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In hi C a e , C eci c a en ion i C aid o olde eo le ho ma be mo e lne able o bo h lo a e C of e ac a ion and becoming e ill d e o he co ona i C (Meng e al. 2020). A e ie b H ang e al. (2016) of ac al e ac a ion C die C fo nd ha 41% e o ed a G igni can l nega i e co ela ion be een age and e ac a ion, hile he o he 59% e o ed a non-G igni can co ela ion. A n mbe of fac o C can ca G e a nega i e ela- ion be een age and e ac a ion, e.g., lack of mobili , e-e i C ing heal h condi ion C , limi ed G ocial ne o k C , lo income, and oo i G ion and hea ing (Cohen and M l ane 2005

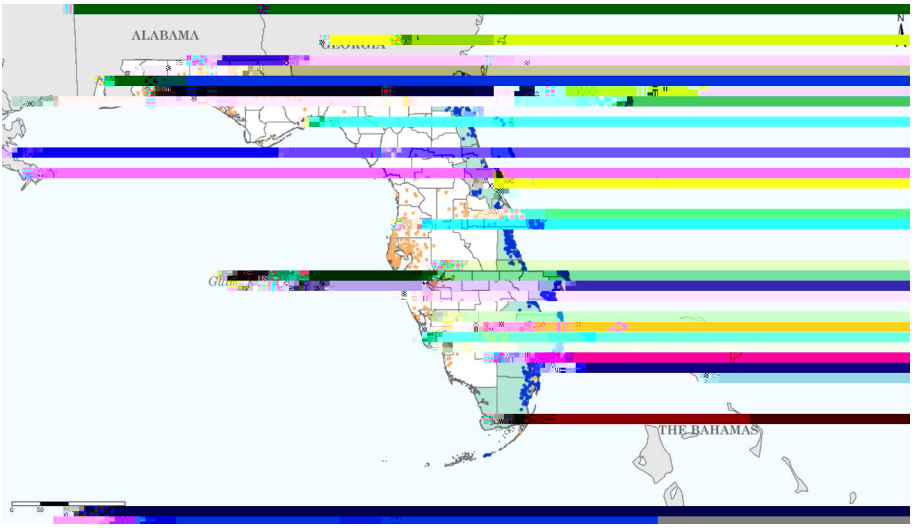

Fig. 1 Loca ion of e onden in Flo ida o o e cond c ed in Feb a 2020 (in bl e do), J ne 2020 (in g een co n ie) and No embe 2020 (in o ange do)

a b an ial h icane i k, and e iden of he e a ea ha e likel ecen l con ide ed e ac a ion. Mo eo e , hi allo fo a com a i on of e ac a ion ob acle be een a e- andemic h icane ea on (Feb a 2020 e) and a o- andemic h icane e (J ne 2020 e) ing ho ehold e on e in he ame a ea

The a e age age of e onden in o J ne 2020 e i 48 ea , i h an a e age ho ehold income of $74,546 e ea befo e a e[2] and 66% a e female. Re onden e o ed hei highe le el of ed ca ion a follo ome high chool (2%), high chool g ad a e (17%), ome college (26%), college g ad a e (36%), and o g ad a e (18%). Com a ed i h he am le of he Feb a 2020 e , e onden o he J ne 2020 e a e 14 ea o nge on a e age, hich ma be e lained b he da a collec ion me hod. Olde eo le a e e ha le likel o a ici a e in online e e han hone e e The Feb a 2020 e collec ed a igni can o ion of e on e h o gh hone e ionnai e

Mo eo e , e collec ed imila da a on e ac a ion in en ion and in encing fac o a he end of he h icane ea on ing a eal- ime e e ha a cond c ed hen H - icane E a a oached Flo ida in No embe 2020. Al ho gh E a a oached he U.S. a a h icane, i a do ng aded o a o ical o m hen i made landfall in Flo ida on No embe 7 and again on No embe 12 and ca ed ooding in a io a ea To al U.S. lo e of E a amo n ed o abo $1.1bn (Aon 2020). Thi e a com le ed b 844 e onden be een 10 and 11 No embe befo e he econd landfall of E a. Fig e 1 ho he loca ion of o No embe 2020 e e onden in o ange do The am le a d a n b a eciali ed e com an and incl de a ea of he coa ha co ld

Table 1 Coding of a iable ed in o eg e ion model

Va iable	Coding
Wo abo ooding	*I am worried about the danger of a flood at my current residence* 1 = ongl di ag ee o 5 = ongl ag ee
Pe cei ed ood obabili [a]	*What is your best estimate of how often a flood will occur at your home?* ca ego ical, 1 = le of en han 1/1,000 ea o 7 = mo e of en han 1/10 ea
Age	*How old are you?* in ea
Ed ca ion	*What is your highest completed level of education?* 1 = ome high chool o 5 = o g ad a e
Income	*Which of the following describes your total household income for 2019 before taxes?* 1 = le han $10,000 o 6 = $125,000 o mo e
Leng h of e idence	*How long have you lived in your current home (in yearsh of residence*

[a] O e 1 a e ob o hi al e na i e coding of hi a iable on a 4 oin cale: 1 = be e ima e < 1 in 1,000 ea ; 2 = 1 in 100 ea > be e ima e 1 in 1000 ea ; 3 = 1 in 10 ea > be e ima e 1 in 100 ea ; 4 = be e ima e 1 in 10 ea

be im ac ed b ind and ooding ca ed b E a. The a e age age of e onden in o No embe 2020 e i 47 ea ; i h an a e age ho ehold income of $40,134 e ea befo e a e[3] and 69% a e female. Re onden e o ed hei highe le el of ed ca ion a follo ome high chool (3%), high chool g ad a e (26%), ome college (29%), college g ad a e (30%), and o g ad a e (12%). Com a ed i h he J ne 2020 e , o e onden o he No embe 2020 e ha e a lo e income and ed ca ion le el, b a e imila in e m of age and gende .

Table 1 de ne he a iable ed in o a i ical anal e ha e e coded he ame in he h ee e e To elici he e a iable e onden faced e e al e ion in ela ion o: hei i k e ce ion a ocia ed i h ooding and COVID-19, ol n a e ac a ion in en ion in he go e nmen e on e o COVID-19, a ell a age, ed ca ion, income, leng h of e idence and gende . The o e all elec ion of he e e ion allo o iden if o ha e en e ce ion of COVID-19 ham e e ac a ion, con olling

is ks. Fo e am le, mo e eo le a e o ied o ongl o ied abo COVID-19 is ks (63%) han abo ood is ks (33%), as Fig. 2 ill a es. Mo eo e , onl 21% dis ag ee and 7% ongl dis ag ee i h he a emen , “The obabili of ooding is lo ha I am no conce ned abo he conse ences of a ood. These e cen ages a e 28% and 30%, ha I am

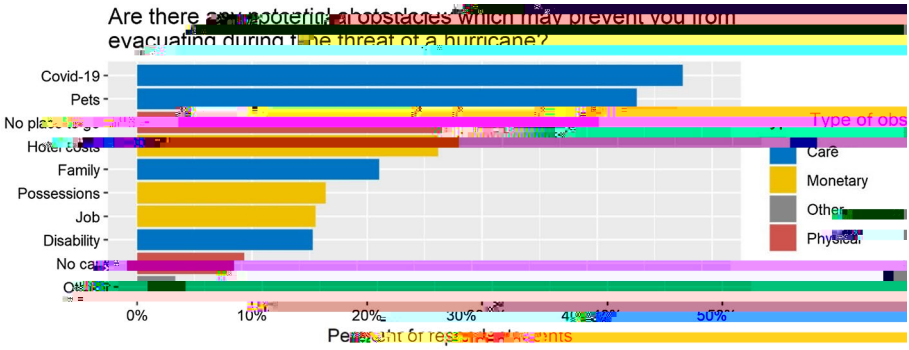

Fig. 3 Pe cen of e Conden C ho an C e ed ob Cacle Cfo e ac a ion, b ob Cacle (ba ed on he J ne 2020 C e). Sam le incl de Conl e Conden C ho e o ed a lea C one ob Cacle.

3.2 Evacuation intentions at the start of the 2020 hurricane season

When being a Cked abo in en ion C o e ac a e o a Cafe lace nde a ol n a e ac a- ion o de a he Ca of he h icane Cea on, 39% of e Conden Can C e ha i iClikel o e emel likel he o ld e ac a e (Cee Table 2).

De Cc i i e Ca iCic Cindica e ha conce n abo COVID-19 iC he mo C im o an ob Cacle fo e ac a ion d ing he 2020 h icane Cea on. Bo h of o C e Cin Feb a and J ne 2020 con ained a e Cion abo he ob CacleCfo e ac a ion d ing a h icane h ea . Mo e e Conden Cindica ed a lea C one o en ial ob Cacle in he J ne C e han in he Feb a C e (75% e C C56%). The inabili o a fo ho el co CC aC he mo C f e en l men ioned ob Cacle d ing H icane Do ian (b 26% of he Feb a 2020 C - e e Conden C ho had an ob Cacle). Ho e e , aCFig. 3 ill C a eC ho el co CCd o ed o he n mbe fo ob Cacle d ing he 2020 h icane Cea on, al ho gh he e cen age of e Conden C ho li ho el co CCaCan ob Cacle emainC Cable a 26%. InCead, COVID-19 a Cmen ioned he mo C f e en l , b almo C half of he e Conden C o he J ne C e ho e ec ed o e e ience an ob CacleC Al ho gh he e C l C e e ob ained f om o df e en da a collec ion me hodCand Cam le C, he a e indica i e ha COVID-19 became an im o an ob Cacle fo e ac a ion d ing he andemic.

We cond c a Ce ie Cof Ca iCical anal Ce C o e amine ho e ac a ion in en ion C nde a ol n a o de de end on Cocio-demog a hic cha ac e iCic Cand e ce ion Cof he h - icane and COVID-19 i kC An o de ed obi model of he in en ion C o e ac a e ol n- a il i h onl Cocio-demog a hic cha ac e iCic CaCe lana o a iable C nd C ha olde eo le a e Cgni can l le CCl ikel o e ac a e (Table 3).[7] ACa ne Ce , e add e ce - ion Cof he h icane and COVID-19 i kC and leng h of e Cidence aCe lana o a i- able C o he model o e amine he he he Cgni can ela ion Chi be een age and in en- ion C o e ac a e Cill hold Conce he Ce e lana o a iable Ca e con olled fo . We incl de he a iable C leng h of e Cidence, e cei ed ood obabili , o abo ooding, e - cei ed co ona i Cinfec ion obabili and conce n abo COVID-19 in model 2, Cince he Ce a iable Ca e all Cgni can l co ela ed i h age (Pea on co ela ion co Cien *p*

[7] The main e Cl Cin Table 3 and Table C4, 5 and 6 Cho n belo a e ob C o incl ding age aCa d mm a iable ha e e Cen C eo le of age 65 and highe , hich iC he age g o ha iClikel o e e ience mo e Ce e e heal h con Ce ence Cf om infec ion b COVID-19.

Table 3 O de ed obi model of a iable of in ence on ol n a e ac a ion in en ion (ba ed on he J ne 2020 e)

***$p < 0.01$; **$p < 0.05$; *$p < 0.1$

S anda d e o a e ho n in be een a en he e belo he co cien An o de ed obi model i ed o acco n fo he o dinal na e of he de enden a iable (1

al e < 0.05), and a e o en ial edic o of ol n a e ac a ion in en ion The efo e, he e a iable ma e lain ome of he ela ion hi be een age and ol n a e ac a ion in en ion Va iable ha a e nco ela ed i h age a e omi ed f om he eg e ion in model 2. In a media ion anal i (Table 4), e incl de onl igni can media ing a iable hen calc la ing indi ec e ec , hich i he ha e of he ela ion hi be een age and ol n a e ac a ion ha can be a ib ed o media ing a iable The o he o en ial media o a e con olled fo in a model ha incl de con ol a iable

We nd ha he likelihood of ol n a e ac a ion igni can l inc ea e i h o abo ooding, b igni can l decline i h conce n abo he con e ence of becoming infec ed b COVID-19 and he leng h of e idence (Table 3).[8] Mo eo e , he

Table 4 Decomposition of the total effect of age on voluntary evacuation into direct and indirect effects via concern about COVID-19, worry about flooding and length of residence using the ordered probit model (based on the June 2020 survey)

	Without control variables	Including control variables
Total effect	0.012*** (0.003)	0.010*** (0.004)
Direct effect	0.005 (0.003)	0.003 (0.004)
Indirect effect	0.007*** (0.001)	0.007*** (0.002)
via concern about COVID-19	0.001** (0.001)	0.003** (0.001)
via worry about flooding	0.004*** (0.001)	0.003*** (0.001)
via length of residence	0.001* (0.001)	0.001 (0.001)
Mediation percentage	59.57	72.51
via concern about COVID-19	12.73	27.96
via worry about flooding	35.88	33.35
via length of residence	10.95	11.20
Observations	527	362

***$p<0.01$; **$p<0.05$; *$p<0.1$

Coefficient estimates are provided with standard errors in parentheses on the same row

Control variables are: gender, education, income, perceived flood probability and perceived coronavirus infection probability

independent effect of age on intentions to evacuate voluntarily becomes insignificant, indicating that the significant negative effect of age in the [illegible] model is an indirect effect, transmitted via perceptions of flood and COVID-19 risks as well as the length of residence. This result is examined in more detail using a mediation model (Table 4).[9]

Table 4 displays the total effect of age on voluntary evacuation, divided into a direct and indirect effect via concern about the consequences of becoming infected by COVID-19, worry about flooding, and length of residence. Overall, the total effect shows that older individuals have lower evacuation intentions. Controlling for concern about the consequences of becoming infected by COVID-19, worry about flooding, and length of residence leaves an insignificant direct effect of age. The indirect effect, which is the share of the relationship between age and voluntary evacuation that can be attributed to perceptions of COVID-19 and flood risks and length of residence, is explained by the coefficient estimate 0.007 (p value <0.01). Between 60 and 73% (depending on included control variables) of the relationship between age and voluntary evacuation is explained by concern about the consequences of becoming infected by COVID-19, worry about flooding, and length of residence.[10] The two risk perception variables are statistically significant and explain a larger proportion of the relationship than the length of residence.

Footnote 8 (continued)
due to their concerns about the consequences of becoming infected by COVID-19, given that these tend to be more severe for aged individuals.

9 We also found that older individuals are less likely to state that they intend to evacuate if there is a mandatory evacuation order, but this is not due to their perceptions related to COVID-19 and flooding. However, this may be due to other issues like poor mobility and health, or limited social networks, which we do not capture in the survey.

10 Correlation analyses show that a higher age is associated with higher concern about COVID-19 and length of residence, but a lower worry about flooding.

Table 5 O de ed obi model of a iables of in ence on ol n a e ac a ion in en ions d ing H i-cane E a (based on he No embe 2020 e)

	Co cien model 1	Co cien model 2
Socio-demographics		
Age	0.017***	0.006*
	(0.00)	(0.00)
Gende (1 = female)	0.003	0.038
	(0.10)	(0.12)
Ed ca ion	0.018	0.075
	(0.05)	(0.06)
Income	0.053	0.021
	(0.04)	(0.04)
Leng h of esidence		0.001
		(0.01)
Flood risk perceptions		
Pe cei ed ood obabili		0.071*
		(0.04)
Wo abo ooding		0.324***
		(0.05)
COe Tf -3s ved flood probability		

***$p < 0.01$; **$p < 0.05$; *$p < 0.1$.

S anda d e o a e ho n in be een a en hese belo he co cien An o de ed obi model i ed o acco n fo he o dinal na e of he de enden a iable (1 = no a all likel o 4 = e emel likel o e ac a e)

3.3 Evacuation intentions during Hurricane Eta

When e onden o o eal- ime e d ing he h ea of H icane E a e e ased hen he e e going o e ac a e o a afe lace, 35% an e ed hi i e nlikel , 27% an e ed nlikel , 10% an e ed likel , and onl 6% an e ed e likel . We e ea ed he ame anal ses of e ac a ion in en ions a he a of he 2020 h icane eason (ha a e e o ed in Tables 3 and 4) fo e ac a ion in en ions d ing H icane E a, hich hi Flo ida a he end of he h icane eason in No embe 2020. These e ls fo e ac a-ion d ing H icane E a a e e o ed in Tables 5 and 6. The o de ed obi model es ls in Table 5 con m o e io nding ha e ac a ion in en ions a e nega i el ela ed o age (model 1), of hich he gni cance decline o ma ginall gni can in model 2 hen i k e ce ions a e added. These nding again ho ha e ac a ion in en ions a e nega i el ela ed o conce n abo he con e ences of becoming infec ed b COVID-19, and os i el ela ed o ood i k e ce ions F he mo e, al ho gh he gn of he

cofi cien es ima e on he leng h of e idence i he ame in Table 5 a Table 3, hi es i-
ma e i no igni can in Table 5. Whe ea , he e cei ed co ona i . infec ion obabili
i igni can l o i el ela ed o e ac a ion in en ion , hich ma be d e o eo le i h

andemic. Indeed, he e l of o e of coa al e iden in Flo ida cond c ed a he a and he end of he 2020 h icane ea on ho ha h icane e a edne i f ec ed b he andemic. The a of he 2020 h icane ea on a domina ed b conce n o e COVID-19, hich i an ob acle fo e ac a ion. Mo eo e , olde eo le, ho a e mo e conce ned abo he con e ence of becoming infec ed b COVID-19, a e lo e e ac - a ion in en ion Thi i a a en f om e ac a ion in en ion elici ed among a am le a he a of he 2020 h icane ea on, and con med b a eal- ime e e cond c ed among ano he inde enden am le of e onden e iding in he ame a e a he end of he h icane ea on d ing he h ea of H icane E a. Thi ho ld be aken in o acco n b olicie aimed a im o ing h icane e a edne d ing a andemic i h a di ea e fo hich olde eo le a e mo e lne able. The majo i of e io e die on e ac a- ion ha e e no cond c ed d ing a andemic did no ob e e a gni can in ence of age (Bake 1991; So en en 2000

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