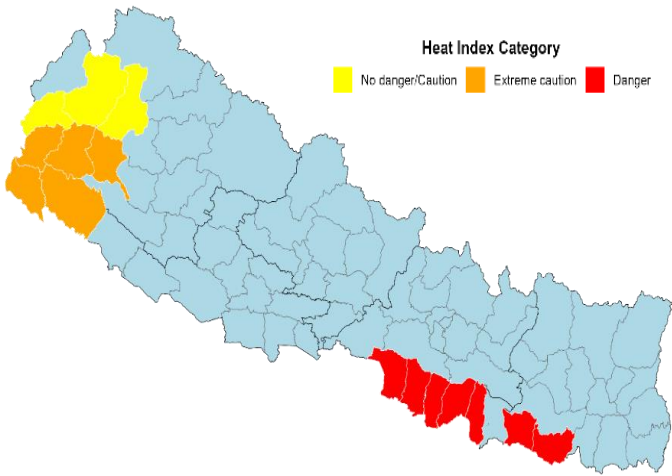


Preliminary data from the ongoing national study on Adverse Childhood Experiences (ACEs) and mental health conditions among individuals aged 15-29 years in Nepal

The national study is ongoing in Bagmati province with having completed data collection in two provinces: Madhesh and Sudurpaschim. In this analysis, districts are categorized, based on 30-year climatological analysis of maximum heat index, into: (a) **No danger/ Caution (27–32 °C)**: possible fatigue with prolonged activity; (b) **Extreme Caution (32–41 °C)**: heat cramps and exhaustion possible; (c) **Danger (41°C or above)**: heat stroke probable with continued activity. The heat index was calculated using [heat.index](#) function from 'weathermetrics' package in R version 4.4.2. The algorithm for the heat.index function is based on the equation provided by the [US National Weather Service's](#) online heat index calculator which utilises temperature ( °C) and relative humidity (%).



FIGURE| Study districts by heat exposure in Madhesh and Sudurpashim, Nepal

TABLE 1| ACEs by district heat exposure in Madhesh and Sudurpashim, Nepal

ACEs	Total (N = 4,066)	No danger/ Caution (N = 405)	Extreme caution (N = 1,878)	Danger (N = 1,783)
No ACEs	1,460 (35.9%)	127 (31.4%)	717 (38.2%)	616 (34.5%)
One ACE	1,055 (25.9%)	119 (29.4%)	520 (27.7%)	416 (23.3%)
Two ACEs	640 (15.7%)	77 (19.0%)	308 (16.4%)	255 (14.3%)
Three ACEs	384 (9.4%)	39 (9.6%)	164 (8.7%)	181 (10.2%)
4+ ACEs	527 (13.0%)	43 (10.6%)	169 (9.0%)	315 (17.7%)

The prevalence of 4 or more ACEs among individuals aged 15-29 years is higher in the area with higher risk levels of extreme heat exposure (18%) compared to moderate (9%) or low risk areas (11%). Nearly 1 in 10 individuals aged 15-29 in low-risk areas have 4 or more ACEs, while this figure rises to 1 in 6 individuals having experienced 4 or more ACEs in the high levels of extreme heat exposure.

TABLE 2| ACEs and mental health conditions by district heat exposure in Madhesh and Sudurpashchim, Nepal

	No danger/ Caution (N = 405)		Extreme caution (N = 1,878)		Danger (N = 1,783)	
ACEs	Non-depressed	Depressed	Non-depressed	Depressed	Non-depressed	Depressed
No ACEs	122 (33.0%)	5 (13.0%)	696 (40.0%)	21 (15.0%)	584 (35.0%)	32 (26.0%)
One ACE	109 (30.0%)	10 (25.0%)	486 (28.0%)	34 (24.0%)	386 (23.0%)	30 (24.0%)
Two ACEs	65 (18.0%)	12 (30.0%)	281 (16.0%)	27 (19.0%)	247 (15.0%)	8 (6.5%)
Three ACEs	34 (9.3%)	5 (13.0%)	142 (8.2%)	22 (16.0%)	172 (10.0%)	9 (7.3%)
4+ ACEs	35 (9.6%)	8 (20.0%)	133 (7.7%)	36 (26.0%)	270 (16.0%)	45 (36.0%)
Total	365 (100%)	40 (100.0%)	1,738 (100%)	140 (100%)	659 (100%)	124 (100%)
ACEs	No anxiety	Anxiety	No anxiety	Anxiety	No anxiety	Anxiety
No ACEs	105 (36.0%)	22 (20.0%)	567 (44.0%)	150 (26.0%)	496 (38.0%)	120 (24.0%)
One ACE	87 (30.0%)	32 (29.0%)	363 (28.0%)	157 (27.0%)	293 (23.0%)	123 (25.0%)
Two ACEs	54 (18.0%)	23 (21.0%)	197 (15.0%)	111 (19.0%)	195 (15.0%)	60 (12.0%)
Three ACEs	23 (7.8%)	16 (14.0%)	103 (7.9%)	61 (11.0%)	132 (10.0%)	49 (9.9%)
4+ ACEs	24 (8.2%)	19 (17.0%)	72 (5.5%)	97 (17.0%)	174 (13.0%)	141 (29.0%)
Total	293 (100%)	112 (100%)	1,302 (100%)	576 (100%)	1,290 (100%)	493 (100%)

The rates of depression (36%) and anxiety (29%) among individuals aged 15–29 years with 4 or more ACEs are markedly higher in areas at high risk of extreme heat exposure compared to those living in moderate- or low-risk areas. About 1 in 5 individuals with 4 or more ACEs in low-risk areas experience depression, compared to 1 in 3 individuals in areas with dangerous levels of heat exposure. Similarly, roughly 1 in 6 individuals with 4 or more ACEs report anxiety in low-risk areas, compared to nearly 1 in 3 in high-risk areas.

Further details of the preliminary results are available at: <https://healthresilience.com.np/resources/>