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The influence of the recreational quality of beaches on risky swimming behaviours

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Introduction

Drowning is the third leading cause of accidental death globally (WHO 2014). Many of these incidents occur in natural environments such as oceans, lakes and rivers, each of which presents its own specific hazards. These drowning fatalities very often occur in the outdoor recreation context.

Preventive measures are put in place to try to combat this problem, including safe bathing areas, which are generally demarcated with flags and patrolled by trained lifeguards. This measure is unfortunately not systematically applied because it requires human, material and financial resources, which are not always available (WHO 2014). Where it is in place, it significantly reduces the risk of incidents (Surf Life Saving Australia 2019). Nevertheless, individuals can still very often be observed swimming outside the patrolled areas (Hamilton et al. 2016). If we are to increase the effectiveness of these patrol measures, we need to better understand the reasons behind individual ‘avoidance’ behaviours.

Studies in this area have often highlighted the determining role of knowledge and risk perception, with people frequently underestimating the risks and then unwittingly swimming in dangerous conditions. Age and gender have also been shown to be significant factors, linked to the fact that young males are a priori more attracted than any other group to ‘risky’ activities (Moran 2011). Some studies have approached the subject from a geographical angle. For example, Williamson et al. (2012) showed that in Sydney, Australia, coastal area inhabitants swam in patrolled zones less often than visitors from inland areas. Finally, Hamilton et al. (2016) shed new light in this context by identifying the role of behavioural beliefs, such as the feeling of being constrained in one’s choices (if forced to swim in the patrolled areas) and the presence of attractions (such as good wave quality) outside the safe bathing areas (thus inviting one to venture beyond them). This broadening of the reflection is interesting because it reminds us that swimming and other aquatic activities remain recreational activities engaged in first and foremost for pleasure and that any risk element is incidental.

In this study, we therefore analysed the influence of factors associated with the recreational quality of beaches (facilities provided, natural setting, activities available) on people’s reported willingness to adopt risky behaviours.

Methods

The data were collected using a telephone survey conducted on a representative sample (n=500) of the population of the Aquitaine region in the southwest of France. The coastline in this area is prone to sea swells, which are generated by depressions crossing the North Atlantic and forming waves that are popular with surfers. However, underwater sandbanks created by a

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combination of sediment dynamics and marine energy produce dangerous rip currents (Castelle et al. 2018b). Despite the presence of patrol measures along most of the coastline, there are still a high number of incidents (Castelle et al. 2018a). The survey addressed two types of risky behaviour, namely swimming outside of patrolled areas and swimming on wild beaches. In addition to sociodemographic questions, the survey contained questions on the types of activities the respondents engaged in, the features they considered attractive or unattractive and the information they looked up before going to the beach. The analysis was carried out in two stages. In the first step, we applied a dimension reduction method (Chavent et al. 2012) to the recreational characteristics associated with a trip to the beach. In the second, we used logistic regression models to analyse the influence of these recreational characteristics on reported willingness to adopt risky behaviours.

Results

Our initial analyses have revealed that:

- 48% of the respondents reported they had visited the beach in the past year (i.e. 2020). Of these, 51% said they had swum outside a patrolled area at least once, and 36% had gone to a wild beach.
- the primary reason cited by those who had never swum outside a patrolled area was that they liked to 'feel safe' (64%, n=76). The primary reason cited by those who had swum outside a patrolled area was that they had wanted 'to avoid the crowds' (68%, n=83). It appears that COVID-19 social distancing measures did not prompt individuals to move outside the patrolled areas any more than usual.
- the dimension reduction method identified eight synthetic variables that clearly segmented the recreational uses of the beach: 3 variables characterised the activity type, 4 the perceived quality and 1 the sources of information consulted before going to the beach. Among other things, the results showed differences between what characterized the land and sea parts of the beach as well as between the appeal of natural aspects versus facilities provided.
- several of these synthetic variables had a significant influence on the likelihood of avoiding patrolled areas. For example, active pursuits (surfing, fishing, other sports) were associated with venturing outside the areas, while fears related to wave size were associated with cautious behaviour.
- sociodemographic characteristics had relatively little influence. In particular, gender and geographical origin were not statistically significant factors.

Conclusions and Discussions

Managers need to view the environment also from the perspective of the visitors. Beach lifeguards traditionally focus on avoiding costly liability claims, whilst visitors are seeking to have a positive outdoor experience.

Traditional awareness-raising policies based on age, gender and geographical origin seem to be ill-suited here. In our sample, the type of activity beachcombers are engaged in had a stronger influence on risky behaviours (i.e. going outside supervised areas) than sociodemographic.

Visitors who report being informed about hazards report more risky behaviour than others. However, research has also shown that there is a gap between what people think they know and what they actually know about rips. It is crucial to fill this gap therefore.

Some visitors (i.e. surfers, anglers) who go to unsupervised areas more than others could act as bystander rescuers. It is important to ensure that they have the necessary skills, however.

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