

# CHARACTERIZING EXPOSURE AND AVOIDANCE OF CHEMICALS IN CONSUMER PRODUCTS IN A COHORT OF WOMEN OF COLOR: THE TAKING STOCK STUDY



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## INTRODUCTION

- Consumer products are a significant source of endocrine disrupting chemicals (EDCs) for women, particularly for women of color as a result of racialized beauty practices.
- Studies show that avoiding certain products can lead to reduced EDC exposure. However, avoidance behavior as an effective intervention method to reduce EDC exposure has not been explored in diverse populations.

## OBJECTIVES

- To characterize chemical avoidance behavior while shopping for products and investigate the relationship between this behavior and products used
- To investigate the relationship between consumer products used within the 48 hours prior to urine collection and urinary EDC concentrations

## METHODS

A community-academic partnership approach - learn more about the Taking Stock Study

- Community partners LA Grit Media and Black Women for Wellness recruited 35 Black and 35 Hispanic/Latina women from South Los Angeles
- One-week community science study included:
  - Demographic data and chemical avoidance behavior collected via surveys
  - Daily product use collected via the Taking Stock smartphone app for one week
  - Urine samples collected at the end of the week
- Urine samples analyzed for 28 EDCs commonly found in products such as phthalates, parabens, bisphenols, triclosan, and benzophenone-3



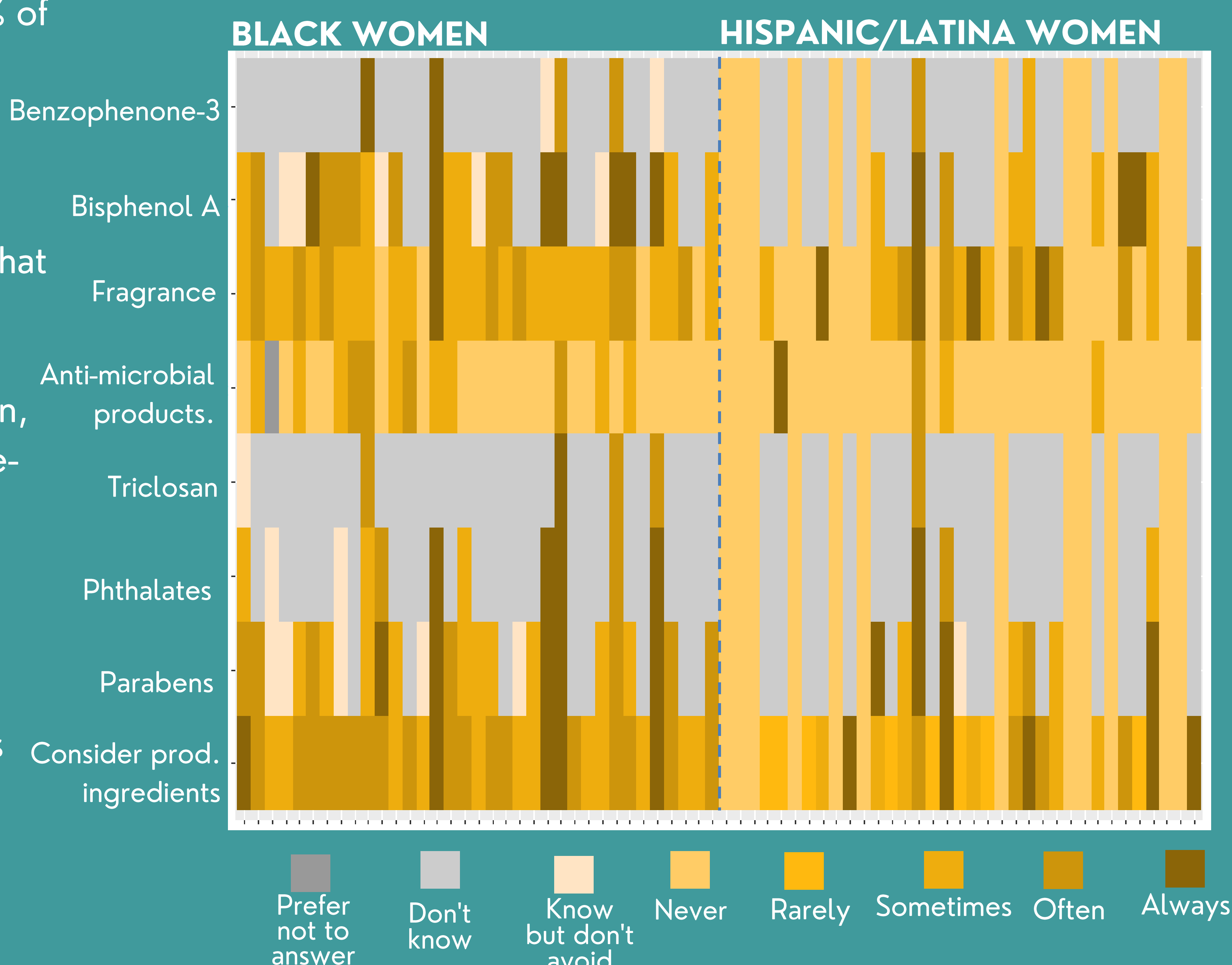
## RESULTS

- 100% of Black women and 50% of Hispanic/Latina women considered ingredients when shopping for products
- Fragrance was the ingredient that most women avoided
- Some chemicals (e.g., triclosan, phthalates, and benzophenone-3) were not well-known by participants
- Among Black women, non-avoiders had higher urinary mBzP and MEP concentrations than avoiders of products with phthalates ( $p=0.02$ ) and products with fragrance ( $p=0.03$ ), respectively

Table 1. Number of products used throughout the week with parabens or fragrance listed as an ingredient based on participants' avoidance behavior.

- Participants' product use data did not match their reported responses of avoiding products with certain chemical ingredients

Figure 1. Participants' responses to survey questions about considering product ingredients or avoiding products while shopping.



	Black Women		Hispanic/Latina Women	
	Avoider	Non-avoider	Avoider	Non-avoider
<b>Parabens</b>				
Median	2	2	2	2
Maximum	9	5	8	6
	Avoider	Non-avoider	Avoider	Non-avoider
<b>Fragrance</b>				
Median	9	7.5	8	8
Maximum	28	12	16	20

## RESULTS

- Among Hispanic/Latina women (N=28), for every additional product used 48 hours prior to urine collection, urinary concentrations of MEP (metabolite of diethyl phthalate and previously correlated with fragrance in products) increased by 3.22 ng/mL ( $p=0.01$ ).

## TAKE HOME POINTS

- Avoiding exposure to EDCs from consumer products is challenging for multiple reasons, including lacking chemical policy and availability of affordable less toxic products.
- Avoidance behavior is not an ideal solution for all communities to reduce exposure to EDCs. Our study underscores the varying challenges that communities can face when trying to avoid products with certain environmental chemicals.

## REFERENCES

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