Tourism Management 69 (2018) 487–497

Contents lists available at ScienceDirect

Tourism Management

journal homepage: www.elsevier.com/locate/tourman

Beach safety knowledge of visiting international study abroad students to Australia

Kirsten M. Clifford[a], Robert W. Brander[a,*], S. Trimble[b], C. Houser[c]

[a] School of Biological, Earth and Environmental Sciences, UNSW Sydney, Sydney, 2052, Australia
[b] Department of Geography, Texas A&M University, TX, USA
[c] Faculty of Science, University of Windsor, Windsor, Canada

ARTICLE INFO

Keywords:
Recreational beaches
International students
Tourist safety
Beach hazards
Tourist education
Survey

ABSTRACT

International visitors are a particularly at-risk group when visiting Australian beaches due to poor knowledge of beach safety practices and hazards and typically comprise ~10% of annual coastal drowning fatalities. This study examines beach safety knowledge and behaviour of visiting international Study Abroad students at UNSW Sydney, Australia in 2017. Data was obtained from online surveys of 254 students. The vast majority (92%) received no beach safety information prior to leaving for Australia, 85% arrived with no knowledge of the Australian beach safety flag system, and only 24% were able to correctly describe hazardous rip currents. A safety briefing soon after arrival in Australia, as well as visiting Australian beaches, improved knowledge and awareness: after these experiences only 20% were still unfamiliar with the flag system and correct description of rip currents rose to 60%. These findings have global implications for educating all types of international visitors about beach safety.

1. Introduction

Beaches are a major driver of tourism in Australia with an estimated 100 million visitations per year by both domestic residents and international tourists alike (SLSA, 2017). Australian beaches are considered places of leisure and recreation as they are easily accessible and free of cost, but they can also be dangerous environments. Physical environmental hazards include large waves, offshore flowing rip currents, changing tidal conditions, and dangerous marine life (Short, 2006, 2007; Warton & Brander, 2017). In the 2016–2017 season, approximately 11,000 ocean rescues were conducted on Australian beaches and there were 116 fatal drownings, which represented a significant increase from the average of 99 annual drowning deaths over the previous thirteen years (SLSA, 2017).

Drowning is a major public health concern with costs impacting families, bystanders, society, and the economy (Gilchrest & Branche, 2016; Sherker, Brander, Finch, & Hatfield, 2008). These costs can be exacerbated when the persons involved are international visitors due to extradition of the deceased, and responsive family travel and insurance procedures. International visitors are also considered to be a high-risk group vulnerable to coastal drowning due to a range of factors such as: unfamiliarity with the environment and associated hazards (Ballantyne, Carr, & Hughes, 2005; Moran & Ferner, 2017; Peden, Franklin, & Leggat, 2016; Wilks, 2007; Wilks, De Nardi, & Wodarski, 2007), potential language barriers (Wilks, 2007), poor swimming abilities (Drozdzewski, Roberts, Dominey-Howes, & Brander, 2015; Williamson, Hatfield, Sherker, Brander, & Hayen, 2012), and inattention when on vacation (Ballantyne et al., 2005; Wilks & Pendergast, 2010; Wilks, Dawes, Pendergast, & Williamson, 2005). It is estimated that 75% of international visitors to Australia engage in aquatic and coastal activities, such as visiting a beach (Tourism Australia, 2017), and since 2012 between 7 and 14% of coastal drowning fatalties in Australia each year have been international visitors (SLSA, 2016). This value has been as high as 25% in the past (Morgan, Ozanne-Smith, & Triggs, 2008).

Another contributing factor to visitor drowning vulnerability is that only 4% of the estimated 11,000 beaches in Australia are patrolled by professional lifeguarding and/or volunteer surf lifesaving services (SLSA, 2017). Patrolled beaches are indicated by a (typically) single pair of poles flying red and yellow flags that demarcate a narrow section of supervised beach that is considered as 'safer' for swimmers. However, many unpatrolled beaches are easily accessible and situated close to holiday accommodations (McKay, Brander, & Goff, 2014). Almost all beach drownings in Australia occur outside of lifeguard patrol hours, away from patrolled areas, and on unpatrolled beaches (Brander & Scott, 2016; SLSA, 2017). As described by Warton and Brander (2017), in the absence of lifeguard presence, a critical determinant for

* Corresponding author.
E-mail address: rbrander@unsw.edu.au (R.W. Brander).

https://doi.org/10.1016/j.tourman.2018.06.032
Received 5 January 2018; Received in revised form 28 June 2018; Accepted 28 June 2018

visitor safety on beaches is how much they understand about Australian beach hazards. Unfortunately, it is well established that this knowledge is poor amongst international visitors to Australia, including university students (Ballantyne et al., 2005; Williamson et al., 2012).

Australia is a popular destination for international university students and tens of thousands study at tertiary institutions each year (Australian Education Network, 2017), either for their whole degree or as part of a Study Abroad program for a single semester (typically 4–5 months). It should be noted that international students are not tourists *per se*, as they visit Australia for an extended period of time with the primary purpose of studying, and generally have good English language skills. However, it is logical to assume that they are just as at-risk when visiting beaches as international tourists for the same reasons described by Wilks et al. (2005). Indeed, Ballantyne et al. (2005) found the majority of surveyed international students at the University of Queensland were unaware that the red and yellow flags marked out lifeguard patrolled areas in Australia and only 51% of these students stated they would swim between the flags. Houser, Brander, Brannstrom, Trimble, and Flaherty (2016) studied American university students partaking in Study Abroad programs at multiple locations overseas and the beach safety risks they faced. In this group, students' beachgoing behaviour was guided by peer influence, lack of understanding of their host country's beach environment, and a tendency to disregard potential hazards such as weather and surf conditions.

In recent summers, a spate of drownings involving international university students in Australia has received significant media attention (e.g. Acharya, 2016; Grewal, 2017; Kozaki, 2017; Taylor, 2017) highlighting, amongst other things, the need to educate this group of international visitors about Australian beach safety and hazards. The issue of Study Abroad student beach safety is also a global problem. For example, in 2011 three American students lost their lives on an unpatrolled beach in Costa Rica (Arozarena, Houser, Echeverria, & Brannstrom, 2015). A similar tragedy occurred in 2012 with an American student on an educational university trip to Thailand drowning at a beach whilst trying to rescue two other students caught in a rip current (Chiangrai Times, 2012). There are many other overseas cases of international student drownings, again highlighting the severity of this problem (Arozarena et al., 2015; Houser et al., 2016).

An individual's decision in choosing to swim on an unpatrolled beach, outside of patrolled hours, or away from safety flags can result in higher risk scenarios (Moran & Ferner, 2017; Morgan et al., 2008), but the specific beachgoing behaviour of international students in Australia has yet to be examined. Studies of other groups (Morgan et al., b, 2009a; White & Hyde, 2010; Sherker, Williamson, Hatfield, Brander, & Hayen, 2010; Drozdzewski et al., 2012) have documented that males are more likely to take risks at beaches than females and that males account for 83% of coastal drowning fatalities (SLSA, 2017). Drowning is most common among males aged between 20 and 29 years of age (Morgan et al., 2008), which falls into the typical age range of international students, however, gender has also not yet been taken into account in existing studies regarding beach safety knowledge and attitudes of international students in Australia.

The wellbeing of visiting students is of paramount concern to Australian universities, as is the safety of all international visitors to beach safety organisations and the Australian tourism industry. However, a significant ongoing challenge is making large numbers of international visitors aware of Australian beach hazards and motivating them to adopt safe beach going practices (Warton & Brander, 2017). While a range of methods, such as beach signage, brochures, posters, online videos and public service announcements (Brander & MacMahan, 2011; Brander, Drozdzewski, & Dominey-Howes, 2014; Hatfield, Williamson, Sherker, Brander, & Hayen, 2012; Mackellar, Brander, & Shaw, 2015; Matthews, Andronaco, & Adams, 2014; SLSA, 2017) have traditionally been used in this regard, their overall effectiveness is largely unknown.

This study focusses on the beach safety of one type of international visitor to Australia: Study Abroad students, specifically those attending UNSW Sydney in Sydney, New South Wales (NSW), which is in close proximity to several popular ocean beaches. The primary aim of this study is to gain an understanding of Study Abroad students' knowledge and understanding of beach safety and hazards and their beach going behaviour prior to their arrival in, and subsequent departure from, Australia. The main research question examines whether existing beach safety interventions available to these students have a positive impact on their beach safety knowledge and water entry decision making when visiting Australian beaches. It is hoped that the findings of this study will be of value to any organisations interested in the well-being of Study Abroad students, and also to all international students and tourists visiting beaches, both in Australia and overseas.

2. Methods

This study was designed to obtain both quantitative and qualitative data through online and hardcopy Questionnaire Survey Instruments (QSIs). Surveys were designed through UNSW Key Survey, an online survey software and questionnaire program. Participants had to be international students partaking in a Study Abroad program in Australia at UNSW Sydney in Semester 1 (S1) 2017, which extended from February to June. Ethics approval for the survey was granted by UNSW Sydney Human Research Ethics Advisory Panel under project number HC16667.

Two surveys were designed to target Study Abroad students at different times during their Study Abroad program. A Pre-Arrival survey (PRE) was implemented before their arrival to Australia and a Post-Arrival survey (POST) was implemented on two occasions; three weeks into S1 (POST1) and at the conclusion of S1 (POST2). The PRE and POST2 surveys asked three identifying questions (mothers first name, students' favourite colour and day date of their birthday) in an attempt to match survey responses during analysis. The survey design built on the structure of past QSIs related to beach safety with some questions re-phrased from Sherker et al. (2010), Drozdzewski et al. (2012; 2015) and Houser et al. (2016). Table 1 provides examples of questions asked in the surveys and a full copy of the surveys is provided in the supplementary material.

2.1. Pre-Arrival survey (PRE)

The Pre-Arrival survey (PRE) consisted of 38 questions involving a mix of 34 Likert scale and five open answer questions. The survey took approximately 10 min to complete and was made available online via http://www.surveys.unsw.edu.au/f/162665/205d. The link was sent via email from the UNSW Sydney Study Abroad Office to all students participating in a Study Abroad program in S1 2017 (n = 473) prior to their arrival in Australia. The survey was composed of four thematic sections (Table 1): i) Basic Information, which contained questions relating to demographics; ii) Beach Visitation and Swimming Information, which attempted to assess swimming ability and beach visitation intentions; iii) Beach Safety and Hazard Knowledge Information, which sought to gain information on respondents' understanding of beach safety and hazards on Australian beaches; and iv) Ocean Beach Rip Knowledge, which focused on questions relating to respondents' knowledge and ability to describe and identify rip currents, specifically on Australian beaches. This section also contained three questions that involved the use of photographs. The PRE survey was launched on January 25, 2017 and closed on March, 1, 2017 with 169 responses recorded for a response rate of 35.7%.

2.2. Post-Arrival survey (POST)

The Post-Arrival survey (POST) design was similar to the Pre-Arrival (PRE) survey. However, some questions differed in order to gain information about students' experiences and beach safety knowledge