

Impact of experiences of discrimination on self-efficacy among parents and other primary caregivers of hospitalized children: possible implications for downstream food insecurity interventions

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Disclosures

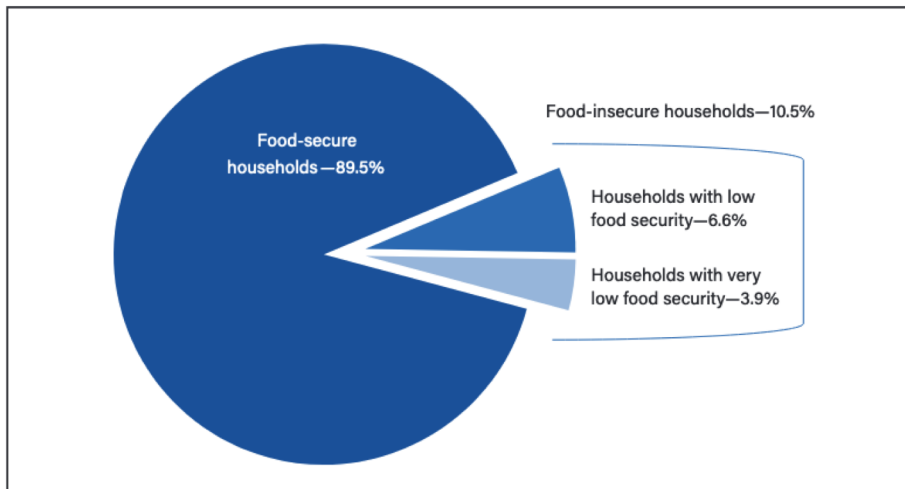
I have no conflicts of interest

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Background: food Insecurity

U.S. households by food security status, 2020



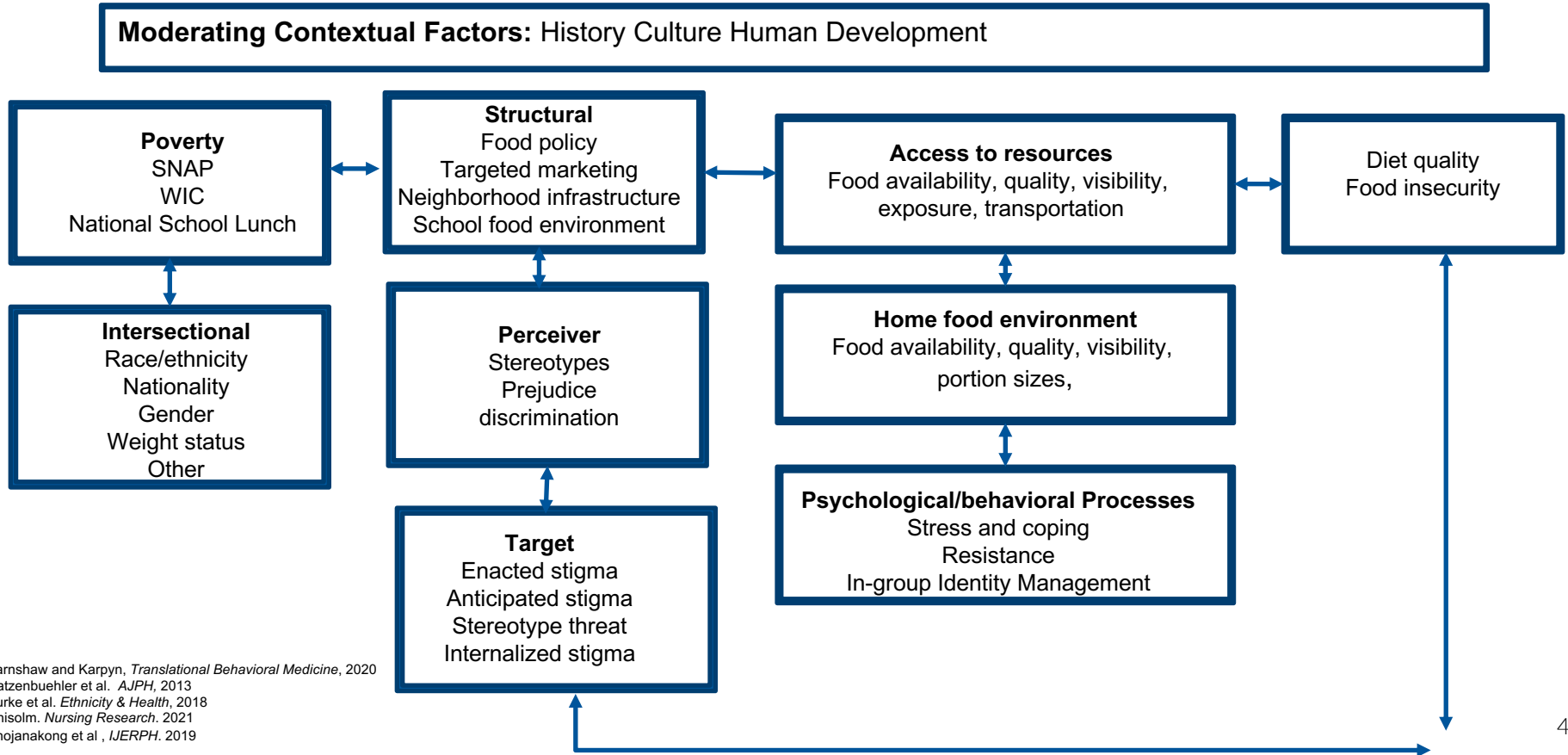
Source: USDA, Economic Research Service using data from U.S. Department of Commerce, Bureau of the Census, 2020 Current Population Survey Food Security Supplement.

- Definition:
 - limited or uncertain access to nutritious, healthy food.
- Prevalence
 - > 10% of American households¹
- Relationship between FI and Health²⁻⁴
 - Children who experience FI have higher rates of:
 - Developmental problems
 - Hospitalization
 - ED utilization
 - Poor overall health
 - In adults, FI linked to⁵⁻⁸
 - Mental health outcomes (anxiety, depression)
 - Diet sensitive disease states (diabetes, HTN, HLD)
 - Poor overall health
 - Impaired self care

1. Coleman-Jensen et al., USDA, 2021
2. Gundersen et al. *Health Affairs*, 2015
3. Jyoti et al. *The Journal of Nutrition*, 2005
4. Ryu et al. *AJPH*, 2012
5. Whitaker et al. *Pediatrics*, 2006
6. Seligman et al. *JGIM*, 2007
7. Seligman et al. *The Journal of Nutrition* 2010
8. Seligman et al. *Journal of Health Care for Poor and Underserved* 2010

Background: prior scholarship on food insecurity and discrimination:

Fig 1 Stigma and Food Inequity Conceptual Framework (adapted from Earnshaw and Karpyn)



9. Earnshaw and Karpyn, *Translational Behavioral Medicine*, 2020
10. Hatzembuehler et al. *AJPH*, 2013
11. Burke et al. *Ethnicity & Health*, 2018
12. Chisolm. *Nursing Research*. 2021
13. Phojanakong et al., *IJERPH*. 2019

Background: self-efficacy

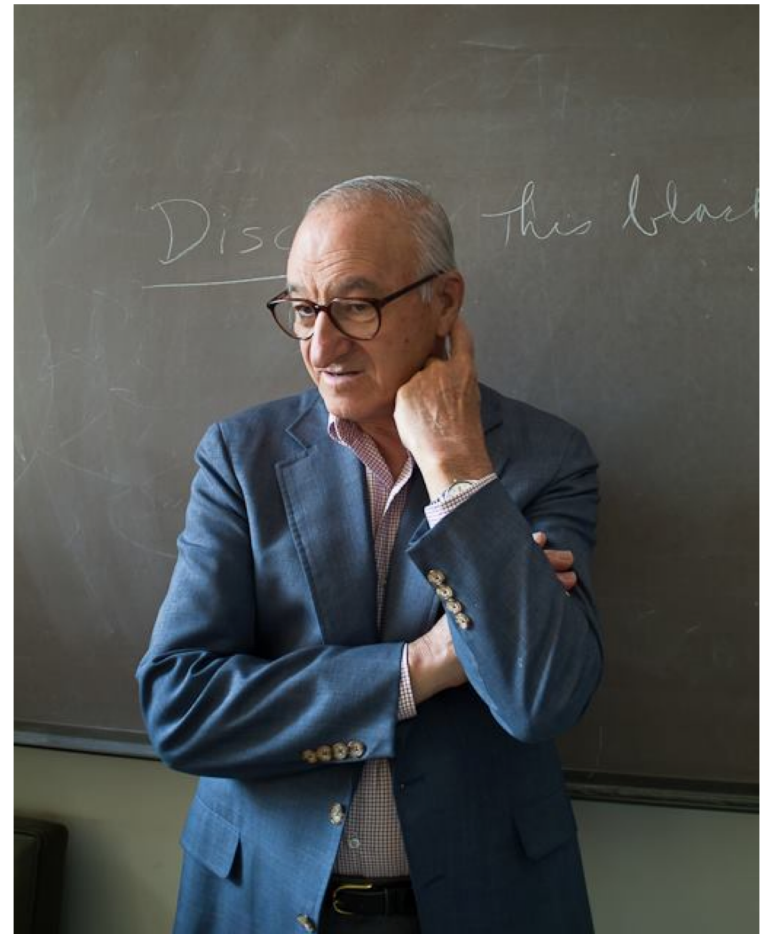
“Beliefs in one's capabilities to organize and execute the course of action required to produce given attainments.” - Albert Bandura¹⁴

Four sources¹⁵:

- 1) Mastery experiences
- 2) Vicarious experiences (seeing some who looks like you having mastery experiences)
- 3) Social/verbal persuasion (i.e. encouragement)
- 4) Emotional States (i.e. degree of stress, anxiety, etc.)

Associated outcomes:

- 1) Medication adherence¹⁶
- 2) Cigarette smoking cessation¹⁷
- 3) Physical activity and exercise¹⁸
- 4) Adherence with prescribed dietary patterns^{19, 20}
- 5) Glycemic and metabolic control in patients with iDDM²¹
- 6) ART adherence, independent of cognitive, personal , and environmental factors such as depressive symptoms and physical limitations²²



14. Bandura, et al.. 1999

15. Bandura and Wessels. *Self-Efficacy*, 1994

16. Richardson et al. *Ethnicity and disease* 2014

17. Alexander et al. *Drug and alcohol dependence*, 2019

18. Resnick *Journal of gerontological nursing*, 2002

19. Speck and Harrell *Journal of Cardiovascular Nursing* 2003

20. Schutzer et al. *Preventive Medicine* 2004

21. Grossman et al. *Diabetes Care*, 1987

22. Nokes et al. *Journal of Nursing Scholarship* 2012

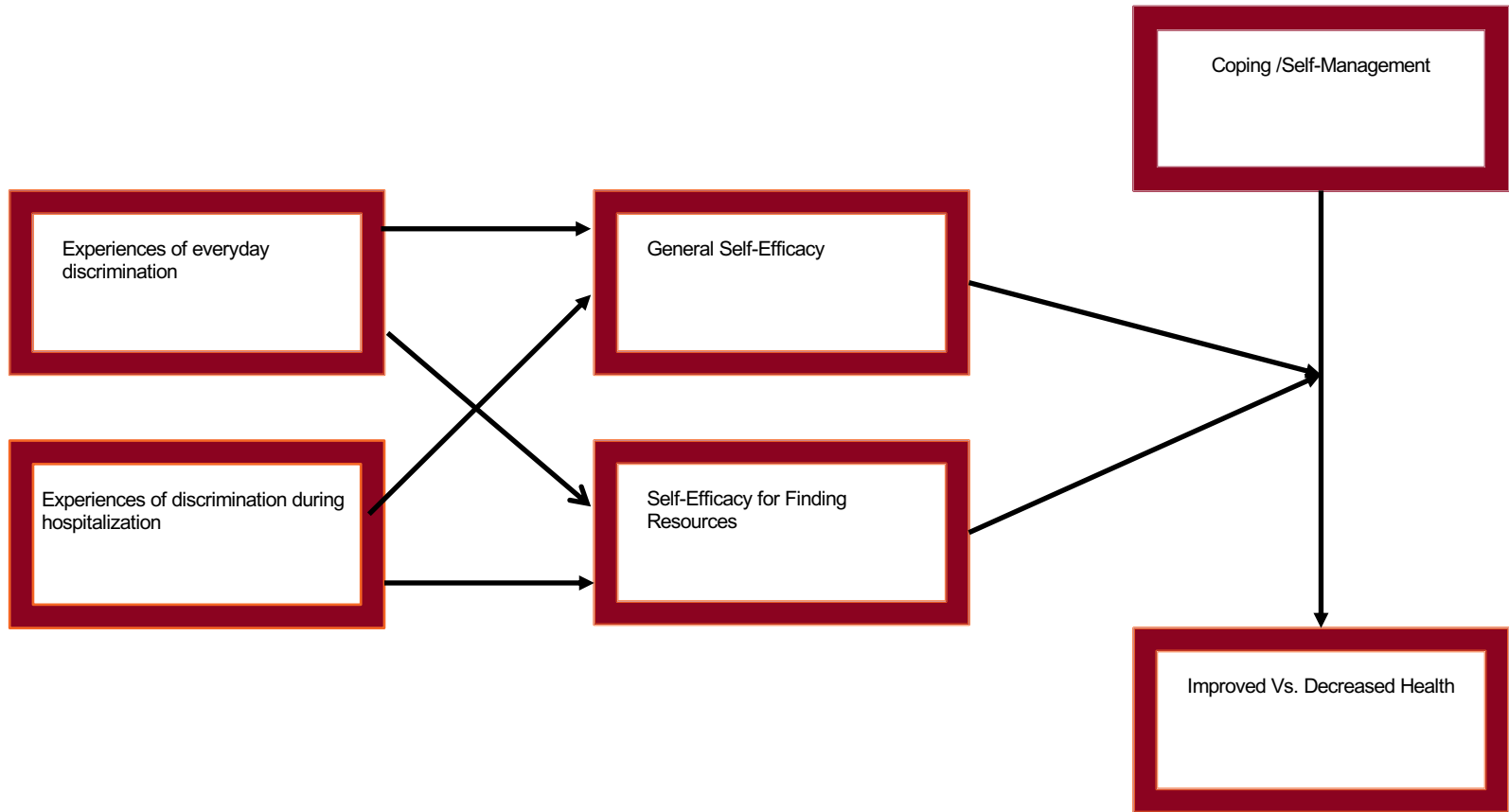


Fig.1 Conceptual model of relationship between experiences of discrimination, types of self-efficacy, and downstream health behaviors/outcomes

— Methods: Setting & Participants

- Setting:
 - Children's hospital in South Side of Chicago (155 bed)
 - 53% of families in service area live below the federal poverty level
 - 5,300 annual admissions
- Participants:
 - Parents/caregivers (n = 244) of hospitalized children (< 18 years old), enrolled to the control arm of an ongoing RCT
 - Enrolled between November 2020, and April, 2022



Methods: measures & analyses

Exposure Variables

- Community-based experiences of discrimination, using the Experiences of Discrimination Scale (baseline)
- Hospital-based discrimination, using the Discrimination in Medical Settings Scale (7-days)

Outcomes

- General self-efficacy (Likert scale, 10-40)
- Self-efficacy for finding resources (Likert Scale, 1-5)

Baseline Food Insecurity:

- Classified as secure, marginal, and insecure based on responses to the 18-item USDDA Household Food Security Survey (baseline)

Covariates

- gender, race/ethnicity, income, & relationship status (partnered versus un-partnered)

Analysis

- Average frequencies and percentage of people reporting experiences of community- and hospital-based discrimination were compared between participants, reporting secure, marginal, and insecure food insecurity status using chi-square tests
- Associations between self-efficacy (general and for finding resources) and each type of discrimination (community- and hospital-based) modeled, using multivariate regression, adjusting for covariates

Hypothesis

Hypothesis 1: People with higher levels of food insecurity will report more frequent experiences of community- and hospital-based discrimination and more people with higher levels of food insecurity will report experiences of discrimination.

Hypothesis 2: More frequent experiences of discrimination will be associated with lower self-efficacy (both in general and for finding resources), adjusting for age, sex, race/ethnicity, income, and marital status

Results: baseline, demographic characteristics of sample

Age:

- Average age 35 (SD 9.0)

Education

- 20% college grad
- 41% some college or technical school
- 28% HS grads
- 11% less than HS

Gender:

- 94% identified as female, the rest as male

Race:

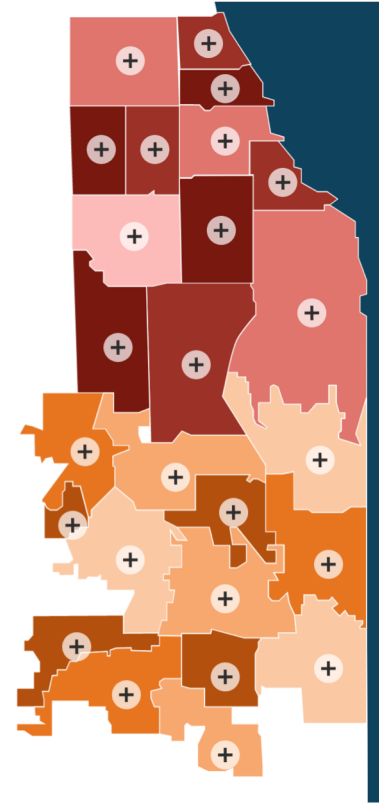
- 80% of sample was Black/African American

Employment

- 55% were employed
- 43% unemployed

Relationship status

- 53% described themselves as partnered (either married or in a relationship)
- 47% were un-partnered



Results: baseline, demographic characteristics of sample with significant differences between food security groups

Insurance status:

- Higher rates of Medicare/Medicaid among food insecure, though interestingly highest among marginally food insecure

Annual income:

- Income < \$50k more common among those who were food insecure or marginally food insecure

| | Total | Secure | Marginal | Insecure | p-value |
|-------------------|-------|--------|----------|----------|---------|
| Insurance Status | | | | | 0.0 |
| Private | 25% | 31% | 5.6% | 22% | |
| Medicare/Medicaid | 74% | 68% | 91% | 78 % | |
| Other | 0% | 0% | 3% | 0% | |
| Missing | 0% | 0% | 0% | 0% | |
| Annual income | | | | | 0.0 |
| <= \$50k | 83% | 77% | 92% | 92% | |
| >50K | 14% | 19% | 6% | 6% | |
| missing | 3% | 4% | 3% | 2% | |

Results: experiences of discrimination by food security status

Average reported frequency of discrimination

- Statistically significant difference in Hospital-based and community-based
- **insecure > marginal > secure**

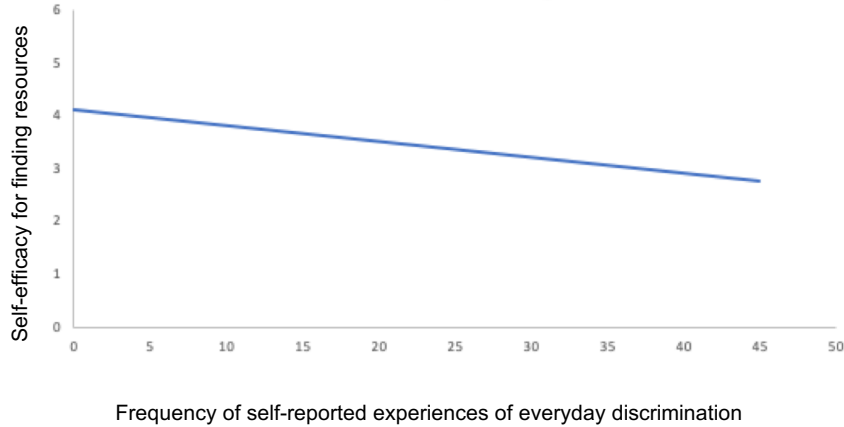
% of Population reporting at least some experience of discrimination

- Statistically significant difference in Community-based discrimination
- **insecure > marginal > secure**

| | Total | Secure | Marginal | Insecure | p-value |
|---|----------|--------|----------|----------|---------|
| Freq of discrimination experiences, Mean (SD) | | | | | |
| Hospital-based Mean (SD) | 10 (4.5) | 9(3.9) | 11 (4.3) | 12(5.8) | 0.04 |
| Community-based Mean (SD) | 9 (8.7) | 7(7.7) | 11 (8.1) | 13 (9.6) | 0.0 |
| Discrimination experiences (%) | | | | | |
| Hospital-based | 56 | 51 | 64 | 64 | 0.12 |
| Community-based | 79 | 70 | 89 | 92 | 0.0 |

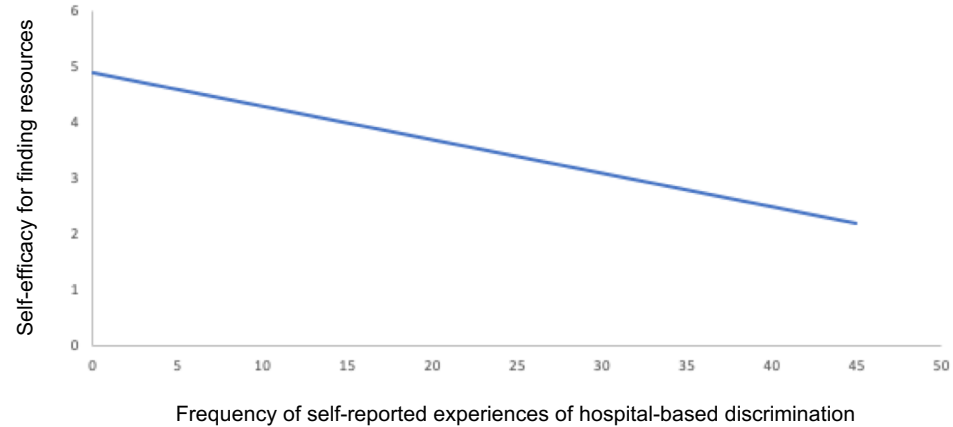
Results: associations between experiences of discrimination and self-efficacy

graph 1: relationship between experiences of everyday discrimination and self-efficacy for finding resources



Community-Based: $\beta = -0.03$, 95% CI -0.05 - -0.02, $p < 0.01$

graph 2: relationship between experiences of hospital-based discrimination and self-efficacy for finding resources



Hospital-based: $\beta = -0.06$, 95% CI -0.09 - -0.03, $p < 0.01$

Also negatively associated with general self-efficacy, but these results were non-significant:

- Community-based: $\beta = -2.9$, 95% CI -7.4- 1.5, $p < 0.2$
- Hospital-based: $\beta = -1.4$, 95% CI -5.3 - 2.6, $p = 0.50$

Conclusion/limitations/next steps

- **Hypothesis 1:** Consistent with prior research we find that experiences of discrimination are more common among those with higher levels of food insecurity
- **Hypothesis 2:** Experiences of discrimination appear to be associated with decreased self-efficacy, in general (non-significant) and for finding community resources (significant).
- Associations appeared to be independent of respondents' age, race, ethnicity, income, or marital status.

Limitations

- Temporal dimension of the survey design, where experiences of hospital discrimination and self-efficacy were queried one week following discharge, suggests possible directionality to the relationship, there is no way to make a causal attribution between experiences of discrimination and decreased self-efficacy
- Models also do not control for baseline reports of discrimination, which might help isolate, impact of new experiences of hospital discrimination

Next Steps

- Further data presently becoming available will allow us to expand our analysis to involve possible associations with actual **downstream behaviors** such as utilization of community resources, enrollment in SNAP/WIC; and follow-up with medical recommendations
- Focus on self-efficacy as link on causal pathway suggests possible future interventions

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Appendix: baseline demographic characteristics

| Table 1: Characteristics of 244 Survey Respondents | | | | | |
|--|------------|----------|------------|------------|---------|
| | Total | Secure | Marginal | Insecure | p-value |
| | N =244 | N=144 | N=36 | N=64 | |
| Age | 35.0 (9.1) | 35 (9.6) | 34.2 (9.6) | 36.0 (7.7) | 0.6 |
| Education | | | | | 0.1 |
| Less than HS | 11% | 8% | 16% | 16% | |
| HS grad or GED | 28% | 29% | 33% | 23% | |
| Some college/technical school | 41% | 38% | 42% | 45% | |
| College graduate | 20% | 25% | 8% | 16% | |
| Insurance Status | | | | | 0.0 |
| Private | 25% | 31% | 5.6% | 22% | |
| Medicare/Medicaid | 74% | 68% | 91% | 78 % | |
| Other | 0% | 0% | 3% | 0% | |
| Missing | 0% | 0% | 0% | 0% | |
| Gender | | | | | 0.8 |
| Male | 6% | 7% | 6% | 5% | |
| Female | 94% | 93% | 94% | 95% | |
| Ethnicity (self-identified) | | | | | 0.2 |
| Hispanic, Latino/a/x, or of Spanish origin | 10% | 9% | 11% | 13% | |
| Non-Hispanic, Latino/a/x, or of Spanish origin | 3% | 1% | 8% | 3% | |
| Missing | 87% | 90% | 81% | 84% | |

Appendix: baseline demographic characteristics

| Table 1: continued | | | | | |
|---|----------|--------|----------|----------|---------|
| | Total | Secure | Marginal | Insecure | p-value |
| Race (self-identified) | | | | | 0.8 |
| White | 11% | 13% | 6% | 9% | |
| Black or African American | 80% | 80% | 81% | 81% | |
| Other | 9% | 7% | 11% | 9% | |
| Missing | 0% | 0% | 3% | 0% | |
| Relationship Status | | | | | 0.5 |
| Partnered | 53% | 55% | 56% | 57% | |
| Un-partnered | 47% | 45% | 44% | 53% | |
| Annual income | | | | | 0.0 |
| <= \$50k | 83% | 77% | 92% | 92% | |
| >50K | 14% | 19% | 6% | 6% | |
| missing | 3% | 4% | 3% | 2% | |
| Employment Status | | | | | 0.1 |
| Employed | 55% | 58% | 36% | 58% | |
| Unemployed | 43% | 40% | 58% | 39% | |
| Missing | 3% | 2% | 6% | 3% | |
| Discrimination experiences (Mean Score) | | | | | |
| Hospital-based Mean (SD) | 10 (4.5) | 9(3.9) | 11 (4.3) | 12(5.8) | 0.04 |
| Community-based Mean (SD) | 9 (8.7) | 7(7.7) | 11 (8.1) | 13 (9.6) | 0.0 |
| Discrimination experiences (% of pop reporting) | | | | | |
| Hospital-based | 56.1% | 50.7% | 63.9% | 64.1% | 0.12 |
| Community-based | 79.1% | 70.1% | 88.9% | 92.2% | 0.0 |