

Introduction

- Housing repair and reconstruction are some of the strongest indicators of a community's recovery after a disaster.
- Depending on the extent of overall damages, housing recovery poses a large financial burden to households, particularly for the uninsured.
- Availability of financial resources and access to them can play a substantial role in determining the pace and the completeness of housing recovery.
- Disparities in access to financial resources, the types of resources accessible to households, and how quickly they receive the financial assistance can affect how quickly communities recover from disasters.

Lumberton, NC

- Hurricane Matthew (2016) inundated more than 170 counties in Florida, Georgia, South Carolina and North Carolina
- Lumber River in the city of Lumberton overflowed and flooded vast areas of the city.
- Lumberton has diverse population and 32.4% live at or below the poverty level
- Approx. 88,000 homes across North Carolina damaged and displaced 335 households in Lumberton alone.

Data

- Longitudinal study by Center of Excellence (CoE) for Risk-Based Community Resilience Planning and NIST's Engineering Laboratory
- Wave 2: January 2018, n = 567
- Data collected on physical damage to housing and dislocation of households.
- Measures:
 - Having and receiving payout from **Flood Insurance** and **Homeowners' Insurance**
 - Other Resources:** combines federal (FEMA's Individuals and Households Program (IHP), Small Business Administration Loans) and non-federal (NGOs, friends and family) resources

Results

- Most respondents had homeowner's insurance, while relatively fewer had flood insurance (Fig. 1).
- Although fewer people tend to have flood insurance across socio-economic categories than homeowners' insurance, they are more likely to receive payouts from flood insurance than homeowners' insurance (Fig. 2).
- Tests of independence (Chi-square) show that while mortgage and flood-risk are associated with having insurance, damage levels and income are associated with receiving insurance payout (Table 1).
- Respondents received assistance from federal and non-federal sources at a higher rate than insurance payout (Fig. 3).
 - None of the respondents had received any assistance from CDBG-DR (Community Development Block Grant Disaster Recovery), hence this resource was not included in the analysis.
- Receiving homeowners' insurance payouts took significantly longer than flood insurance payouts and other financial resources. Also, the delay in receiving payout was substantially higher for low income, high school educated and Native American communities (Fig. 4).

Figure 1. Trends in having flood insurance and homeowners' insurance
Values are in percent.

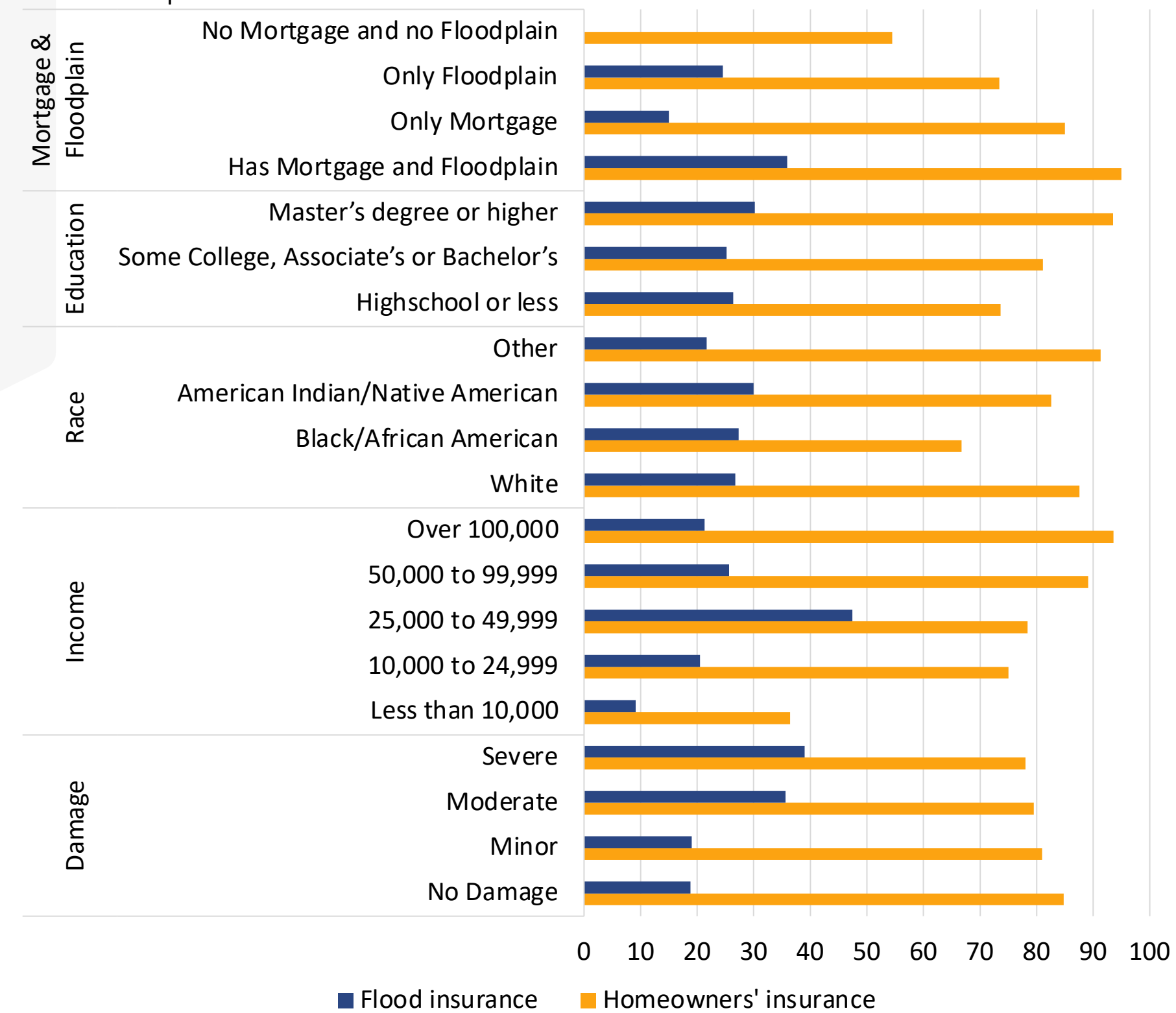


Figure 2. Trends in receiving flood insurance and homeowners' insurance payouts
Values are in percent.

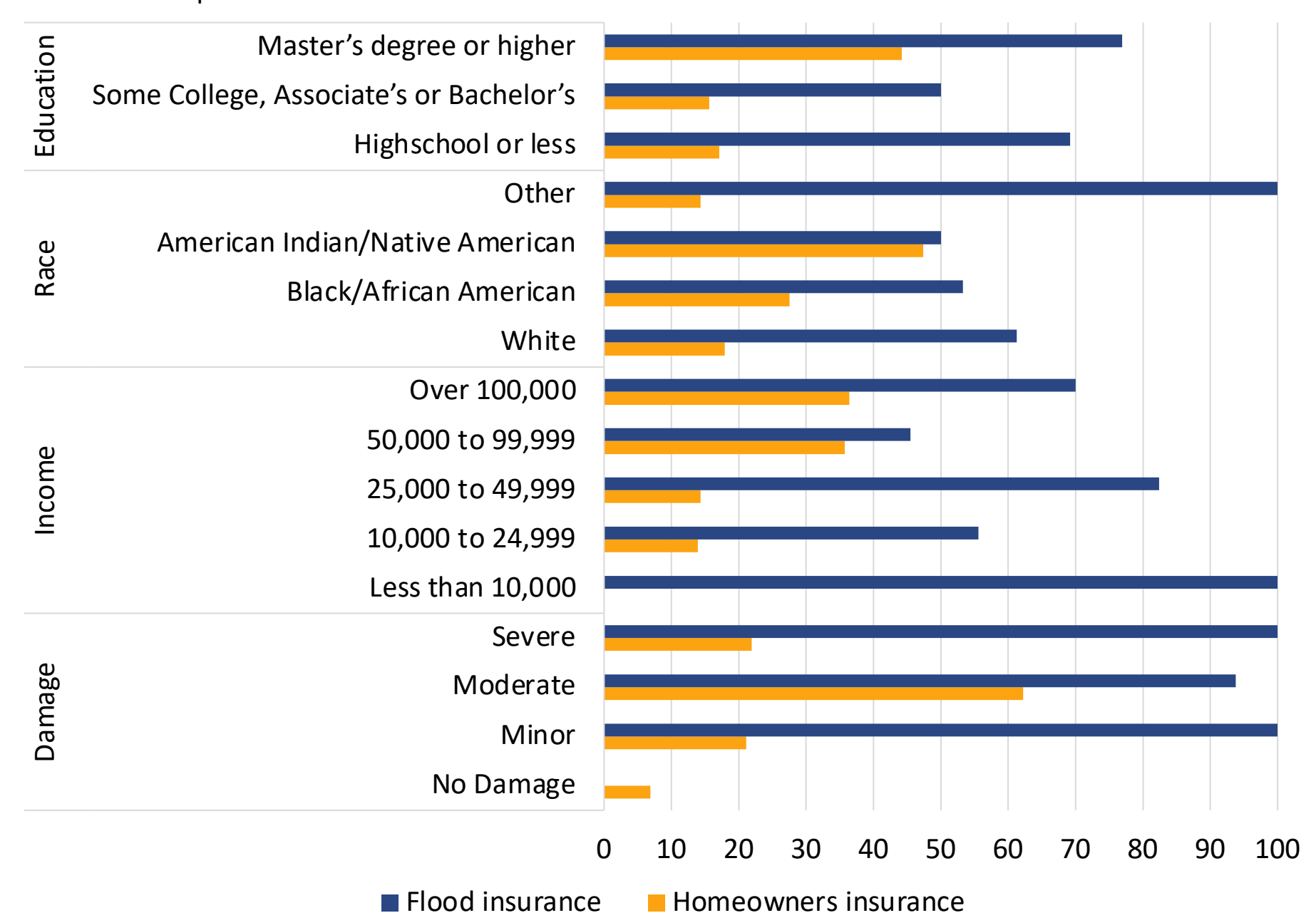


Figure 3. Trends in applying for and receiving support from other financial resources
Values are in percent.

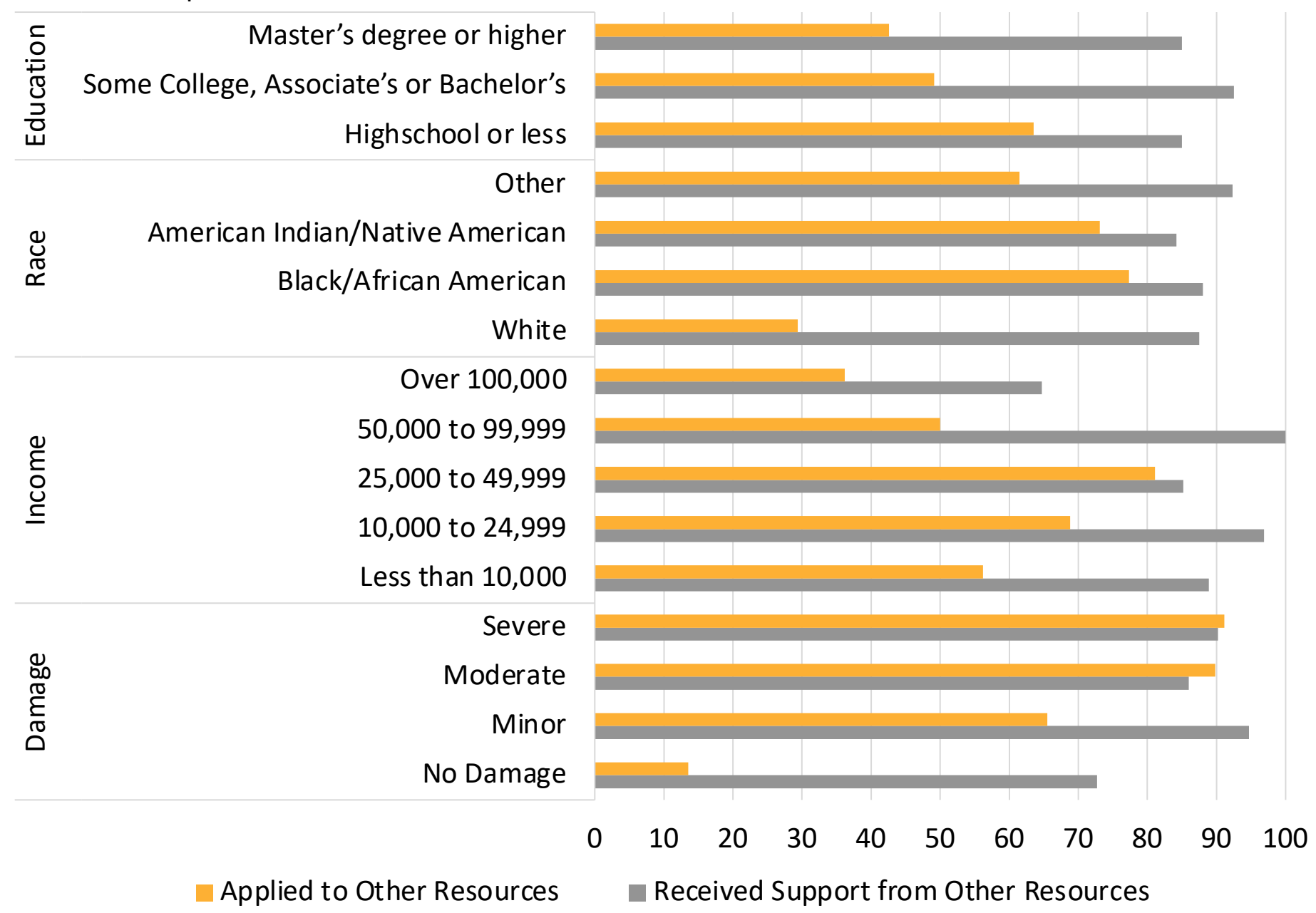


Figure 4. Trends in time taken to receive insurance payouts and other assistance
Values are in days

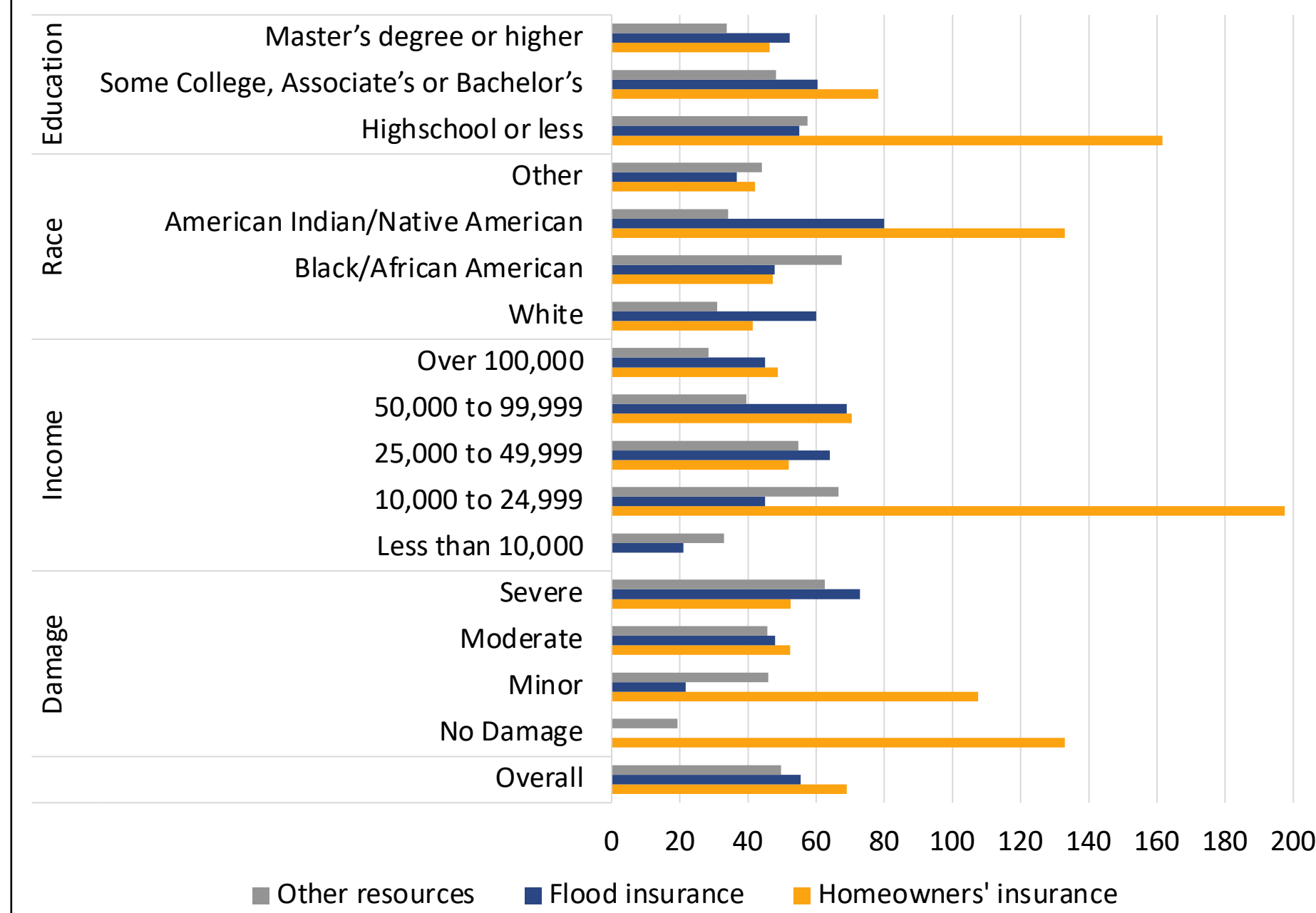


Table 1. Chi-square tests
* p<0.05, ** p<0.01, *** p<0.001

	Having:		Receiving payout:	
	Homeowners' Insurance	Flood Insurance	Homeowners' Insurance	Flood Insurance
Damage Levels		*	***	***
Income	***	*	***	***
Education	*		***	
Race/Ethnicity	**			
Mortgage & Floodplain	***	***		

Discussion

- While there is relatively lower purchase of flood insurance, more of the National Flood Insurance Program (NFIP) policy holders received insurance payout suggesting that communities living in areas with high flood-risk need to be encouraged to have flood insurance. This is especially important given that homeowners' insurance is less likely to cover flood-related damages.
- Access, availability and affordability of flood insurance, especially among low-income groups, need to be improved.
- Low-moderate income communities are more likely to rely on recovery assistance rather than insurance and loans for housing recovery. Facilitating straightforward and timely access to CDBG-DR and FEMA IHP can make a substantial improvement in recovery outcomes for these communities.