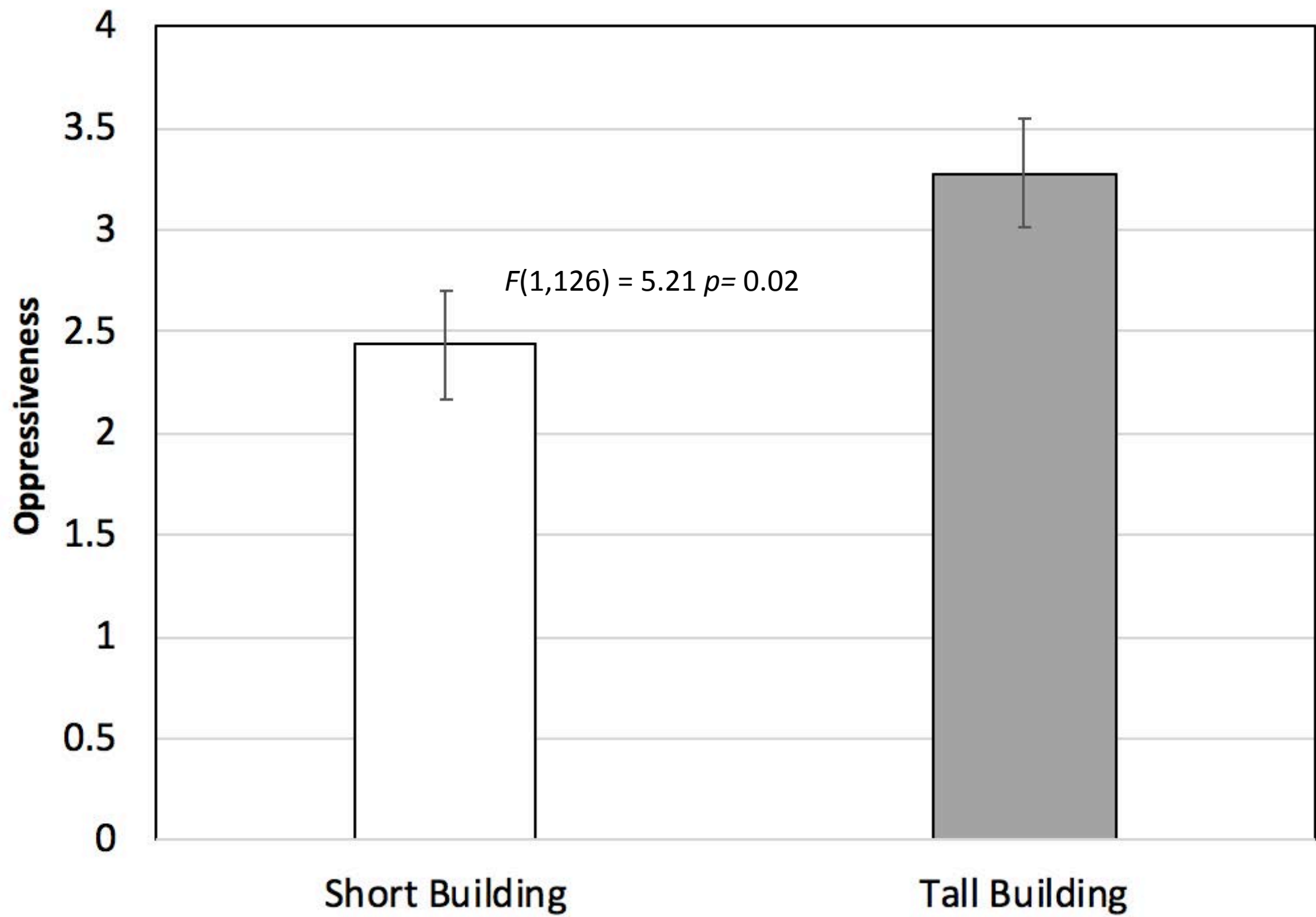
- How **oppressed** did you feel? (1 not oppressed – 7 very oppressed)
- How **disturbing** was the feeling of oppressiveness? (1 not disturbing – 7 very disturbing)
- How **open** did you perceive the environment to be? (1 very restricted – 7 very open)
- How **satisfied** were you with the openness? (1 not satisfied – 7 very satisfied)
- How **friendly** was the setting? (1 not friendly – 7 very friendly)

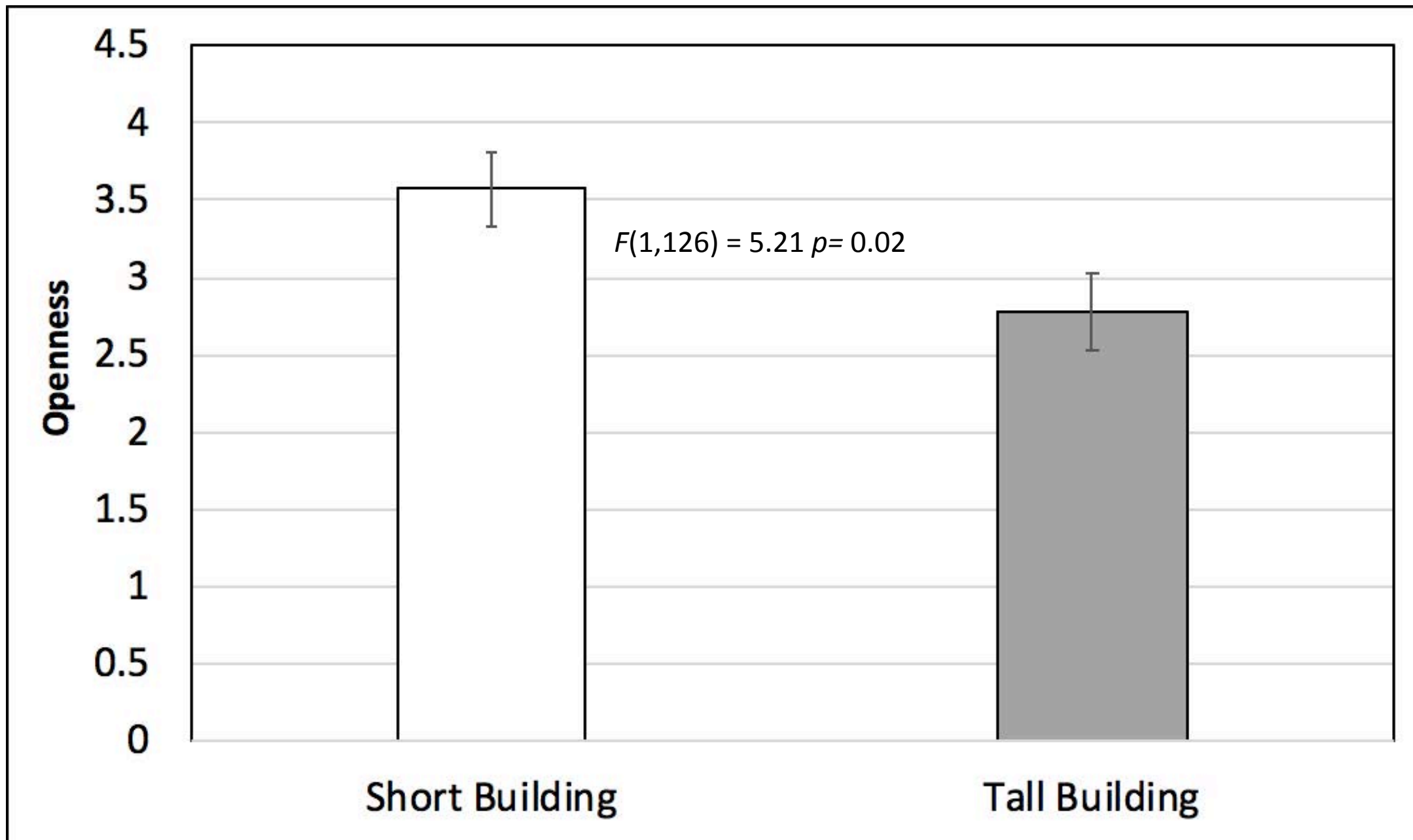


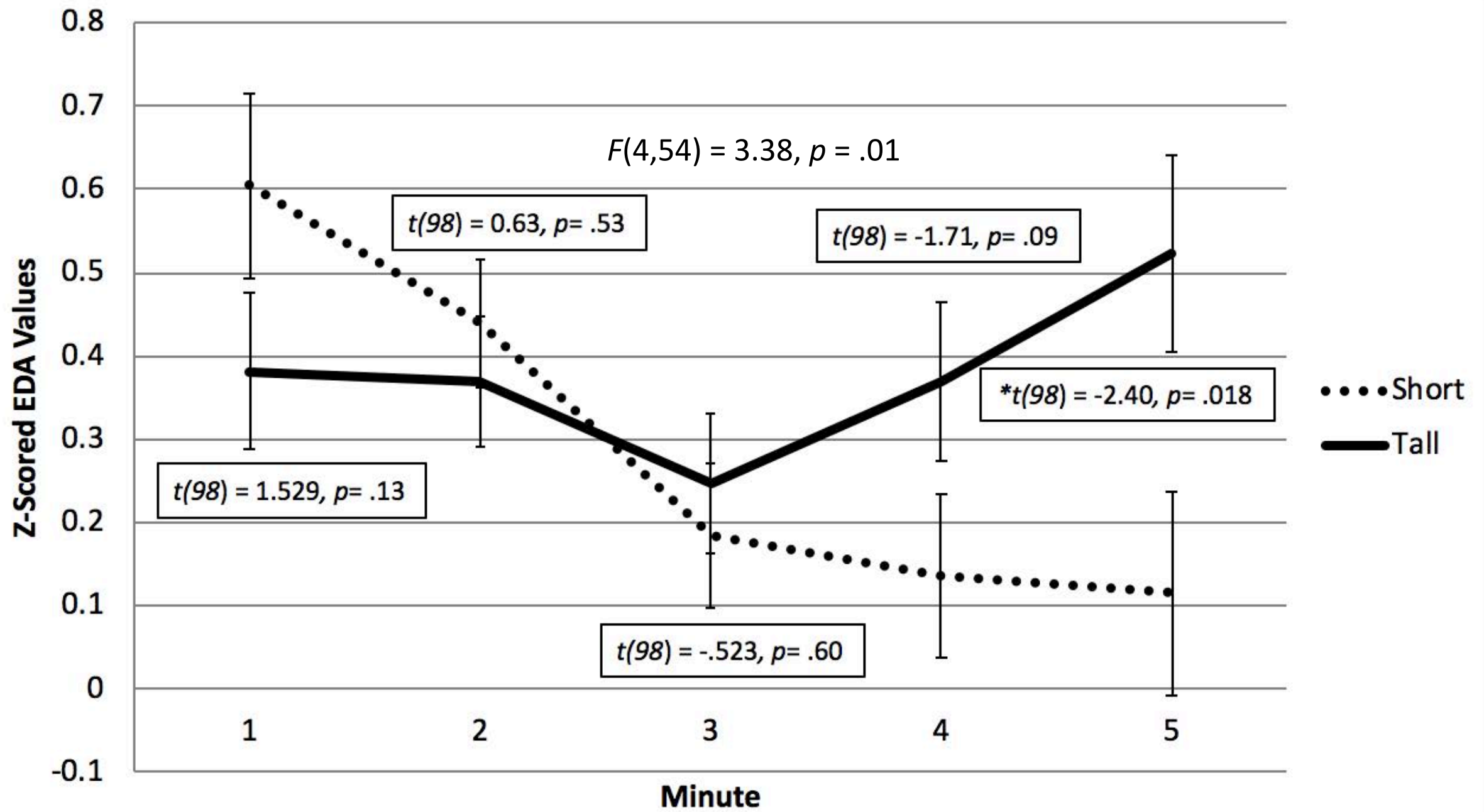




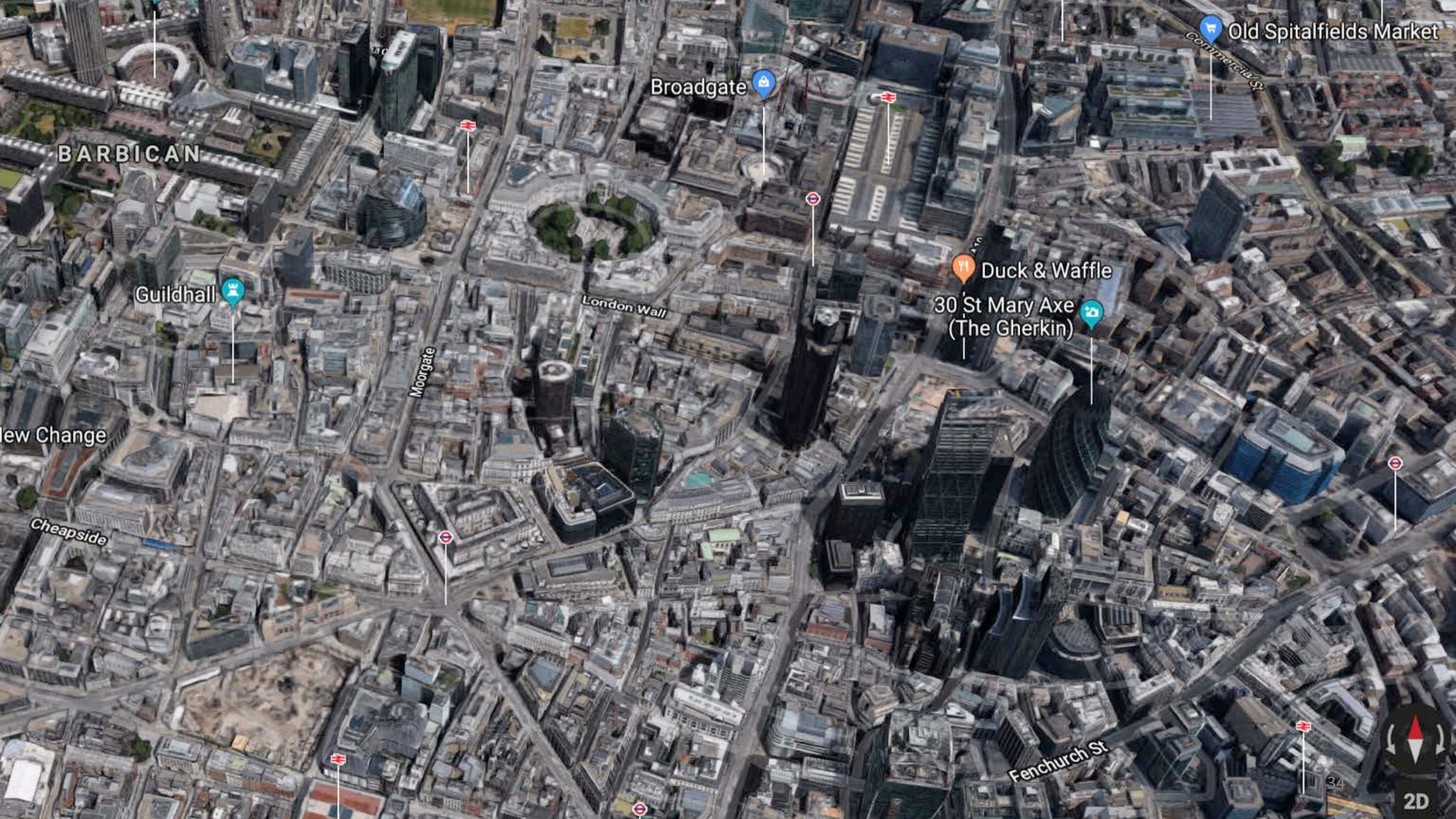












Old Spitalfields Market

Broadgate

BARBICAN

Guildhall

London Wall

Duck & Waffle
30 St Mary Axe
(The Gherkin)

Moorgate

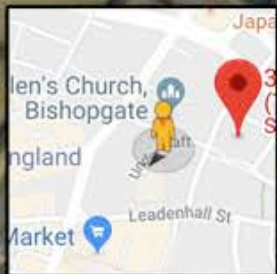
New Change

Cheapside

Fenchurch St

34





Undershaft

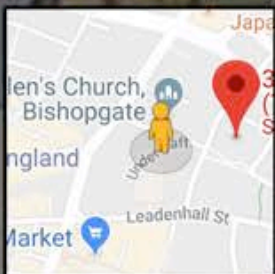
London, England



Google, Inc.



Street View - Jan 2018

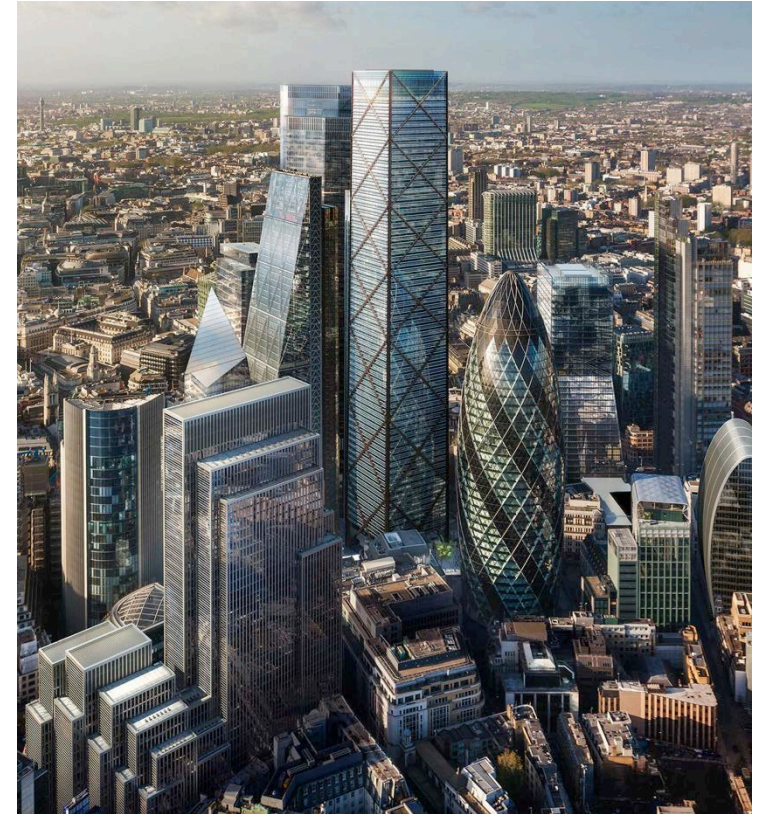


Google

36

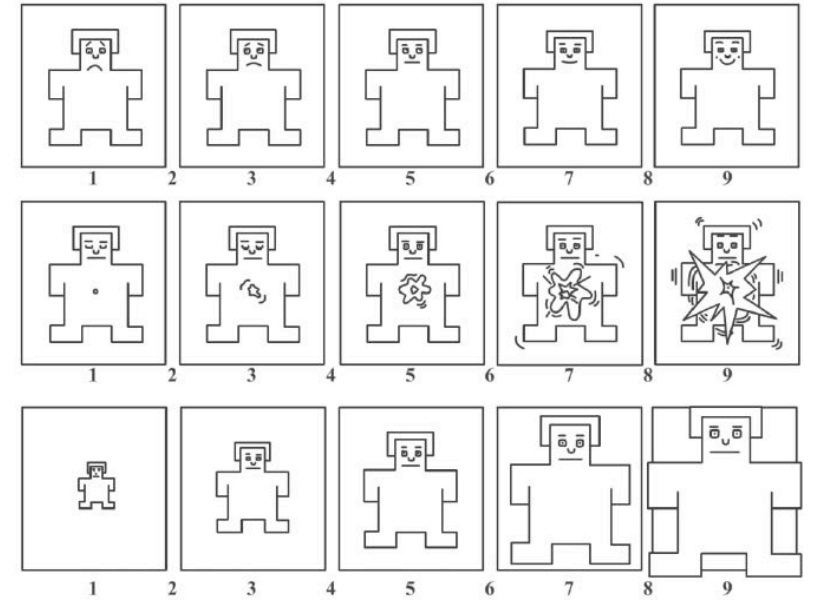
Central London Oppressiveness Study

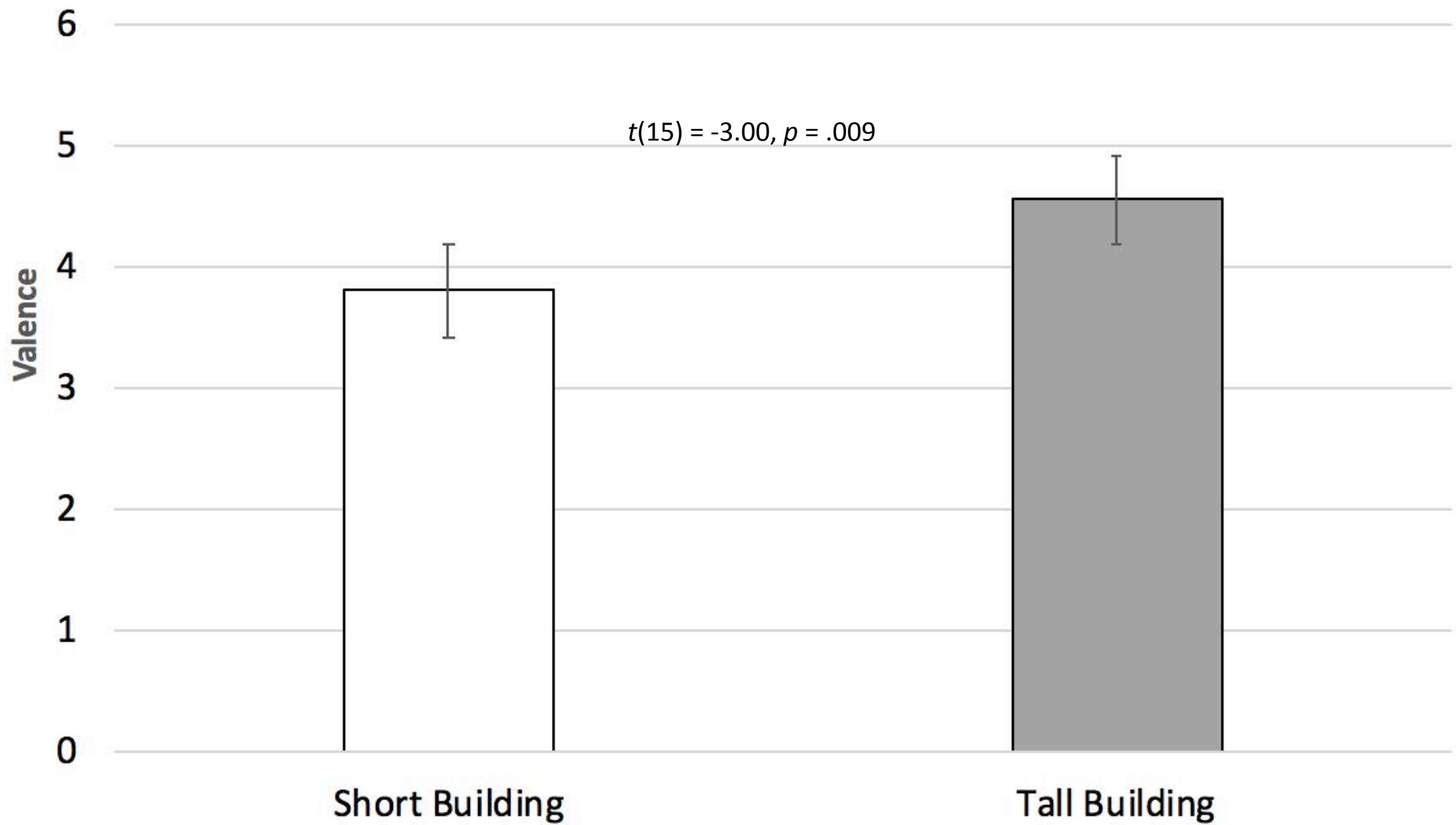
- 16 Participants recruited from University College London Summer SONA pool (8F, 28.95 y.o)
- August 7-8, 2018
 - 22 C, 20 C, clear skies
- No significant difference in decibels
- No significant difference in people count

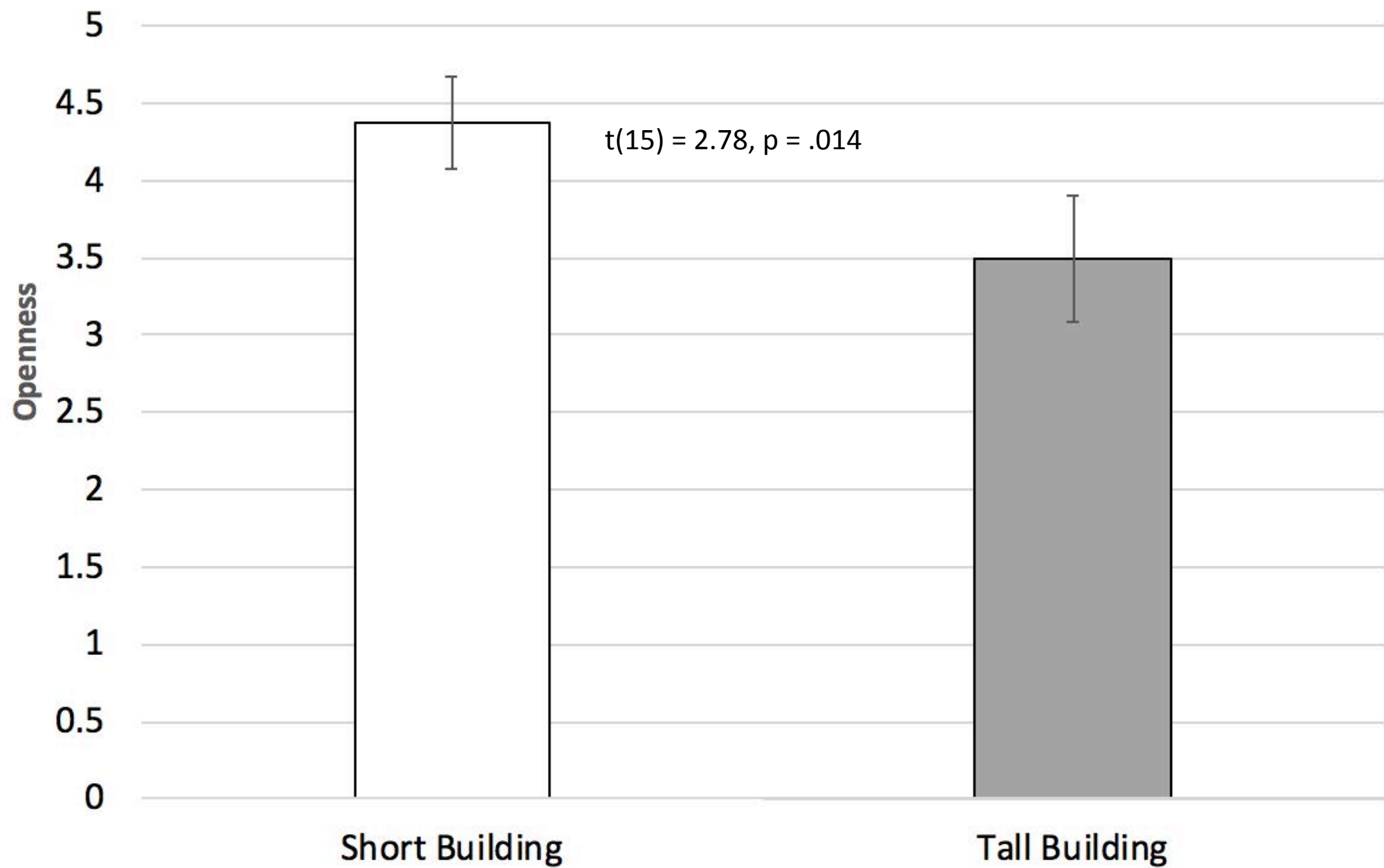


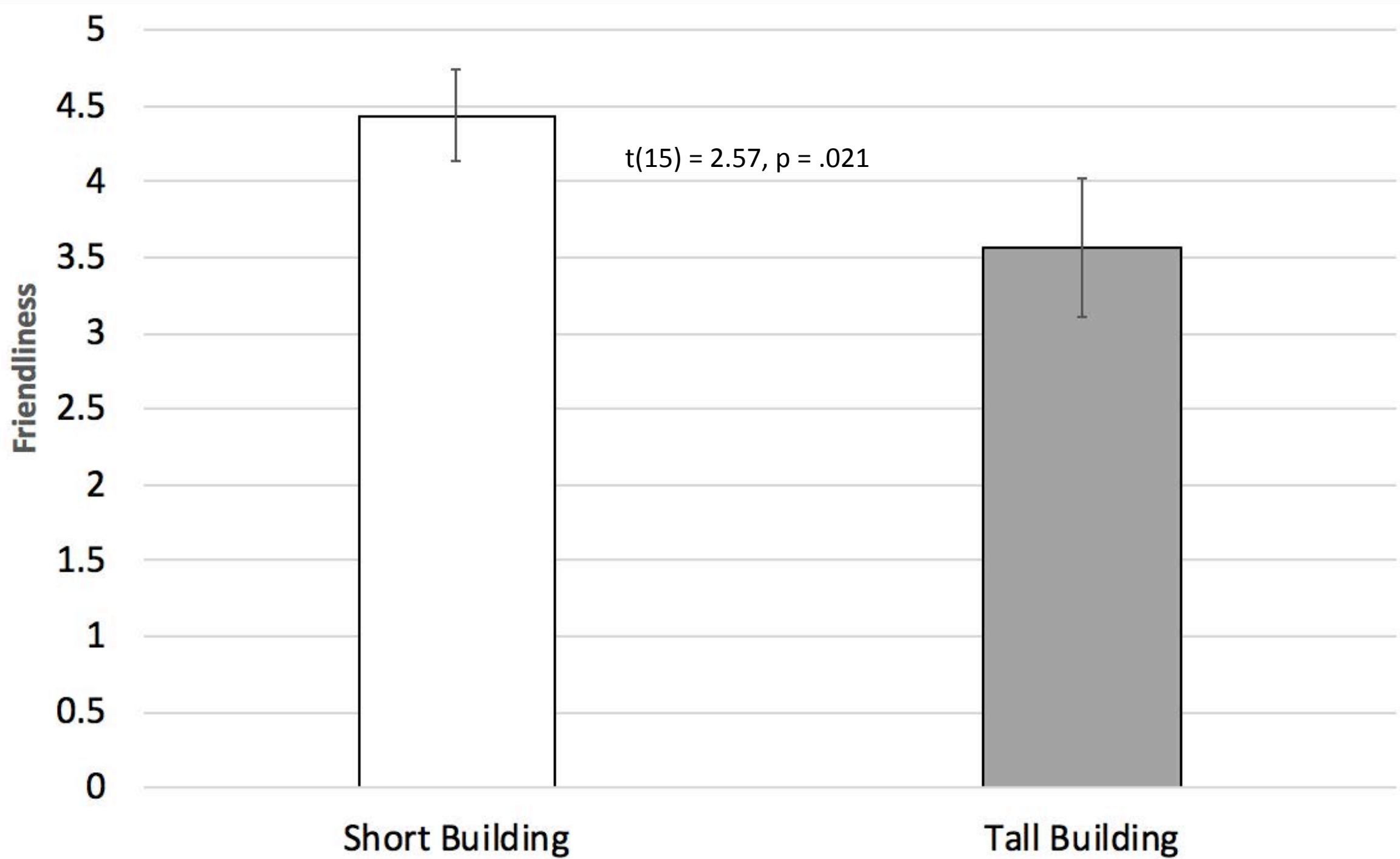
Procedure

- Met participant at the site.
- Fitted with Empatica E4 (skin conductance)
- Stood in front of site (counterbalanced)
for 5 minutes
- Completed Self Assessment Manikin
 - **Valence**
 - Arousal
 - Dominance
- Completed oppressiveness questionnaire
 - How oppressed did you feel?
 - How disturbing was the feeling of oppressiveness?
 - How open did you perceive the environment to be?
 - How satisfied were you with the openness?
 - How friendly was the setting?









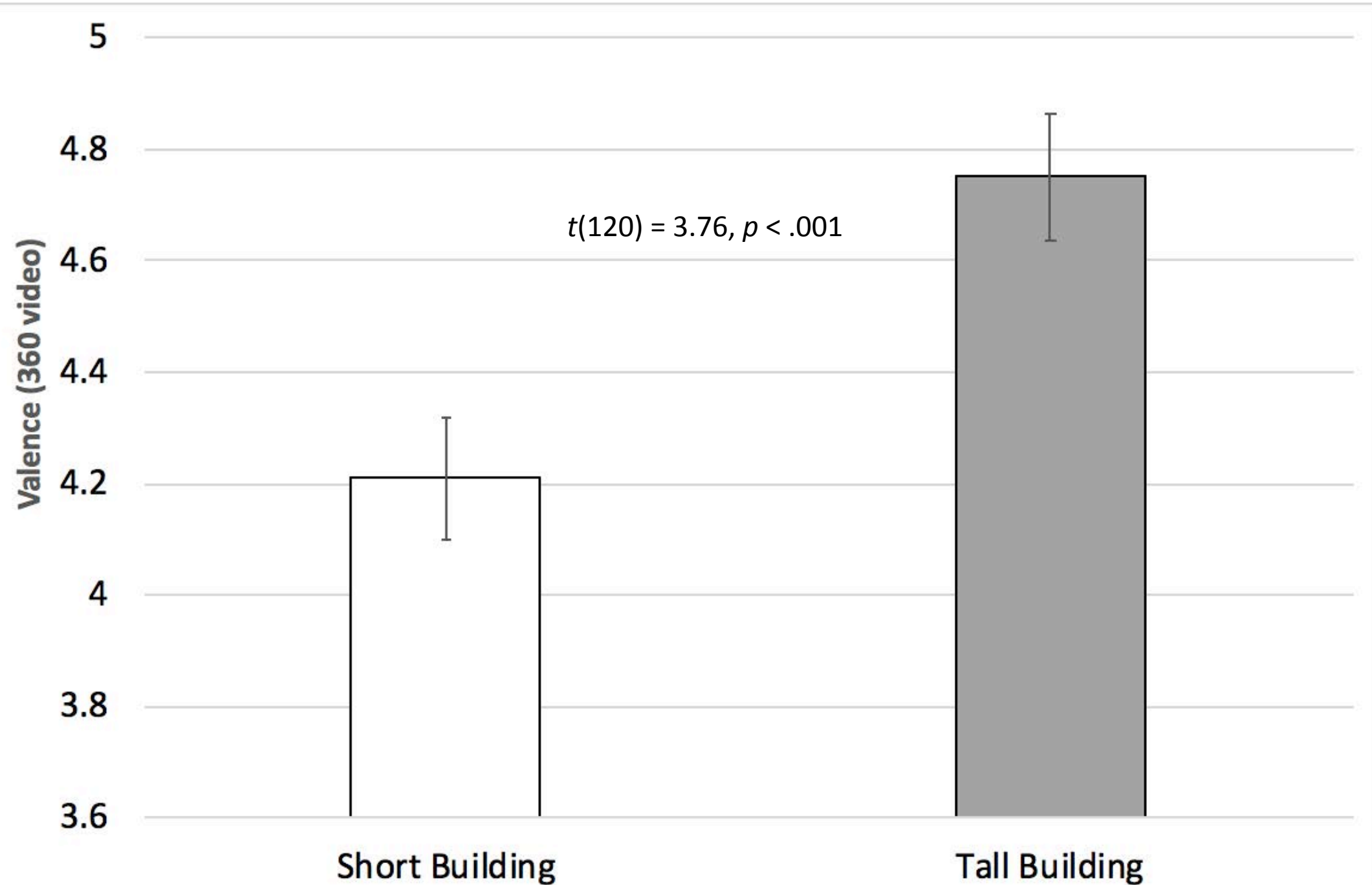
360 Video Study

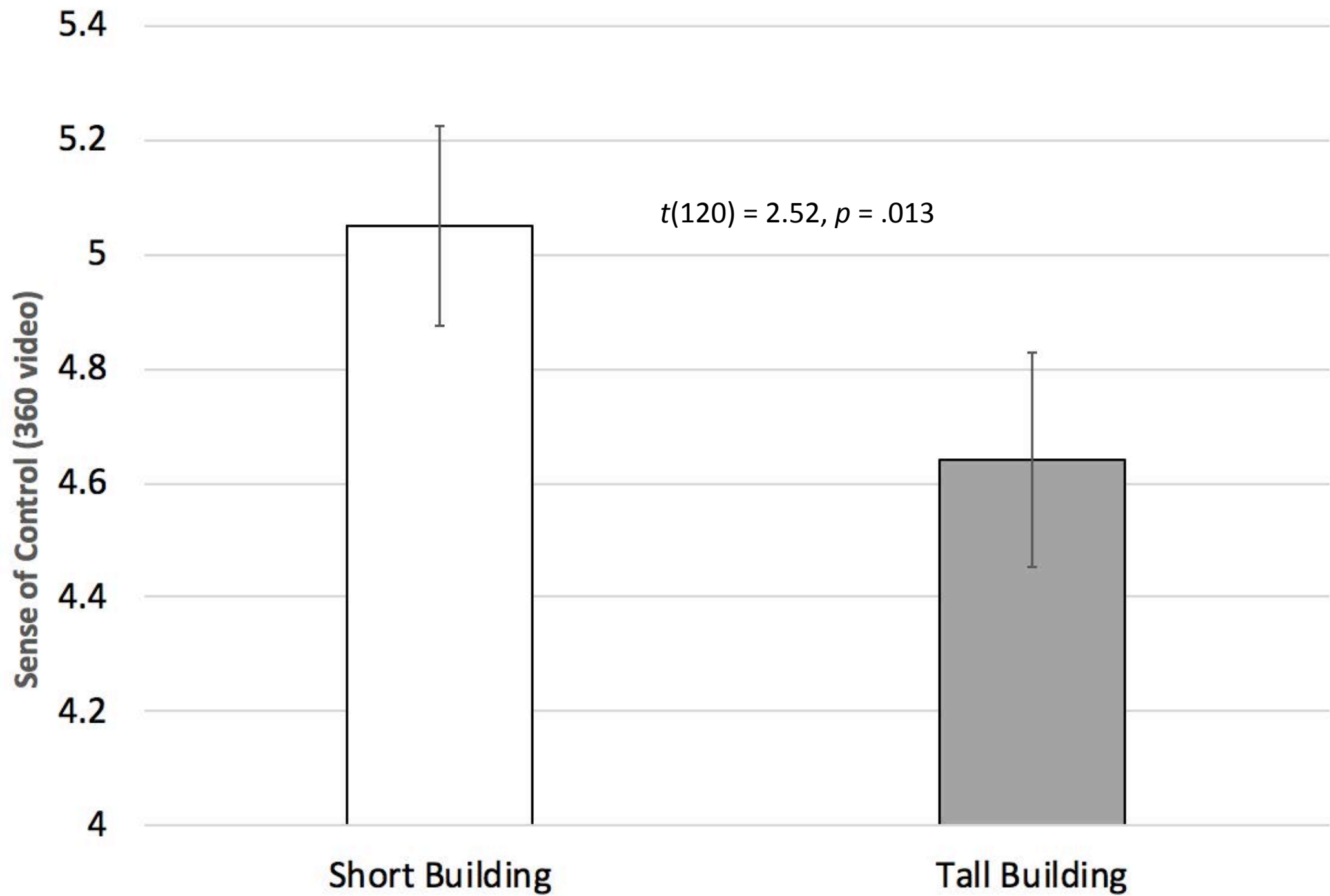
- 121 participants recruited from UW sona (71 F, 19.66 y.o)
- Exposed to 360 video of exact locations used in Central London study for exact same amount of time
- Same measures:
 - Self Assessment Manikin
 - Skin conductance (Empatica E4)
 - Oppressiveness Questionnaire

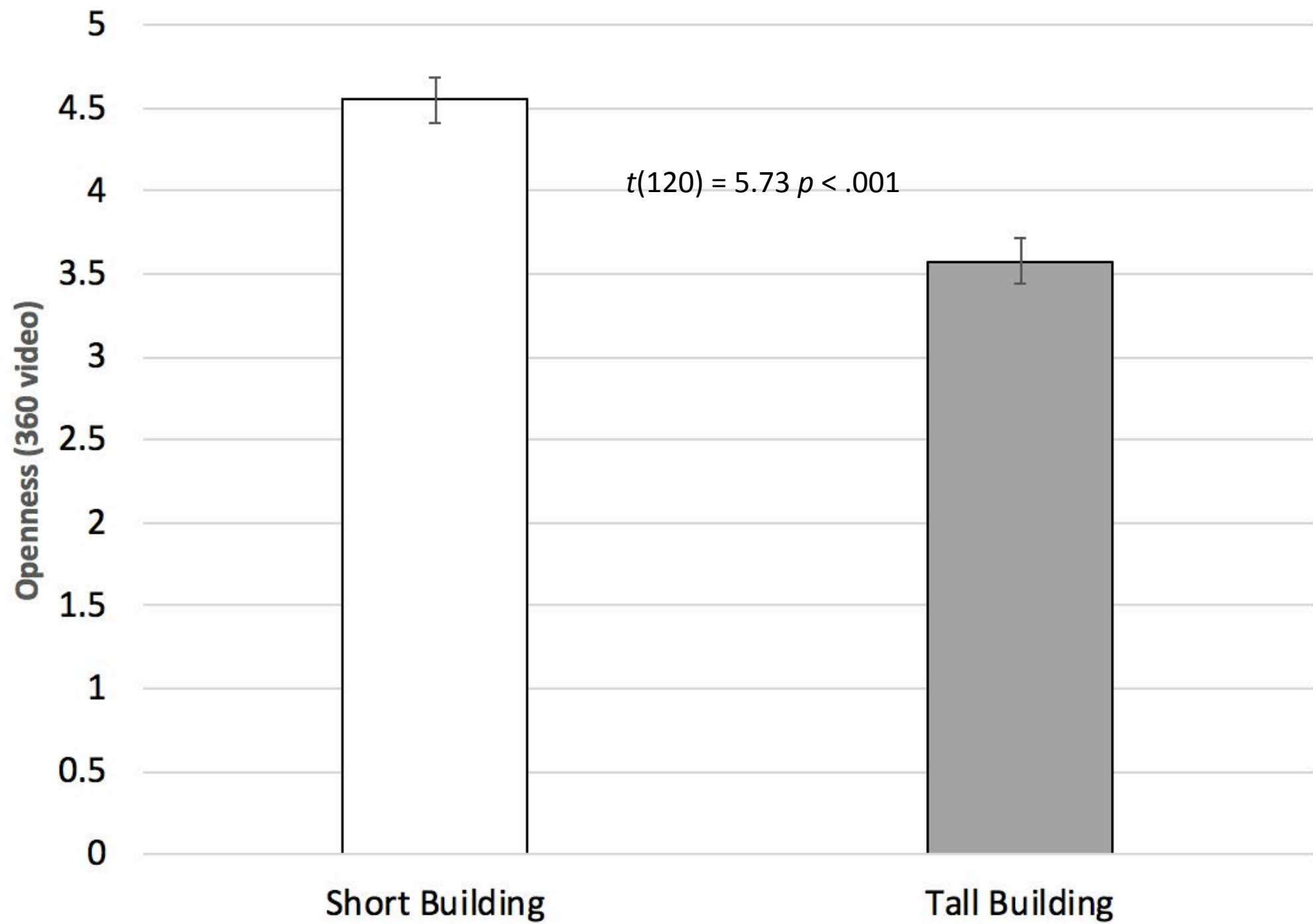


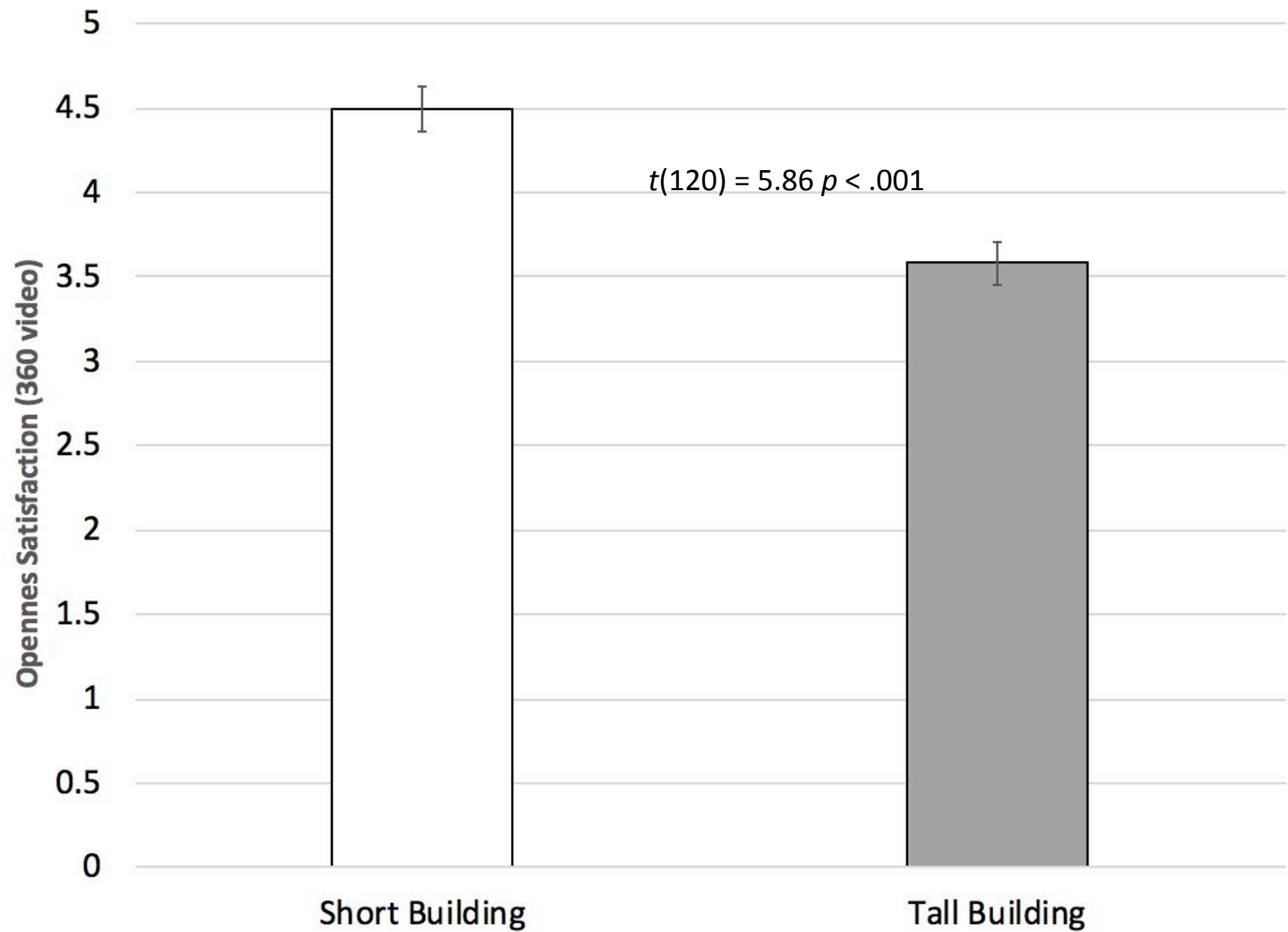


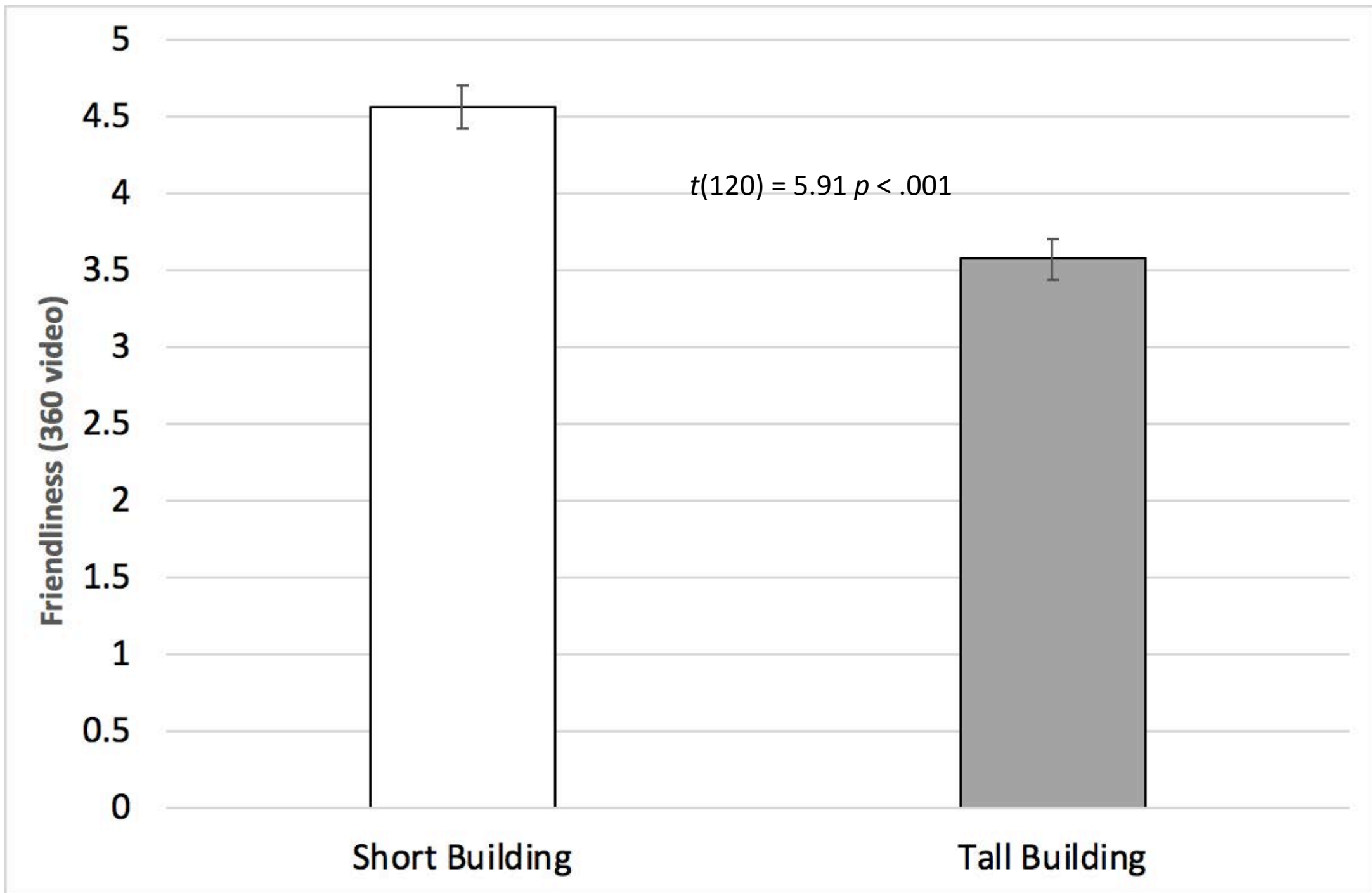












Implications and Future Directions

Findings

- Open environments in cities?
- Skyview preservation?

Methodology

- 360 video could allow for immersive experience and appraisal of various sites
- Dynamic experiences
- Online VR studies?
- Better EDA equipment



Thank you!

Dr. Colin Ellard
Dr. Hugo Spiers
Hanna Negami
Emily Grant
Adam Francey
Jatheesh Srikantharajah



Bourses d'études
supérieures du Canada
Vanier
Canada Graduate
Scholarships

@robinmazumder
robin.mazumder@uwaterloo.ca
www.robinmazumder.com