

Transforming Learning Conference

Swinburne

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The Use of Social Media to Enhance Student Learning in Engineering

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Outline

- Context and rationale
- Aims and objectives
- Methodology
- Data collection
- Preliminary results
- Next steps

Context and Rationale

Potential for Social Media (SM) as a facilitating tool in achieving higher level learning is supported by the literature

Valuable for transfer of knowledge and support tool for development of higher-level cognitive skills (reflection, metacognition)

Some studies suggest that introvert students and students from conservative cultural backgrounds expect to benefit more from the use of SM

Context and Rationale

While SM have become essential parts of university students' daily lives, students still did not perceive a connection between their online activities and institutional learning

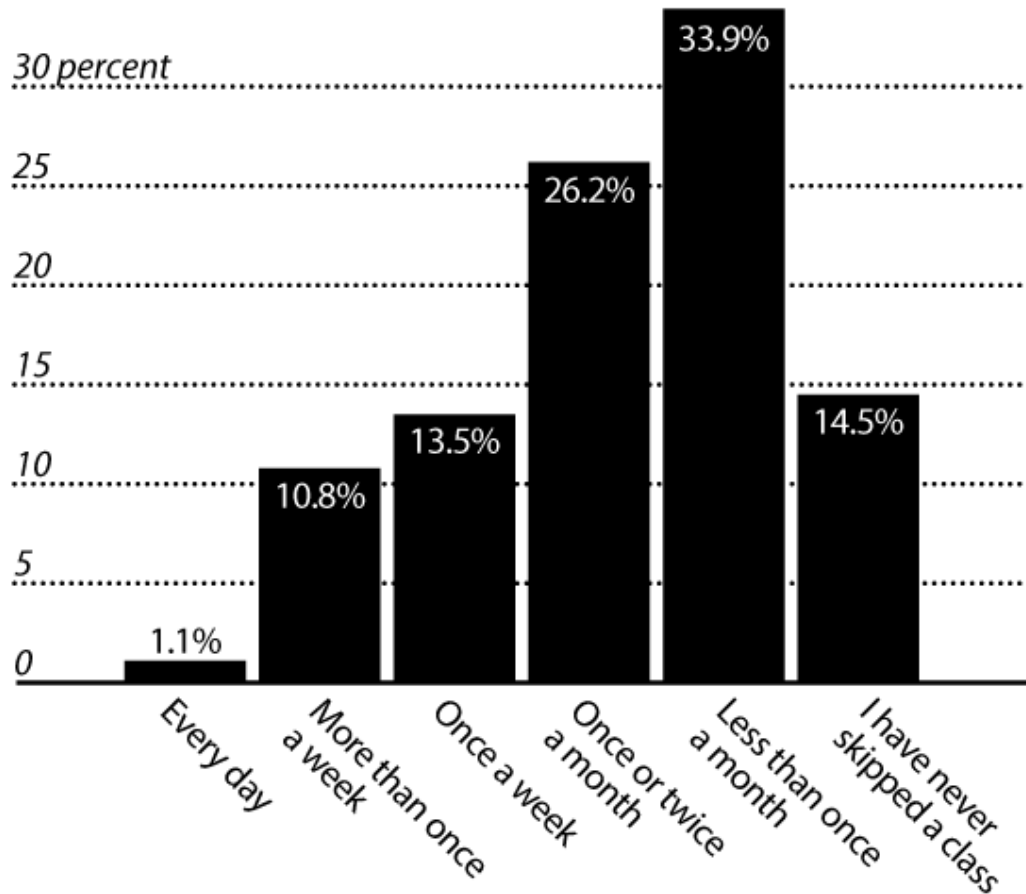


Context and Rationale

Lecture attendance and engagement

Class attendance

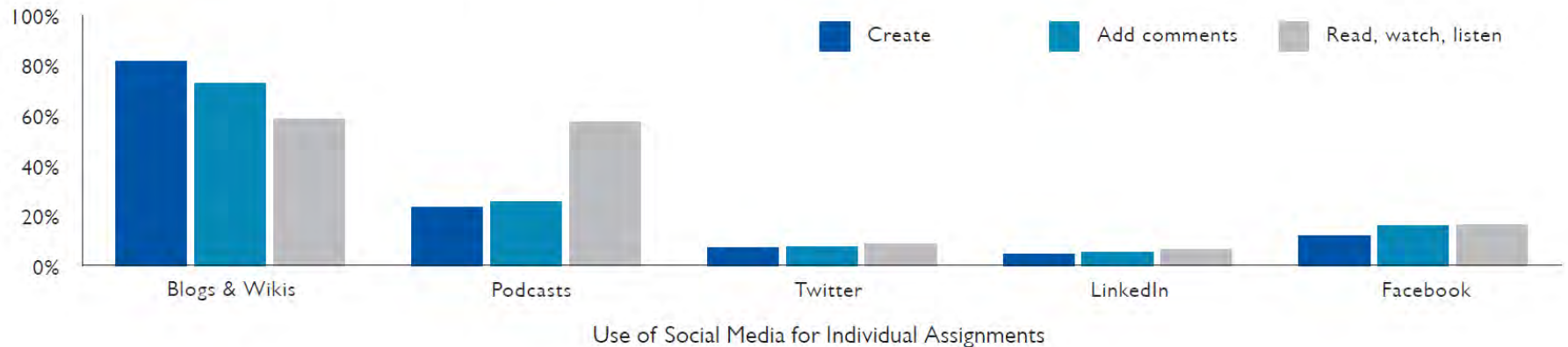
Q: How often do you skip class?



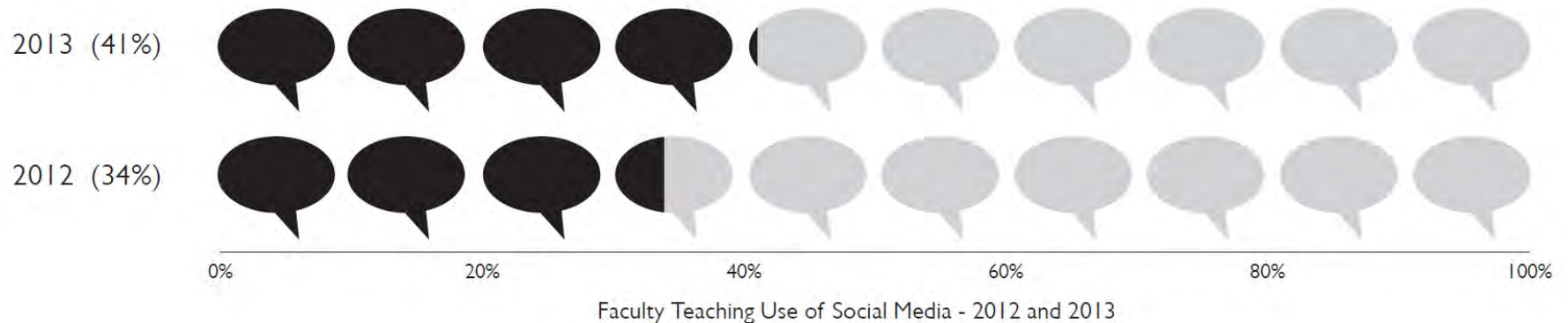
Pearson Learning: SM Survey 2013

U.S. Survey – respondents 7,969 academic staff

HOW ARE FACULTY ASKING STUDENTS TO ENGAGE WITH CONTENT?

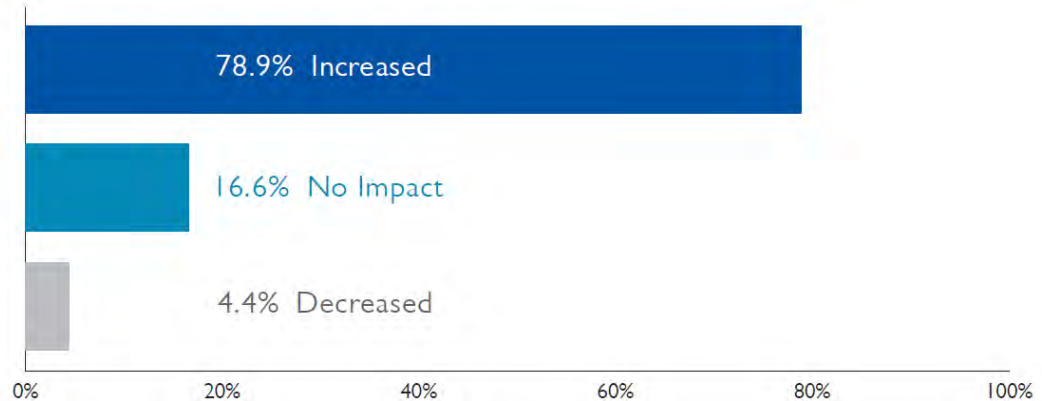


THE USE OF SOCIAL MEDIA IN TEACHING HAS GROWN 21.3% FROM 2012 TO 2013



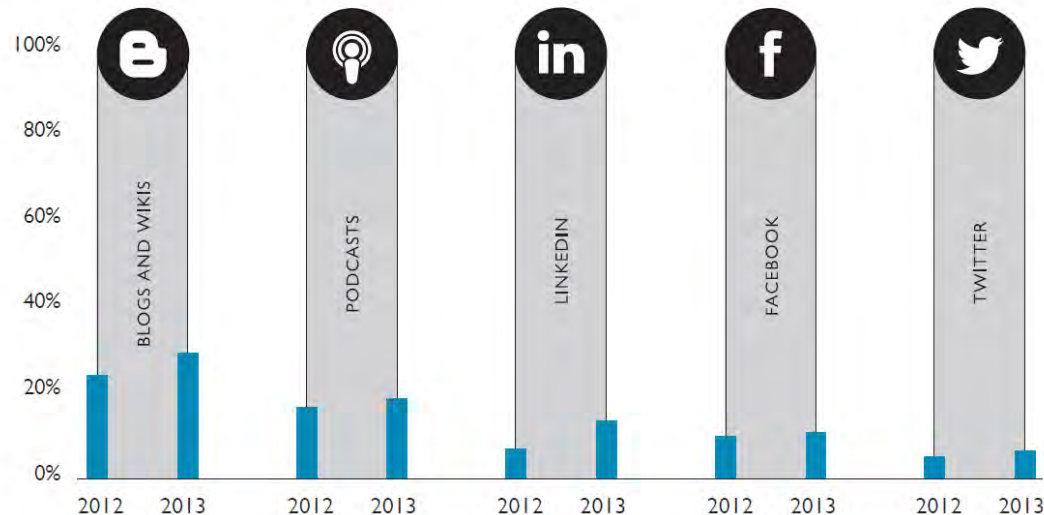
Pearson Learning: SM Survey 2013

WHAT IMPACT HAS TODAY'S TECHNOLOGY HAD ON FACULTY-STUDENT COMMUNICATION?



The Impact That Digital Communication Has Had on Your Communication with Students

HOW FREQUENTLY ARE BLOGS AND WIKIS USED IN TEACHING?



Enhance our understanding of the potential of *LinkedIn*, as a flexible and mobile social media platform, in contributing to high quality and engaged collaborative learning in higher education

Essentially a SM attitudes and usage study to examine how *LinkedIn* can enhance engagement with students through delivery of professional content



Investigate how *LinkedIn* can be used in transport engineering courses to enhance learning outcomes in sustainable transport practices

Explore the perceived benefits, from a student perspective, of its potential to support face-to-face learning

Complement existing body of literature with insights on its potential in enhancing learning in higher education and particularly in engineering courses

Make recommendations towards its promotion as a tool in engineering education for achieving higher level learning



How *LinkedIn* helps enhance students' learning?

- Broader technical knowledge
- Better understanding of global sustainable practices
- Higher competency in problem solving
- Improved skills for multi-disciplinary collaboration through participation in discussions with experts and other students

Are the learning benefits different for undergraduate and postgraduate students? Sarawak and Hawthorn students?



Why *LinkedIn*?

Mainly used for professional and business-oriented social networking

Allows users to develop long-form posts, share insights and participate in global networks and collaboration anywhere, anytime and using any device

Freely available with no on-going license or maintenance fees, which makes it easily scalable to other units of study



PINTEREST



TWITTER



FACEBOOK



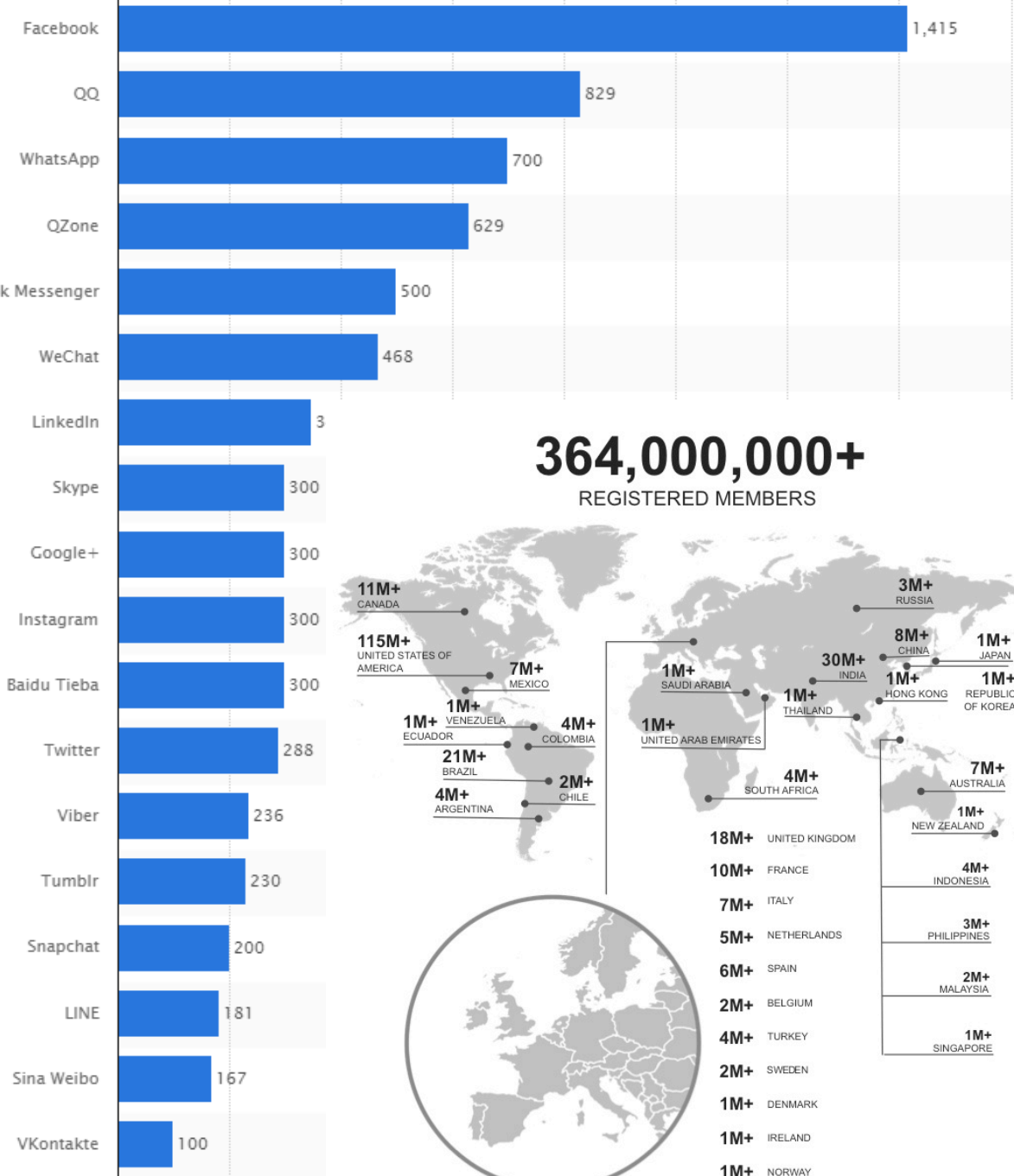
INSTAGRAM



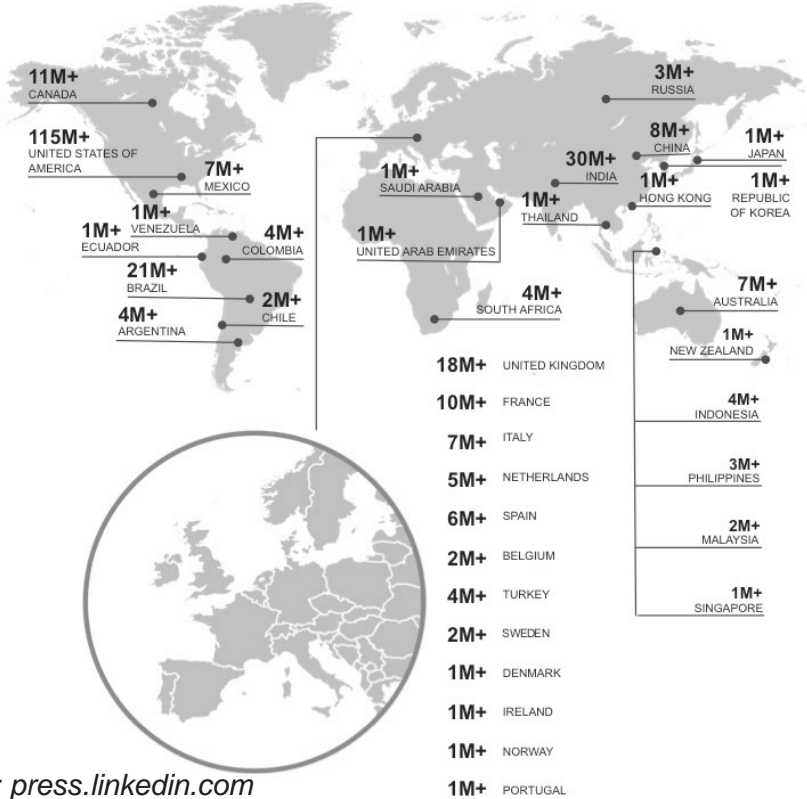
GOOGLE+



LINKEDIN



364,000,000+
REGISTERED MEMBERS



Source: press.linkedin.com

Methodology

Stage 1 - Completed

Student Participation and Engagement on the LinkedIn Group During Semester 1, 2015

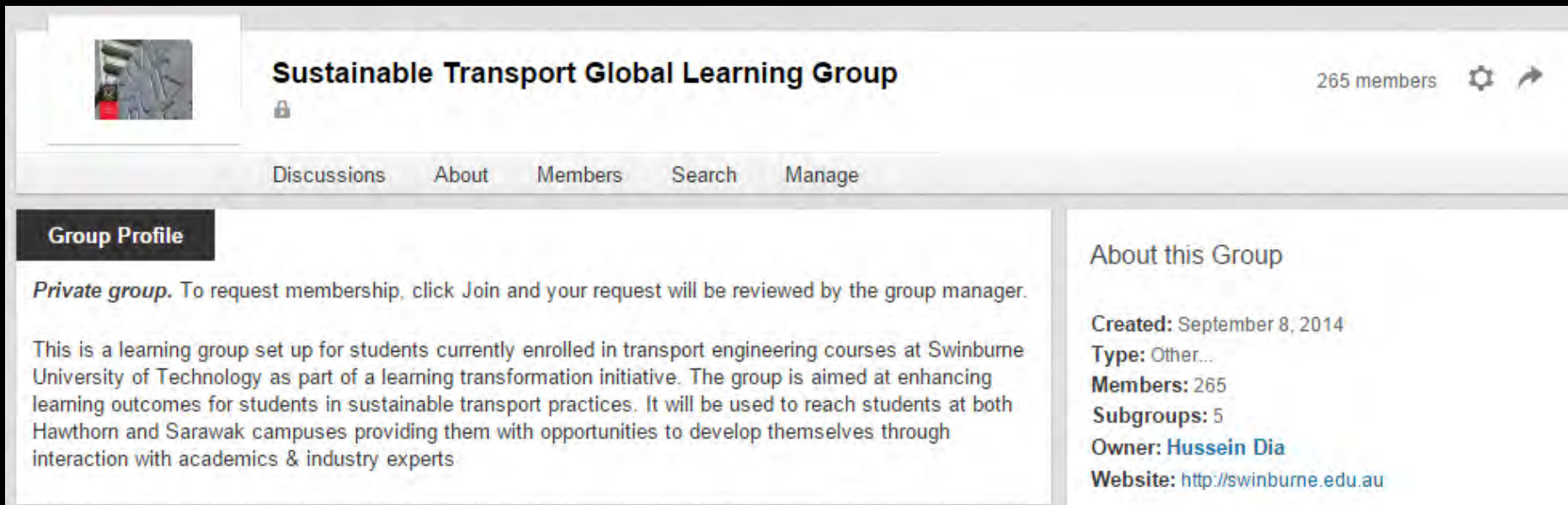
- Postgraduate/Undergraduate Elective Unit – Hawthorn (50/53 students)
- Undergraduate Unit (Year 3) – Hawthorn (112/138 students)
- Undergraduate Unit (Year 2) – Sarawak (75/96 students)
- Few Final Year Research Project, Masters and PhD (5 students)

Stage 2 - Ongoing

Research Survey and Evaluation – Post Release of Marks and Grades

Methodology – Stage 1

- Set up LinkedIn Group
- Invite national and international domain experts to write posts on sustainable transport
- Students set up LinkedIn account/profile



The screenshot shows the LinkedIn profile of the 'Sustainable Transport Global Learning Group'. The group has 265 members and is a private group. The profile includes a group photo, a lock icon, and navigation tabs for Discussions, About, Members, Search, and Manage. The 'Group Profile' section describes the group as a private learning group for students at Swinburne University of Technology. The 'About this Group' section provides details on the group's creation date (September 8, 2014), type (Other...), member count (265), number of subgroups (5), owner (Hussein Dia), and website (http://swinburne.edu.au).

Sustainable Transport Global Learning Group 265 members

Discussions About Members Search Manage

Group Profile

Private group. To request membership, click Join and your request will be reviewed by the group manager.

This is a learning group set up for students currently enrolled in transport engineering courses at Swinburne University of Technology as part of a learning transformation initiative. The group is aimed at enhancing learning outcomes for students in sustainable transport practices. It will be used to reach students at both Hawthorn and Sarawak campuses providing them with opportunities to develop themselves through interaction with academics & industry experts


About this Group

Created: September 8, 2014
Type: Other...
Members: 265
Subgroups: 5
Owner: Hussein Dia
Website: <http://swinburne.edu.au>

Student Participation

Students were asked to

- Send a request to join the LinkedIn group
- Comply with the online etiquette and code of conduct



The infographic features the LinkedIn logo at the top left. On the right side, there is a red-bordered profile picture of a smiling woman. The main title is 'How to Communicate Effectively on LinkedIn'. Below the title, it says 'Ensure your messages, comments, and updates stand out from the crowd.' A blue box on the right contains the number '1' and the heading 'Be authentic.' followed by the text: 'Communicate on LinkedIn the same way you would in professional interactions outside of LinkedIn. No need to be overly formal or change your style - be real, be you, but be professional.'

- Complete 2 on-line tests (5% of total mark) covering the material posted on the group

Student Engagement

Total of 242 (out of 292 students) joined the Group

Students engaged with the specialists and others on the group – *e.g. wrote comments, asked questions, and shared ideas, articles or news related to the topic under discussion*



5 online motivational badges awarded every week



SPECIALIST

Sustainable Transport Framework

Avoid-Shift-Improve

AVOID / REDUCE

SHIFT / MAINTAIN

IMPROVE



Reduce or avoid
the need to travel

Shift to or maintain share
of more environmentally
friendly modes

Improve the energy
efficiency of transport
modes and vehicle
technology

System
Efficiency

Trip
Efficiency

Vehicle
Efficiency

National and International Experts

Total 9 invited articles

- Four national
 - 3 academia
 - 1 industry
- Five international
 - 3 academia
 - 2 industry

Week 2

Integrated land use and transport planning: Is this the key to urban sustainability?

Professor Michael Anthony Peter Taylor
School of Natural and Built Environments
University of South Australia
Adelaide, Australia



Week 3

Transport systems and public health: Is repeated and prolonged driving in congested conditions a form of chronic stress and a serious health risk in the long run?

A/Professor Ghassan Abu-Lebdeh
Department of Civil Engineering
American University of Sharjah
United Arab Emirates



Week 4

How do we move towards smart and sustainable urban mobility?

Professor Lee Der-Horng
Department of Civil & Environmental Engineering
National University of Singapore
Singapore



Week 5

Turning idleness into action: 7 steps to help create healthy and active communities

Ms Rachel Smith
Principal Transport Planner
AECOM
Brisbane, Australia



Week 6

Should public transport tickets be free?

Professor Graham Currie
Professor of Public Transport
Institute of Transport Studies
Department of Civil Engineering
Monash University, Melbourne, Australia



Week 7

Educating across the convergence: How do we prepare the next generation of transportation professionals to lead the sustainability agenda?

Mr David E. Pickeral, JD
Transportation Sector Lead
IBM Industry Smarter Solutions Team
Virginia, USA



Week 8

What does successful transport integration really mean?

Professor Phil Charles
Transport Group
School of Civil Engineering
University of Queensland
Brisbane, Australia



Week 9

Gamification and sustainable mobility: What have we learnt and how do we move forward?

Dr Eleni Vlahogianni
Assistant Professor
School of Civil Engineering
National Technical University of Athens
Greece



Week 10

Transport in the Metropolis: How do we plan and manage transport in a rapidly urbanising world?

Mr Pedro Ortiz
Visiting Professor – Milano Politecnico
Senior Urban Planner – The World Bank
Washington D.C.



Qualitative Assessment - Ongoing

Quality of interactions

Do students follow up with relevant comments and questions?

Do students relate the topic to local issues here in Melbourne or Sarawak?

Do students provide examples of good practices that they have seen? or

Do students simply press the 'Like' button?

Observations

Students are most engaged with the articles that contain interesting and exciting content

Same group of students were always most active, commenting and engaging on a regular basis

Students from the Sarawak Campus (2nd year Civil Engineering students) were the least engaged although they participated by “liking” the articles

Observations

Different unit outlines in the three subjects - some students felt the post content was not directly related to the topics they covered in class

Students' engagement slowed during the last 4 weeks of the semester – possibly due to higher work load or 'saturation'?

Comments from people outside the Group provided students with different insights from other professionals

Stage 2: Research Survey and Evaluation

Student participation in the research part of this initiative

- Optional and anonymous
- Only generic information was collected
- Confidentiality and privacy are protected

Survey Questions



Using Social Media to Enhance Learning Outcomes in Transport Engineering Courses

Survey information and consent

Dear Student,

Thank you for participating in the LinkedIn "[Sustainable Transport Global Learning](#)" Group.

We would now like to invite you to participate in this **optional** and **anonymous** research survey which is intended to collect informa

In this survey, your confidentiality and privacy are ensured by the anonymous survey process. Not participating in the research surv

This survey includes 22 questions and should take no longer than 10 minutes to complete.

We value your feedback and participation in this survey and thank you for your time.

With best wishes

A/Prof Hussein Dia, Dr Rayya Hassan, Ms Elizabeth Chong

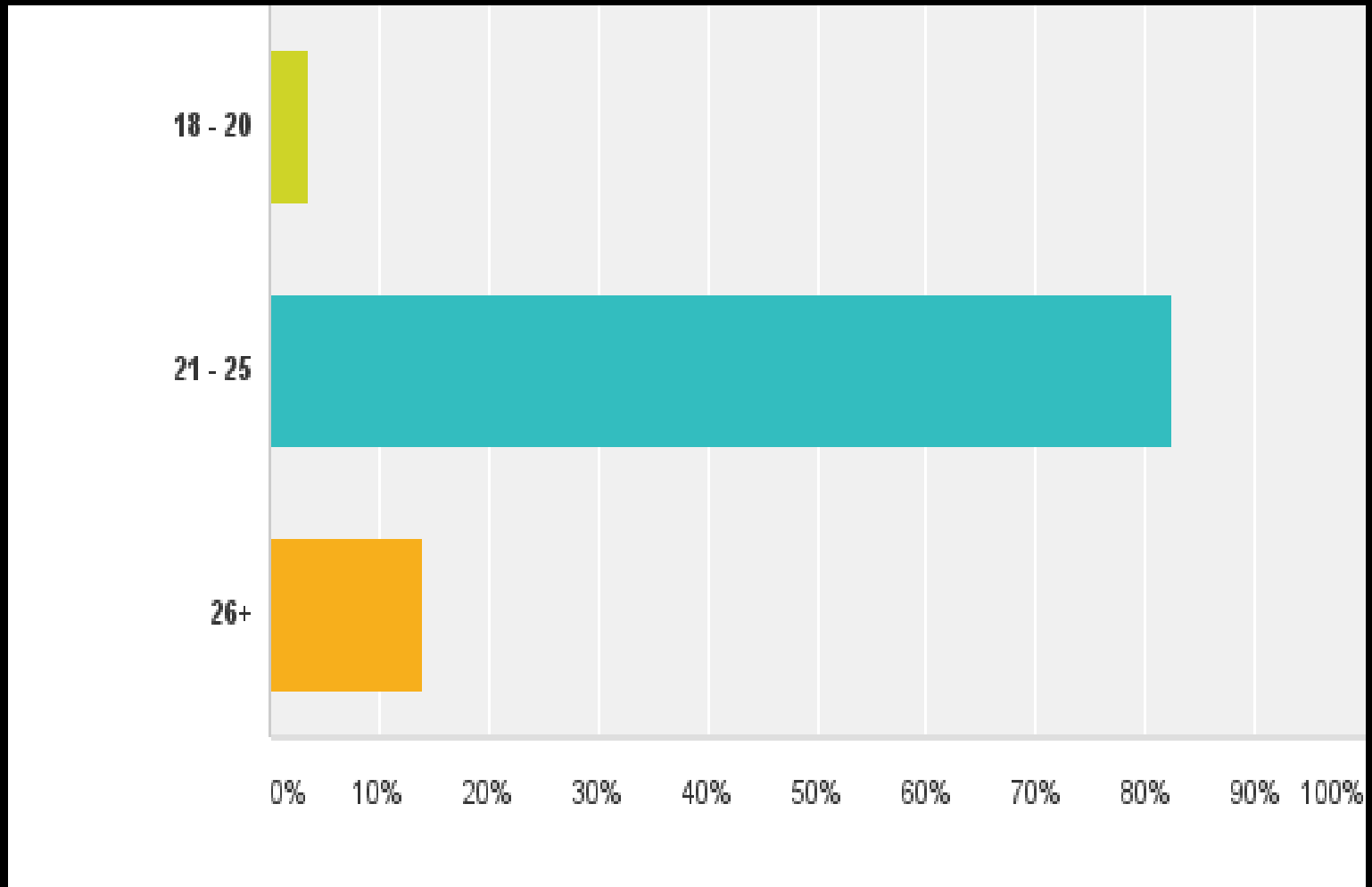
*** 1. Do you consent to participate in this survey?**

Yes

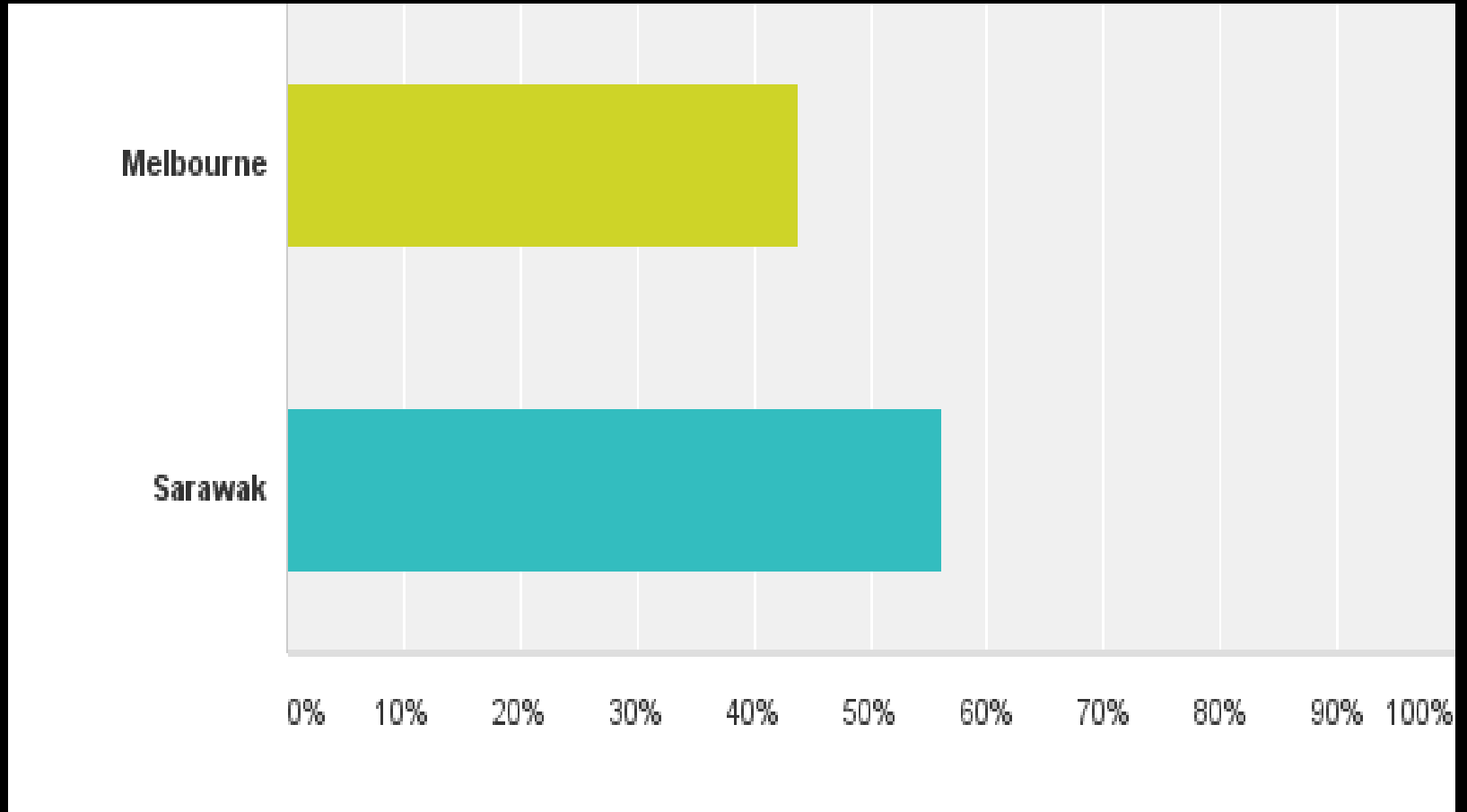
No

Q2: Age

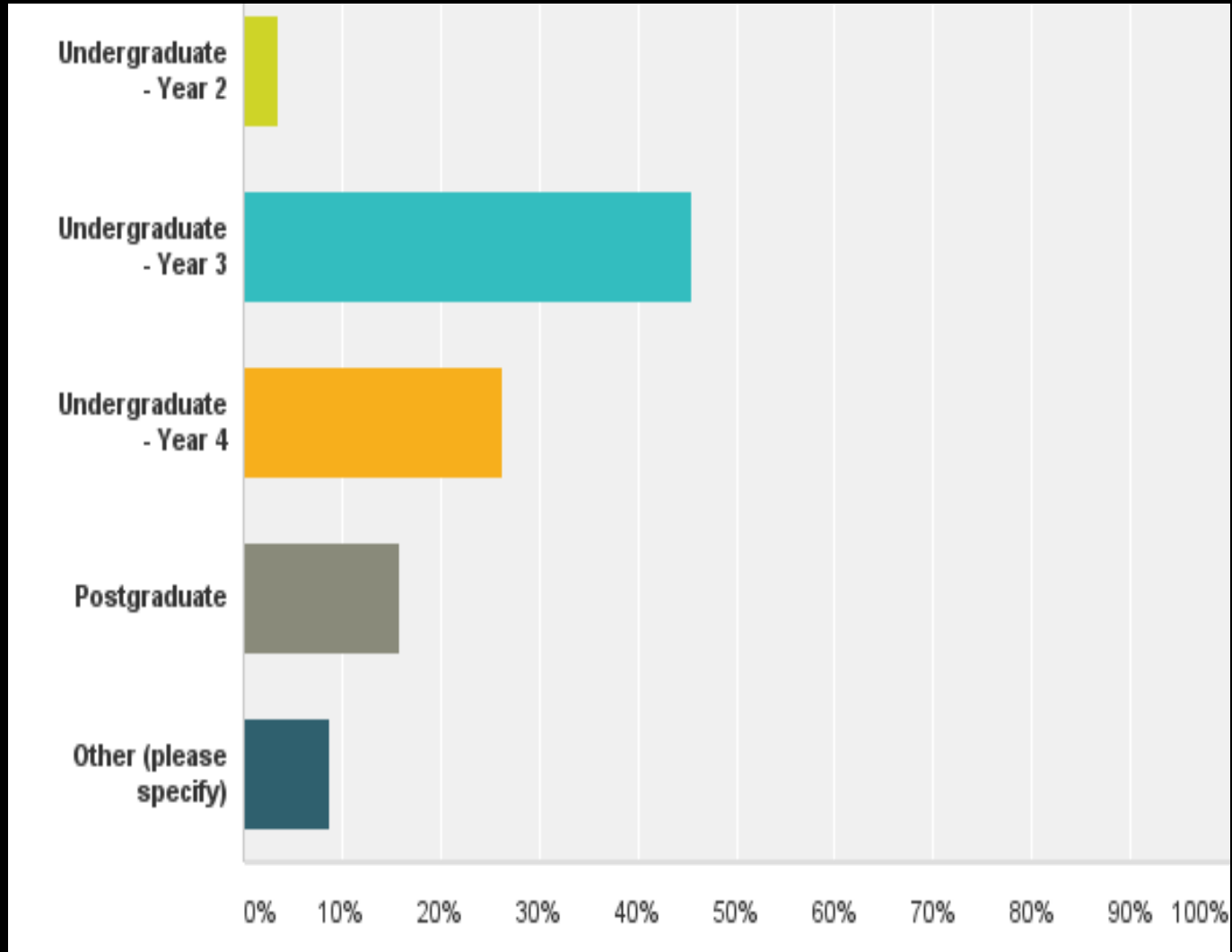
57 Responses



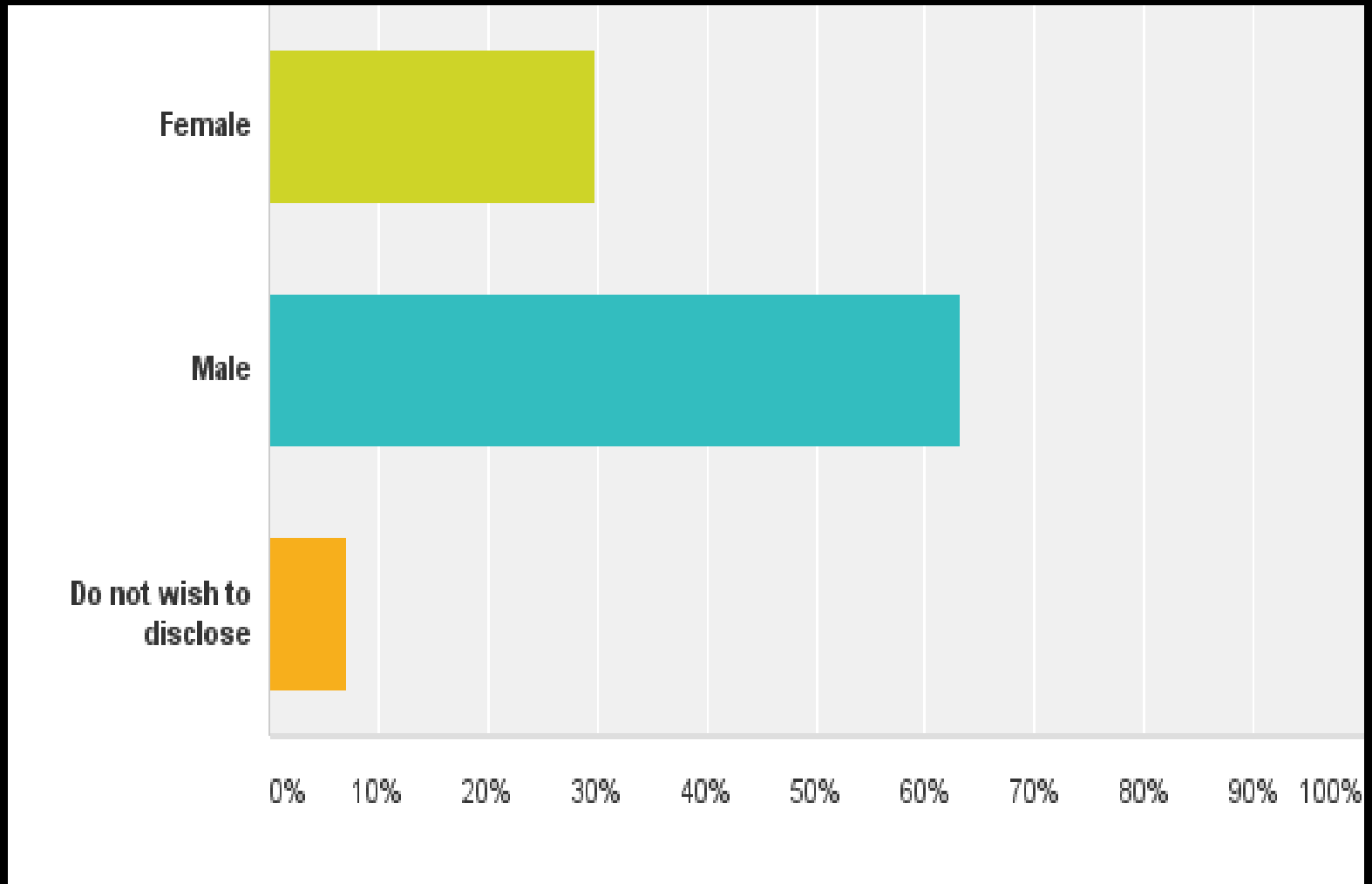
Q3: Your campus location



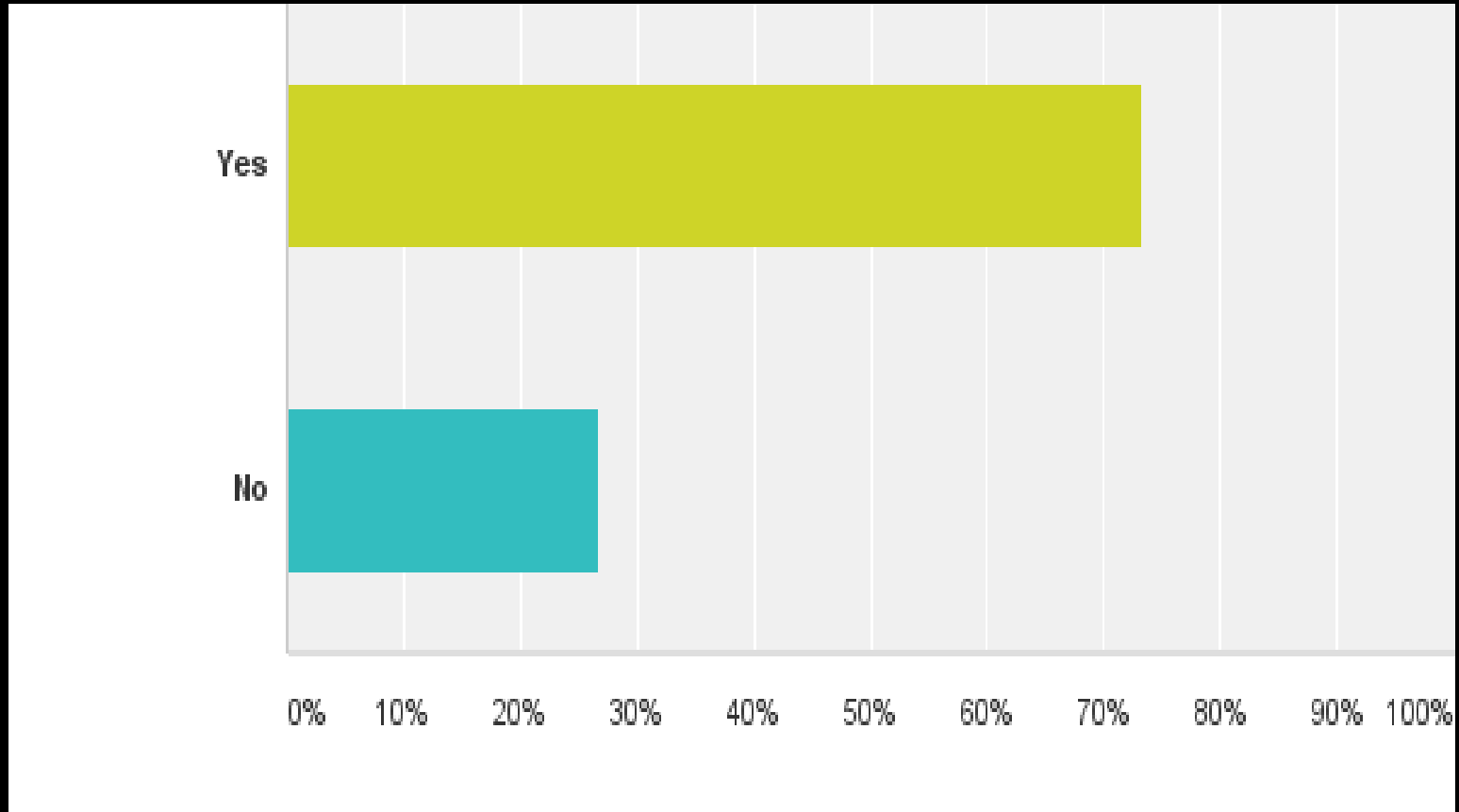
Q4: Your year level at Swinburne



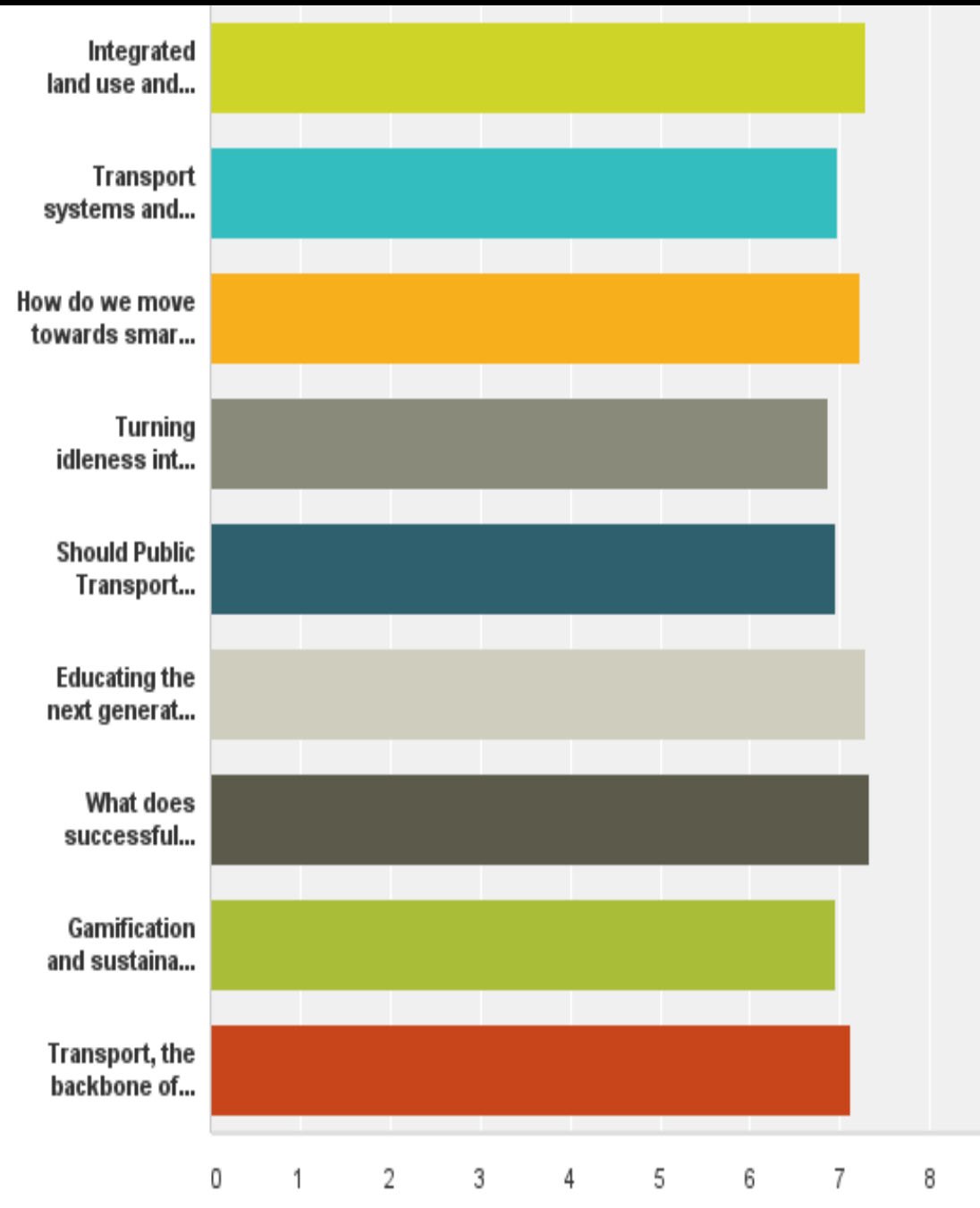
Q5: Your gender



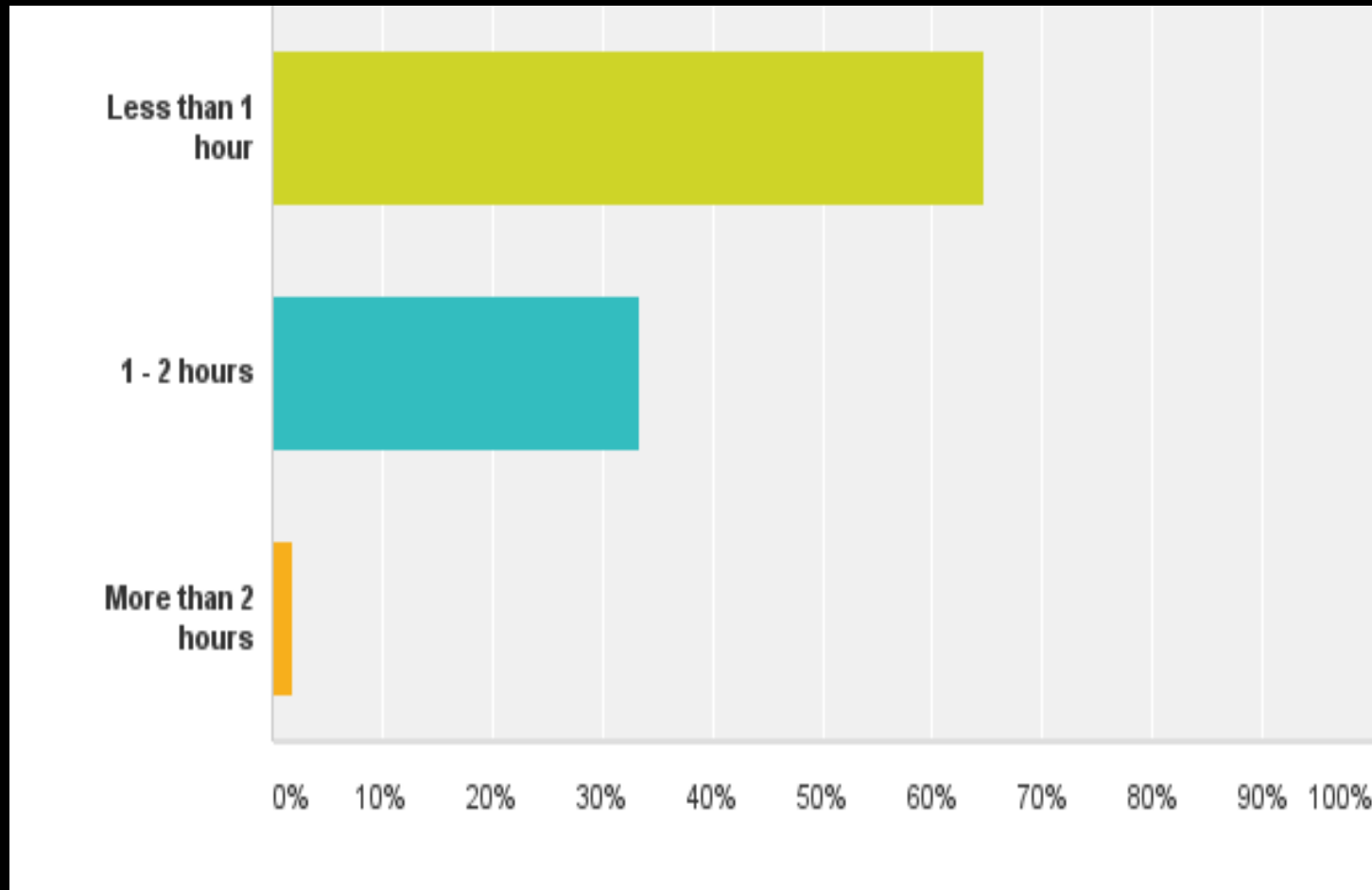
Q6: Have you heard of or used LinkedIn before taking part in this project?



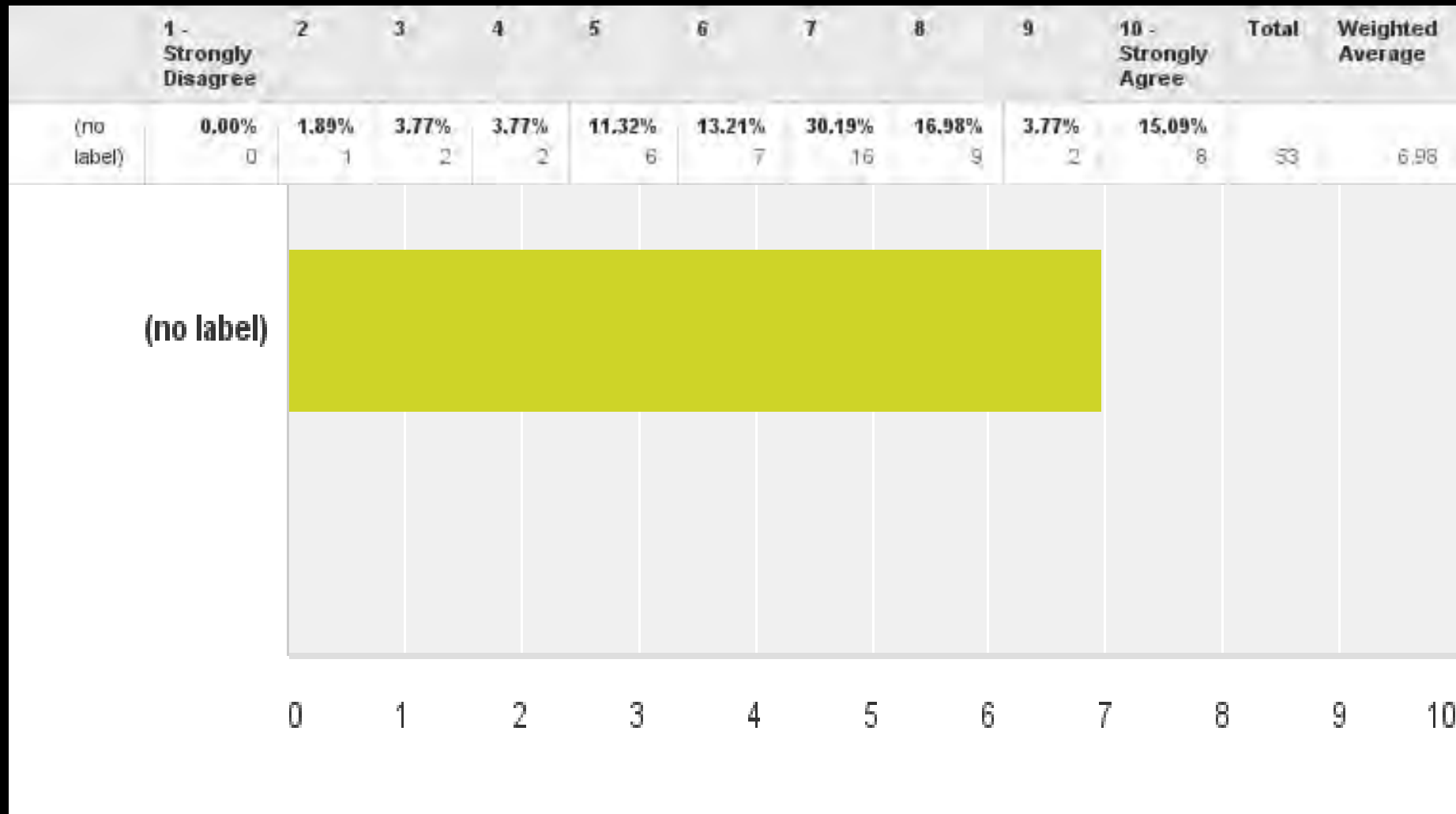
Q9: How would you rate the topics in terms of their relevance to enhancing your learning and knowledge in sustainable transport?



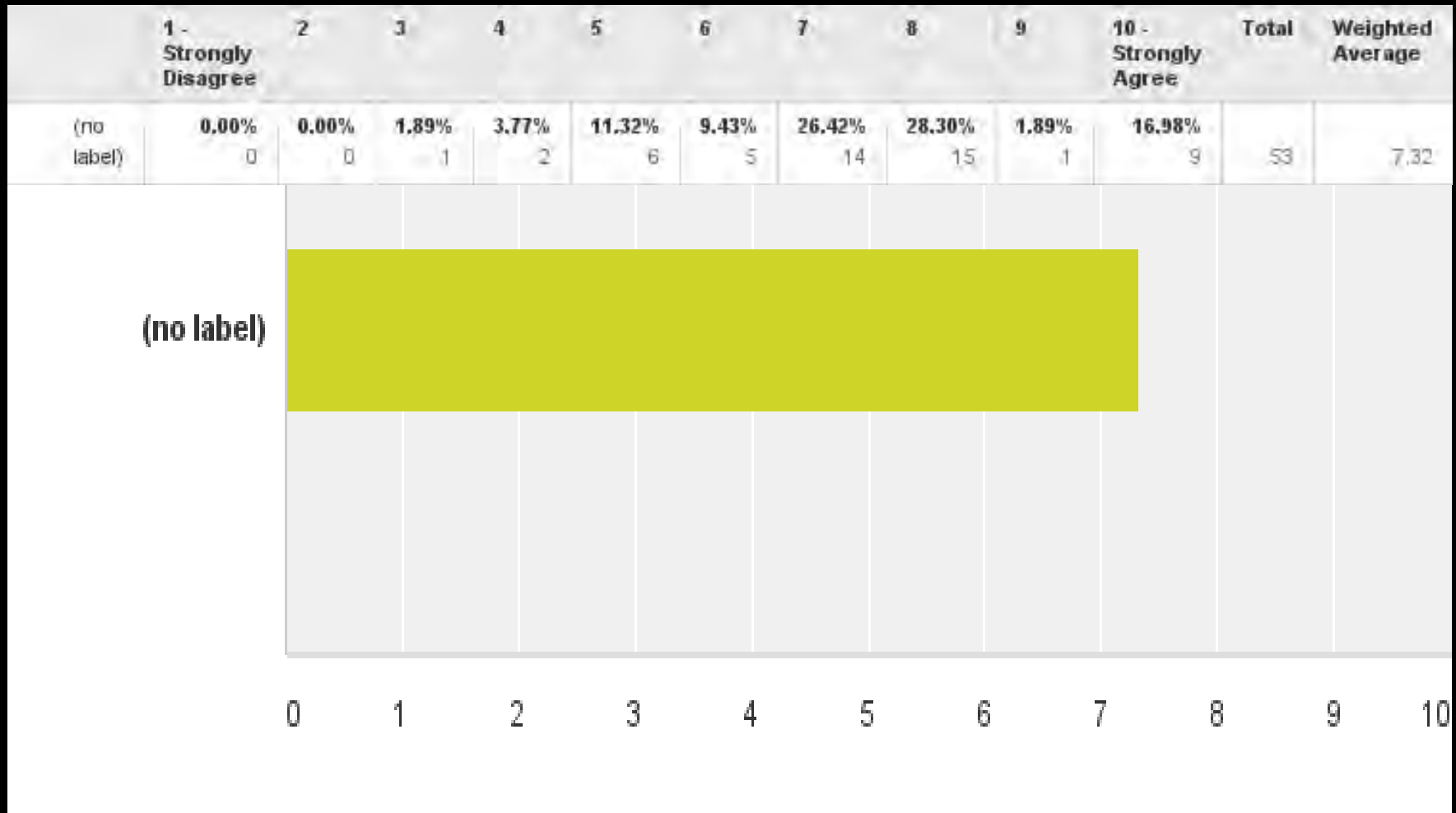
Q10: On average, how much time did you spend every week on the LinkedIn Group?



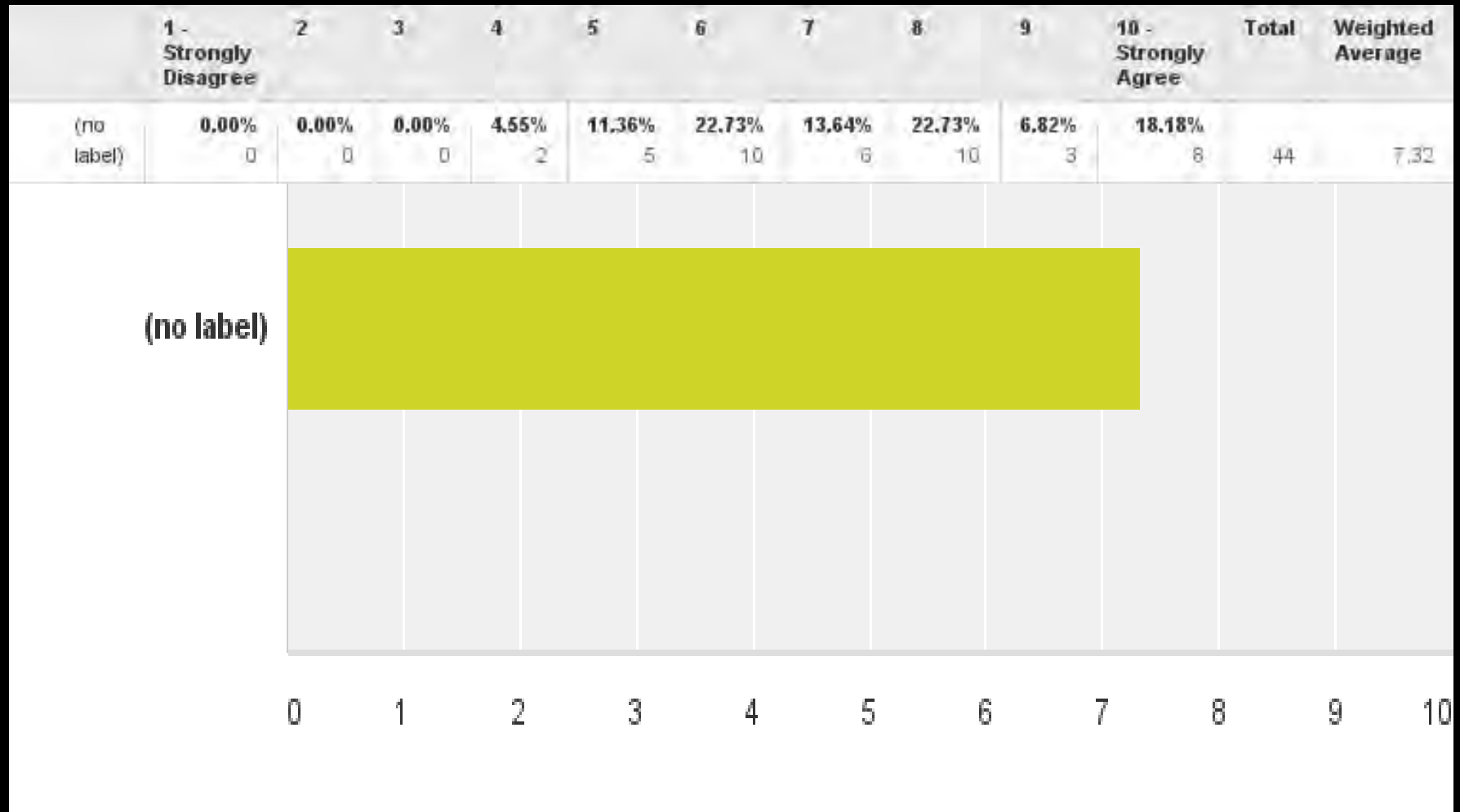
Q11: Do you now, compared to when you first joined the Group, have a better understanding of sustainable transport?



Q12: Do you now, compared to when you first joined the Group, have a better understanding of global issues and practices in sustainable transport?



Q18: Has your participation in this project increased your interest in the field of sustainable transport?



Next Steps

- Undertake evaluation and analysis of survey results
- Survey closes 9 October
- Project completion date is 31 October 2015
- Final report by 30 November 2015
- Explore external funding opportunities