Table 4 Stress-inducing factors among occupational drivers and correlation with sociodemographic characteristics, Karachi, 2017

Characteristic	Unsafe behaviour of other drivers No. (%)	P	Pressure of time No. (%)	P	Fear of accidents No. (%)	P	Slow passengers No. (%)	P	Fear of cell phone or money snatching No. (%)	P	Lights of other vehicles No. (%)	P	Pollution No. (%)	P	Traffic jam No. (%)	P	Misbehaviour of passengers No. (%)	P	Poor condition of road No. (%)	P	Load shedding of compressed natural gas No. (%)	P	Traffic police No. (%)	P
Age, years (n = 384)																							
≤37	132 (60)	0.66	186 (84.5)	0.46	169 (76.8)	0.06	17 (7.7)	0.88	161 (73.2)	0.69	189 (85.9)	0.094	174 (79.1)	0.596	216 (98.2)	0.99	17 (7.7)	0.62	207 (94.1)	0.23	188 (85.5)	0.85	171 (77.7)	0.02
>37	102 (62.2)		134 (81.7)		112 (68.3)		12 (7.3)		117 (71.3)		150 (91.5)		126 (76.8)		161 (98.2)		15 (9.1)		149 (90.9)		139 (84.8)		110 (67.1)	
Religion (n = 384)																							
Islam	232 (60.9)	0.84	318 (83.5)	0.44	279 (73.2)	0.8	27 (7.1)	< 0.001	276 (72.4)	0.82	336 (88.2)	0.526	297 (78)	0.358	374 (98.2)	0.81	31 (8.1)	0.12	353 (92.7)	0.63	324 (85)	0.47	280 (73.5)	0.12
Other	2 (66.7)		2 (66.7)		2 (66.7)		2 (66.7)		2 (66.7)		3 (100)		3 (100)		3 (100)		1 (33.3)		3 (100)		3 (100)		1 (33.3)	
Education status (n = 384)																							
None	92 (60.9)	1	127 (84.1)	0.74	113 (74.8)	0.56	8 (5.3)	0.18	118 (78.1)	0.04	135 (89.4)	0.582	114 (75.5)	0.316	148 (98)	0.85	12 (7.9)	0.83	138 (91.4)	0.42	127 (84.1)	0.64	111 (73.5)	0.91
Formal	142 (60.9)		193 (82.8)		168 (72.1)		21 (9)		160 (68.7)		204 (87.6)		186 (79.8)		229 (98.3)		20 (8.6)		218 (93.6)		200 (85.8)		170 (73)	
No. of household members (n = 384)																							
≤7	152 (60.1)	0.63	216 (85.4)	0.14	193 (76.3)	0.06	15 (5.9)	0.09	185 (73.1)	0.66	228 (90.1)	0.12	198 (78.3)	0.929	248 (98)	0.76	14 (5.5)	0.01	232 (91.7)	0.29	217 (85.8)	0.64	187 (73.9)	0.65
7	82 (62.6)		104 (79.4)		88 (67.2)		14 (10.7)		93 (71)		111 (84.7)		102 (77.9)		129 (98.5)		18 (13.7)		124 (94.7)		110 (84)		94 (71.8)	
Total monthly household income (PKR) (n = 384)																							
≤20 000	125 (54.1)	< 0.001	189 (81.8)	0.33	163 (70.6)	0.16	20 (8.7)	0.31	171 (74)	0.38	207 (89.6)	0.32	184 (79.7)	0.373	227 (98.3)	0.87	18 (7.8)	0.64	217 (93.9)	0.25	197 (85.3)	0.93	172 (74.5)	0.49
>20 000	109 (71.2)		131 (85.6)		118 (77.1)		9 (5.9)		107 (69.9)		132 (86.3)		116 (75.8)		150 (98)		14 (9.2)		139 (90.8)		130 (85)		109 (71.2)	
Mother language (n = 384)																							
Urdu	86 (54.4)	0.1	116 (73.4)	0.002	111 (70.3)	0.8	13 (8.2)	0.97	113 (71.5)	0.88	142 (89.9)	0.745	122 (77.2)	0.303	154 (97.5)	0.46	11 (7)	0.2	141 (89.2)	0.3	129 (81.6)	0.16	112 (70.9)	0.81
Pushto	57 (69.5)		73 (89.0)		65 (79.3)		5 (6.1)		58 (70.7)		69 (84.1)		59 (72.0)		79 (96.3)		5 (6.1)		78 (95.1)		73 (89)		59 (72)	
Punjabi	24 (55.8)		38 (88.4)		31 (72.1)		4 (9.3)		31 (72.1)		37 (86)		37 (86.0)		43 (100.0)		3 (7.0)		40 (93)		37 (86)		31 (72.1)	
Hindko	34 (68.0)		46 (92.0)		36 (72.0)		4 (8)		39 (78.0)		44 (88.0)		42 (84.0)		50 (100.0)		7 (14.0)		47 (94.0)		43 (86.0)		38 (76)	
Sindhi	18 (75.0)		22 (91.7)		18 (75.0)		1 (4.2)		16 (66.7)		22 (91.7)		17 (70.8)		24 (100.0)		1 (4.2)		24 (100.0)		24 (100.0)		20 (83.3)	
Others	15 (55.6)		25 (92.6)		20 (74.1)		2 (7.4)		21 (77.8)		25 (93.6)		23 (85.2)		27 (100.0)		5 (18.5)		26 (96.3)		21 (77.8)		21 (77.8)	

Table 4 Stress-inducing factors among occupational drivers and correlation with sociodemographic characteristics, Karachi, 2017 *(Concluded)*

Characteristic	Unsafe behaviour of other drivers No. (%)	P	Pressure of time No. (%)	P	Fear of accidents No. (%)	P	Slow passengers No. (%)	P	Fear of cell phone or money snatching No. (%)	P	Lights of other vehicles No. (%)	P	Pollution No. (%)	P	Traffic jam No. (%)	P	Misbehaviour of passengers No. (%)	P	Poor condition of road No. (%)	P	Load shedding of compressed natural gas No. (%)	P	Traffic police No. (%)	P
Any substance abuse (n = 384)																								
Yes	156 (60.2)	0.68	224 (86.5)	0.02	202 (78)	< 0.001	21 (8.1)	0.55	185 (71.4)	0.54	232 (89.6)	0.256	201 (77.6)	0.723	255 (98.5)	0.56	25 (9.7)	0.18	243 (93.8)	0.23	224 (86.5)	0.29	189 (73)	0.9
No	78 (62.4)		96 (76.8)		79 (63.2)		8 (6.4)		93 (74.4)		107 (85.6)		99 (79.2)		122 (97.6)		7 (5.6)		113 (90.4)		103 (82.4)		92 (73.6)	
Packs (quids/cigarettes) use per day (n = 261)																								
≤3	101 (61.6)	0.65	141 (86)	0.71	129 (78.7)	0.8	14 (8.5)	0.71	119 (72.6)	0.67	144 (87.8)	0.202	123 (75)	0.16	162 (98.8)	0.59	17 (10.4)	0.57	155 (94.5)	0.57	143 (87.2)	0.71	123 (75)	0.39
3	57 (58.8)		85 (87.6)		75 (77.3)		7 (7.2)		68 (70.1)		90 (92.8)		80 (82.5)		95 (97.9)		8 (8.2)		90 (92.8)		83 (85.6)		68 (70.1)	

PKR = Pakistani rupees.

one fourth of the vehicles in a metropolitan city like Karachi (*23*). All these conditions create chaos on the roads of Karachi, and consequently result in traffic jams and stress among occupational drivers (*21*).

Additionally, a large number of occupational drivers reported poor condition of the roads, pressure of time, flashing of lights into the eyes by other vehicles and load shedding of CNG as factors that caused them stress. A similar study conducted among bus drivers in Bogotá, Colombia elucidated that adverse condition of roads can generate risky driving behaviours and can also be a considerable source of job strain (*24*). Although, more than half the respondents affirmed that fear of accidents was an important stress factor, the condition of roads was mentioned as a predominant stress-causing factor that ultimately led to psychological illness among occupational drivers.

Pressure of time and fear of accidents as stress-inducing factors were greater among those using any form of substance abuse. The respondents of this study reported using *gutka* (chewable tobacco) and cigarettes as a form of substance abuse; this may be because of the high levels of work-related psychosocial risk factors they face, as suggested in other studies (*25,26*). This further invites researchers to explore the pattern of coping strategies and chronic stress and substance abuse while driving among occupational drivers.

Many participants considered confrontation with traffic police as a substantial source of stress. Young drivers were more prone to be stressed while confronting traffic police as compared to older drivers. However, in contrast with our findings, 70% of Spanish drivers in another study responded that police supervision was effective in promoting road safety and law enforcement among drivers (*27*), implying that they did not consider it a stress factor while driving. In a developing country like Pakistan, it is alleged that the police are corrupt: they take informal payments (bribes) from drivers who break traffic rules and regulations (*21*); this may be one of the reasons police confrontation is a stress inducer for drivers. Therefore, it is crucially important to discourage such malpractices in Pakistan as parallel studies report that less-experienced drivers have a higher risk of road accidents (*28*).

Pressure of time was also considered a significant factor causing stress among occupational drivers during rush hours. This factor is more pronounced during traffic jams or due to the poor condition of the roads. Research has shown that time pressure has become a cultural phenomenon that goes beyond a personality factor (*29*). Moreover, to cope with this problem in a mega city such as Karachi, there is a dire need to build signal-free roads and flyovers so that traffic congestion can be reduced (*21*). However, it is essential to improve mobility across public spaces by ensuring traffic safety. Government-led comprehensive strategies to develop the city's public transport system seems to be a promising solution for the alarming traffic situation in the city.