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TRB Virtual Event

Conference on

Advancing Transportation Equity

Bridging the Divide between People, Research, and Practice

TRB

TRANSPORTATION RESEARCH BOARD

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Mental Health, Gender and Travel Behavior

Roger Mackett

Centre for Transport Studies

University College London

Prevalence of mental illness

- The prevalence of mental illness in the US is growing and is higher for females.

People aged 18 or older with any mental illness in the past year in the US (% of population)

	Total	Males	Females
2019	21	15	25
2018	19	16	23

- Similarly in England

Common Mental Disorder (CMD) in the previous week among people aged 16-64 in England (% of population)

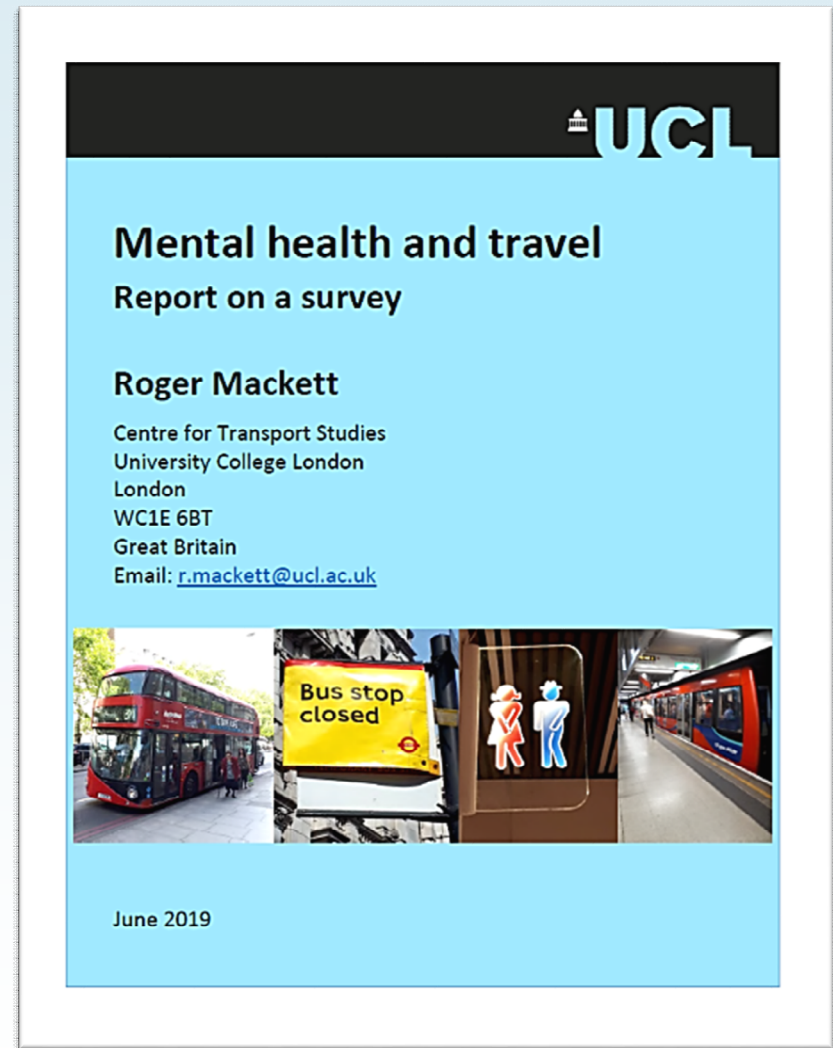
	Total	Males	Females
2014	19	15	23
1993	16	12	19

Mental illness

- **Anxiety** can make decision-making more difficult and cause forgetfulness. It can lead to changes in behavior including being worried about being in new situations and can lead to avoidance of places and situations that stimulate anxiety.
- **Depression** can make thinking, concentrating and decision-making difficult.
- Other types of mental illness include agoraphobia, post-traumatic stress disorder (PTSD) and obsessive-compulsive disorder (OCD).
- The symptoms of mental health conditions can affect traveling and wayfinding.

The survey

- On-line survey of people with mental health conditions carried out in Great Britain.
- Results weighted to match the age and gender profile of similar people in the Adult Psychiatric Morbidity Survey (APMS).
- 363 responses used here.



Available from: <https://bit.ly/2lviXbs>

Analysis

- Weighted linear regression of dependent variables against gender, age and type of area was carried out using SPSS.
- Only the signs and statistical significance of the relationships between the dependent and independent variables are shown in the following tables and the constant is not shown.
- Gender: a positive coefficient means that more women have the condition (in red) and a negative one means that more men do (in blue).
- A positive coefficient for 'Age' means that the effect increases with age and a negative sign means it decreases.
- A positive coefficient for 'Area' means that the effect increases with the degree of urbanicity and vice versa.
- Statistical significance: *** implies that the result is significant at the 1% level, ** at the 5% level and * at the 10% level.

The mental health of the respondents

	% of respondents		Relationship		
	Male	Female	Gender	Age	Area
Anxiety	87	90	+	- ***	-
Depression	69	68	-	+ ***	+
Post-traumatic stress disorder (PTSD)	14	23	+ **	+	+
Obsessive-compulsive disorder (OCD)	11	17	+ *	- *	+
Agoraphobia	9	14	+	-	+
Bipolar disorder	6	7	+	+	-
Other conditions	19	26	+	+	-

The lines highlighted in color indicate that gender is a statistically significant variable. **Red** implies that women than men have the condition and **blue** implies that more men than women do.

The effects of the mental health conditions

	% of respondents		Relationship		
	Male	Female	Gender	Age	Area
Social anxiety	87	87	+	+	-
Panic attacks	51	76	+***	+	-*
Communication difficulties	56	45	-**	-***	-***
Impaired memory	43	45	+	+	-***

What causes these differences?

- **Physiology:** Ingahlalikar et al. (2014) examined differences in the brains of men and women. They found that males had better motor and spatial abilities, whereas females had superior memory and social cognition skills.
- **Lifestyle:** Novaco and Collier (1994) found that commuting caused more stress and depression for women compared with men. They suggested this was due to women having to juggle more complex labor market and home working responsibilities.
- **Society:** Andrews et al. (2003) showed that women tend to have higher levels of PTSD because of the higher prevalence of sexual violence to which they are exposed.

The effects on travel of having a mental health condition

	% of respondents		Relationship		
	Male	Female	Gender	Age	Area
Have become lost, experienced severe anxiety or needed to seek help when traveling	41	55	+***	+***	+
Are sometimes prevented from leaving home	78	96	+***	+	+
Are prevented from buying rail tickets in advance because of uncertainty about their mental health on the day of travel	55	74	+***	+***	-

Causes of travel anxiety

	% of respondents		Relationship		
	Male	Female	Gender	Age	Area
Interacting with fellow travelers	79	88	+**	-*	-*
Needing support	74	87	+***	-	+*
Feeling out of control	55	69	+***	-	+**
Feeling claustrophobic and unable to escape	45	62	+***	-	+***
Not being able to obtain help	27	37	+*	+	-**
Wayfinding	60	71	+*	+	-*
Having to take decisions about where to go	24	41	+***	-	-
Failure of the bus, train or car	39	50	+*	+*	-
Something else	9	16	+**	+	+

Note: Only anxieties which have a statistically significant difference between males and females are shown.

What can be done?

		% of respondents		Relationship		
		Male	Female	Gender	Age	Area
General	Have received travel training	3	3	+	-	-
	Respondents who think this training would encourage them to travel more	31	46	+***	+	+
Walking	Less clutter on the street	32	14	-***	-	+
Bus	Clearer route and next stop information on the bus	35	55	+***	-	+
Rail	Being able to contact a member of staff in person when on the train	28	50	+***	+	+
	Clearer route and next stop information on the train	23	39	+***	-	-
	More toilet facilities	42	34	-*	+***	-

Note: Only strategies and policies which have a statistically significant difference between males and females are shown.

Conclusions

- Women have more mental health conditions than men which means that their travel behavior and wayfinding ability are affected more.
- Many more women than men have panic attacks, are prevented by their mental health condition from leaving home and are prevented from buying rail tickets in advance.
- More women than men suffered from travel anxieties that affect wayfinding and route choice such as taking decisions, feeling claustrophobic, and interacting with fellow travelers.
- Possible causes of these differences include the physiology of the brain, and greater stress in women's lives because they tend to have a greater share of caring responsibilities and suffer more sexual violence.
- For women, the greatest need seems to be policies and strategies that will increase their confidence when traveling such as access to staff when assistance is required and clear information when traveling, plus the opportunity to receive travel training. Improvements to the local environment would encourage more men to travel.

For further information

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- Contact Roger Mackett at r.mackett@ucl.ac.uk.