

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Behaviours preceding suicides at railway and underground locations: A multi-methodological qualitative approach.
AUTHORS	Mackenzie, Jay-marie; Borrill, Jo; Hawkins, Emily; Fields, Bob; Kruger, Ian; Noonan, Ian; Marzano, Lisa

VERSION 1 – REVIEW

REVIEWER	Philip Hazell University of Sydney, Australia
REVIEW RETURNED	14-Dec-2017

GENERAL COMMENTS	<p>There is an extensive literature on railway suicides involving both quantitative and qualitative data, but the majority of these studies are based on coronial data. The present qualitative study is novel in that it combines the analysis of CCTV footage with interviews of survivors of railway suicide attempts, and an online survey of railway employees. In each case the sampling was non-random but the limitations of this were acknowledged by the authors. From the data reported it seemed to me that there was a heavy loading towards suicides at underground stations or at inner urban above ground stations. The findings from the study are clear. The recommendations arising from the findings are sensible, but the implications of false positive identification of at risk individuals is unknown. For example, as an occasional and usually jet lagged visitor to the UK, platform hopping is something I might engage in until I got my bearings. I also wonder how effective the suggested preventive interventions might be compared to platform screen doors which are belatedly being installed at a number of key stations in the UK, but which are widespread throughout urban centres in Asia.</p>
-------------------------	--

REVIEWER	PD Dr. Karoline Lukaschek LMU, Germany
REVIEW RETURNED	01-Jan-2018

GENERAL COMMENTS	<p>Manuscript ID: bmjopen-2017-021076 Review: Understanding Railway Suicide: A multi-methodological analysis of behavioural antecedents Authors: Mackenzie, Jay-Marie; Borrill, Jo; Hawkins, Emily; Fields, Bob; Kruger, Ian; Noonan, Ian; Marzano, Lisa</p> <p>Mackenzie et al. performed an analysis of multiple data sources in order to identify and understand behaviours that may precede a</p>
-------------------------	---

suicide or suicide attempt on the railway or underground. The authors analysed data from interviews with individuals who survived a rail suicide attempt (N=9), CCTV footage of individuals who died by rail suicide (N=16) and qualitative survey data providing views from rail staff (N=79). The authors derived five main themes from the analysis of CCTV footage (station hopping and platform switching, limited contact with people, allowing train to pass by, position when jumping/getting onto the tracks, repetitive behaviours) which were discussed in detail including comments from participants who survived a suicide attempt on the railways and from staff who completed the online survey. A sixth theme, "trying to look normal", emerged from the interview data and is discussed with reference to the CCTV analysis and staff comments.

The novel approach introduced by the authors provides a more complete picture of what behaviours might precede a suicide or suicide attempt at a railway/subway location. Following the authors, several behaviours may be identifiable in the moments leading up to a suicide or suicide attempt on the railways, which may present opportunities for intervention. These findings have implications for rail providers, transport police and other organisations focused on suicide prevention.

General remarks

From the abstract, the authors present research on understanding/identifying behaviours that might immediately precede a suicide or suicide attempt at a railway location (including underground/subways). For this purpose, data were gathered from three data sources and analysed using a qualitative thematic approach. The authors assess their set aim thoroughly.

I was surprised to read about the findings of three parallel studies. It does not become clear from the abstract that the authors refer to three different studies. Maybe they could mention this in the "design and method section" of the abstract.

In detail

Abstract

Objectives: I disagree with the authors: suicides by train are not relatively rare, e.g. in Germany, about 7% of all suicides are railway suicide – I do not think that is rare. Additionally, "these locations" does not specify which locations are meant, because "railway location (including underground/subways)" follows in the next sentence. Thus, I would ask the authors to rephrase the objectives as follows:

"Suicides by train have devastating consequences for families, the rail industry, staff dealing with the aftermath of such incidents, and potential witnesses. To reduce suicides and suicide attempts by rail it is important to learn how safe interventions can be made.

However, very little is known about how to identify someone who may be about to make a suicide attempt at a railway location (including underground/subways). The current research employed a novel way of understanding what behaviours might immediately precede a suicide or suicide attempt at these locations location.

Material and methods

While the authors describe in detail the CCTV study and the survivor interview including the corresponding analyses, there are still some open issues regarding the online staff survey:

- Is the 39-item instrument available or can the authors provide it?
- What was the men:women ration and age-range among

	<p>respondents?</p> <p>English</p> <p>The article is very well written. However, in the results section, 1st paragraph, the quotes and commas got mixed up: 'station hopping and platform switching,' should be 'station hopping and platform switching', and so on.</p> <p>Literature The authors demonstrate good knowledge of the relevant literature. However, they should consider the following article: Mishara et al. (2016) Can CCTV identify people in public transit stations who are at risk of attempting suicide? An analysis of CCTV video recordings of attempters and a comparative investigation. BMC Public Health.</p> <p>Figure and table work Adequate and informative.</p> <p>Recommendation: Thank you for giving me the opportunity to read this interesting and accurate article. Despite the (in parts) small numbers, the results presented here are very important. I recommend its publication after minor revision.</p>
--	--

VERSION 1 – AUTHOR RESPONSE

Reviewers' Comments to Author:

Editorial Requests:

- Please revise your title to indicate the research question, study design, and setting. This is the preferred format of the journal.

We have now changed the title accordingly. The new title is: Behaviours preceding suicides at railway and underground locations: A multi-methodological qualitative approach.

- Please add a statement to the methods section confirming that you obtained written informed consent from the participants.

We have now added this to our methods section – see page 4 lines 125-126

Reviewer: 1

Reviewer Name: Philip Hazell

Institution and Country: University of Sydney, Australia

Competing Interests: None declared

There is an extensive literature on railway suicides involving both quantitative and qualitative data, but the majority of these studies are based on coronial data. The present qualitative study is novel in that it combines the analysis of CCTV footage with interviews of survivors of railway suicide attempts, and an online survey of railway employees. In each case the sampling was non-random but the limitations of this were acknowledged by the authors. From the data reported it seemed to me that there was a heavy loading towards suicides at underground stations or at inner urban above ground stations. The findings from the study are clear. The recommendations arising from the findings are sensible, but the

implications of false positive identification of at risk individuals is unknown. For example, as an occasional and usually jet lagged visitor to the UK, platform hopping is something I might engage in until I got my bearings. I also wonder how effective the suggested preventive interventions might be compared to platform screen doors which are belatedly being installed at a number of key stations in the UK, but which are widespread throughout urban centres in Asia.

Thank you for your comments. They are very helpful.

See page 14 lines 428 – we have now added a point about locations.

We have now added a point with regards to not being able to identify all suicidal individuals from this behaviour (and, as you rightly point out, that this behaviour may provide false positives), but it is none the less important. See page 13 lines 409-410

Whilst the focus on this research is to discuss behaviours that may occur in locations which are 'attractive' to those who are planning to end their life (which may be due to lack of barriers) we feel your point about barriers is important. We have added a short point about this on page 14 line 449. Although we would have liked to expand on this, given the limited word count we feel this is not possible and hope this amendments provides some clarity.

Reviewer: 2

Reviewer Name: PD Dr. Karoline Lukaschek

Institution and Country: LMU, Germany

Competing Interests: None declared

Mackenzie et al. performed an analysis of multiple data sources in order to identify and understand behaviours that may precede a suicide or suicide attempt on the railway or underground. The authors analysed data from interviews with individuals who survived a rail suicide attempt (N=9), CCTV footage of individuals who died by rail suicide (N=16) and qualitative survey data providing views from rail staff (N=79). The authors derived five main themes from the analysis of CCTV footage (station hopping and platform switching, limited contact with people, allowing train to pass by, position when jumping/getting onto the tracks, repetitive behaviours) which were discussed in detail including comments from participants who survived a suicide attempt on the railways and from staff who completed the online survey. A sixth theme, "trying to look normal", emerged from the interview data and is discussed with reference to the CCTV analysis and staff comments.

The novel approach introduced by the authors provides a more complete picture of what behaviours might precede a suicide or suicide attempt at a railway/subway location. Following the authors, several behaviours may be identifiable in the moments leading up to a suicide or suicide attempt on the railways, which may present opportunities for intervention. These findings have implications for rail providers, transport police and other organisations focused on suicide prevention.

General remarks

From the abstract, the authors present research on understanding/identifying behaviours that might immediately precede a suicide or suicide attempt at a railway location (including underground/subways). For this purposed, data were gathered from three data sources and analysed using a qualitative thematic approach. The authors assess their set aim thoroughly.

I was surprised to read about the findings of three parallel studies. It does not become clear from the abstract that the authors refer to three different studies. Maybe they could mention this in the "design and method section" of the abstract.

Many thanks for this suggestion. We have now added this to the abstract under the design and methods section to make it clear that we have employed three parallel studies.

In detail

Abstract

Objectives: I disagree with the authors: suicides by train are not relatively rare, e.g. in Germany, about 7% of all suicides are railway suicide – I do not think that is rare. Additionally, “these locations” does not specify which locations are meant, because “railway location (including underground/subways)” follows in the next sentence. Thus, I would ask the authors to rephrase the objectives as follows: “Suicides by train have devastating consequences for families, the rail industry, staff dealing with the aftermath of such incidents, and potential witnesses. To reduce suicides and suicide attempts by rail it is important to learn how safe interventions can be made. However, very little is known about how to identify someone who may be about to make a suicide attempt at a railway location (including underground/subways). The current research employed a novel way of understanding what behaviours might immediately precede a suicide or suicide attempt at these locations location.

Again, thank you for your suggestion. We have now changed this to reflect the wording you have suggested.

Material and methods

While the authors describe in detail the CCTV study and the survivor interview including the corresponding analyses, there are still some open issues regarding the online staff survey:

- Is the 39-item instrument available or can the authors provide it?
- What was the men:women ration and age-range among respondents?

We have now uploaded our 39 item questionnaire as supplementary materials.

The further demographic information has now been added on page 6 lines 181-182

English

The article is very well written. However, in the results section, 1st paragraph, the quotes and commas got mixed up: ‘station hopping and platform switching,’ should be ‘station hopping and platform switching’, and so on.

We have now amended this.

Literature

The authors demonstrate good knowledge of the relevant literature. However, they should consider the following article:

Mishara et al. (2016) Can CCTV identify people in public transit stations who are at risk of attempting suicide? An analysis of CCTV video recordings of attempters and a comparative investigation. BMC Public Health.

Thank you for your suggestion – we have now added this into the literature – see page 4 line 104, lines 105-107.

Figure and table work

Adequate and informative.

VERSION 2 – REVIEW

REVIEWER	Philip Hazell University of Sydney Australia
REVIEW RETURNED	05-Feb-2018

GENERAL COMMENTS	Thank you, the authors have addressed my concerns by adding some statements to the Discussion
-------------------------	---

REVIEWER	PD Dr. Karoline Lukaschek LMU, Munich, Germany
-----------------	---

REVIEW RETURNED	07-Feb-2018
------------------------	-------------

GENERAL COMMENTS	The authors have sufficiently adressed my comments.
-------------------------	---