

*Factors Affecting Health Promotion Behaviors  
Among Urban Black Women*



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- M.Hepburn
- C. Bautista

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# Introduction

- ◆ Black women are disproportionately affected by cardiovascular disease, hypertension, diabetes and stroke, as well as overweight and obesity as compared to Caucasian women
- ◆ This increased incidence is consistently related to modifiable risk factors
- ◆ Health promotion behaviors have been shown to correlate with optimal health and to prevent these conditions:
  - ◆ *(regular physical activity, a healthy diet, a healthy weight, abstaining from cigarettes, sleeping 7-8 hours a night, preventative health and dental care and reducing alcohol intake)*



## Disparities among Cardiovascular Risk Factors in Black Women

*(Death rate due to cardiovascular disease is 40% higher among Black women as compared to White women)*

### Hypertension:

44% (28.1% Caucasian)

### Diabetes:

13.2% (5.6% Caucasian)

### Stroke: (rate / 100,000)

50.2 (26.6 Caucasian)

### Overweight/Obese:

82% (66% Caucasian)

### Physical Inactivity:

33.9% (21.6% Caucasian)

# Domestic Violence

- Between 2000 and 2006, 3,200 American soldiers were killed in combat. During that same period, in the United States, more than three times as many women died at the hands of their husbands and boyfriends.
- Black women are 4 times more likely to be killed than white women as a result of domestic violence.
- Women of color experience several stereotypes and labels that discourage them from receiving assistance to deal with IPV
- How does a history of domestic violence affect a woman's ability to protect her health? Between 2000 and 2006, 3,200 American soldiers were killed in combat. During that same period, in the United States, more than three times as many women died at the hands of their husbands and boyfriends.

# History of Military Service

- Only 1 of the 152 participants reported military service, hence limiting statistical evidence to detect a correlation to the ability to protect health.
- *Women veterans are 1.8 times more likely than civilian women to commit suicide.*
  - Thomas and Hunter, “Invisible Veterans: What Happens When Military Women Become Civilians Again,”



# Purpose

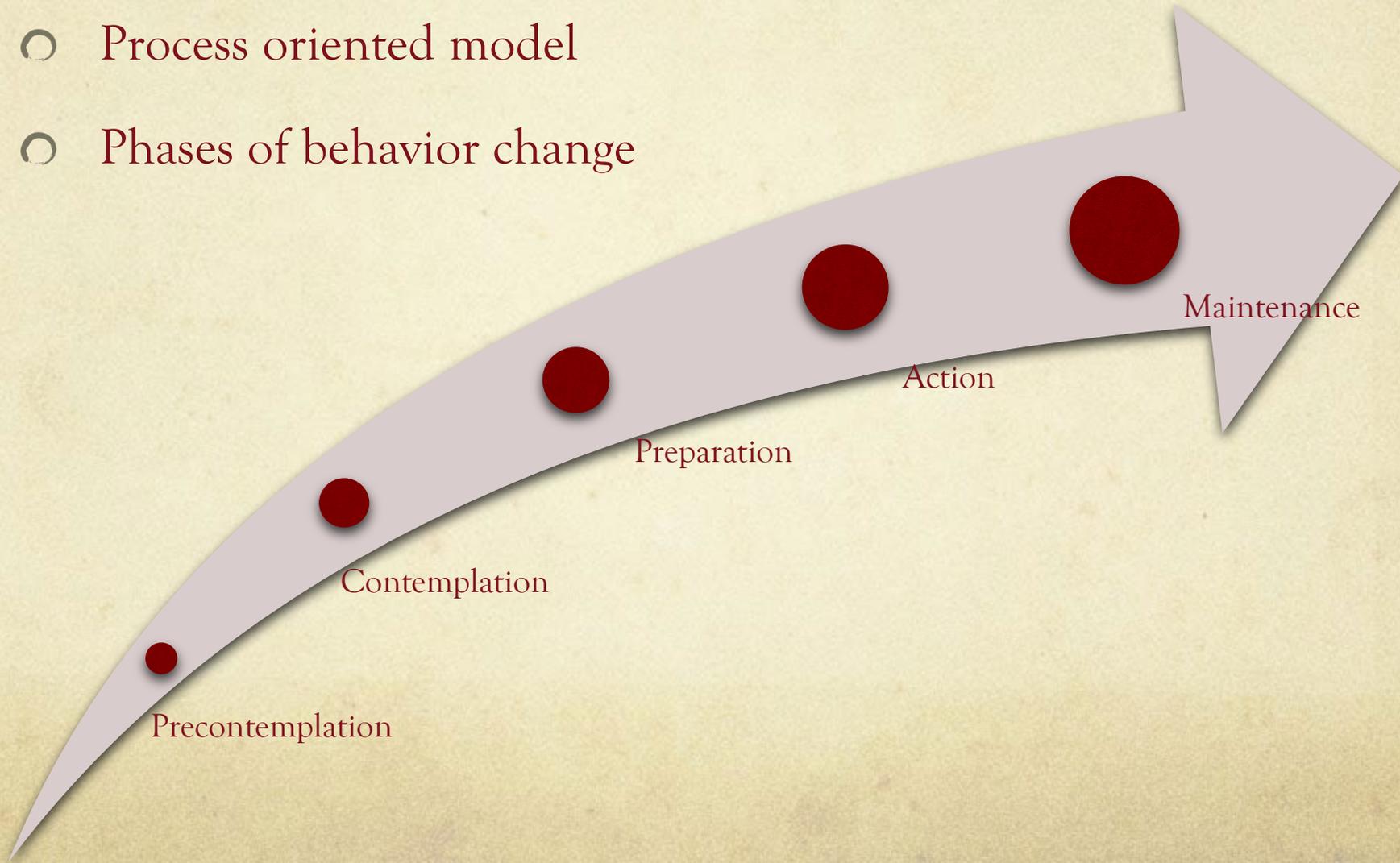
Using the health promotion model, our research sought to better understand variables impacting health promotion behaviors

- To improve what is known in regard to the variables impacting health promotion behaviors among urban black women.
- To validate the association between health literacy, self efficacy and readiness for change in a unique population of urban Black women.
- To assess the impact of spirituality, a history of domestic violence as well as prior military service on the ability to protect one's health

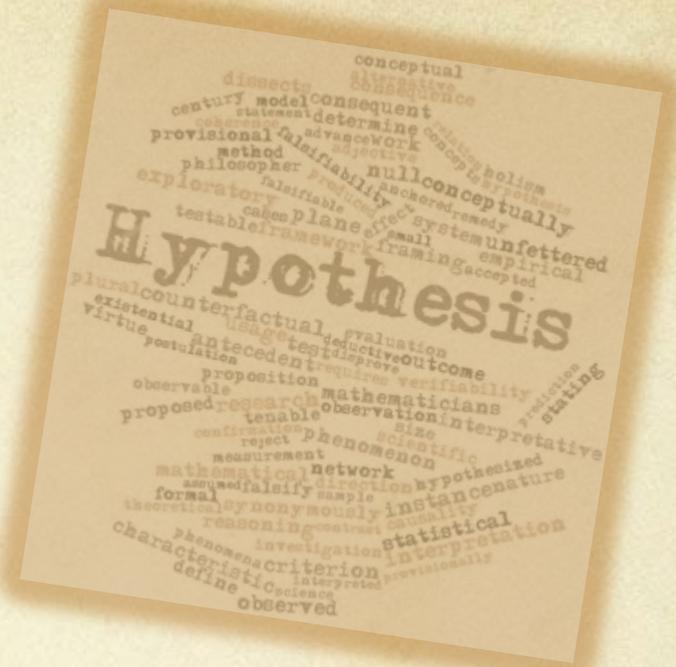
# Definition: Readiness for Change

*Transtheoretical Model (Prochaska, 2002)*

- Process oriented model
- Phases of behavior change

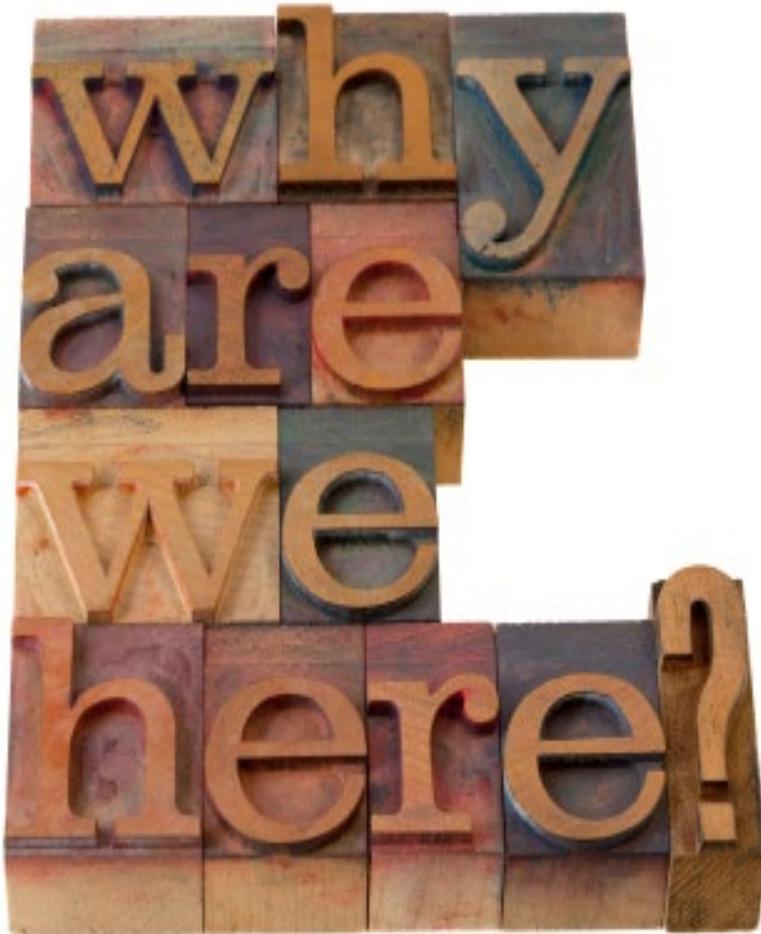


# Hypothesis



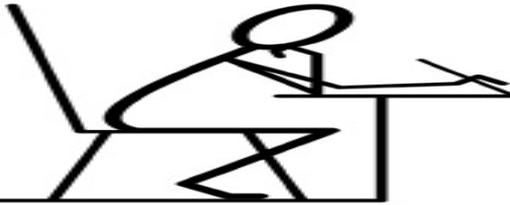
There will be a positive relationship between: Health literacy, Spirituality, Self-efficacy, and Readiness for change, history of domestic violence, or military service to Health Promotion Behaviors in Urban Black women.

# Significance



- To provide insight into health promotion behaviors in Black women
- Establishing empiric knowledge regarding the antecedents to health promotion behaviors is a first step to reducing health disparities

# Research Design



This study utilized a descriptive correlational design to explore the relationships between health literacy, self-efficacy and readiness for change to health, spirituality, a history of domestic violence and military service to:

Health promotion behaviors among urban Black women

# Sample/Setting/Recruiting Participants



- 152 women between 18-64 years of age that self-identified as English speaking Black women
- Data was collected at Bridgeport Hospital's OBGYN clinic and various community events in the city of Bridgeport, CT.
- Participants were solicited by the researchers and nursing students through flyer distribution in each location

# Instruments

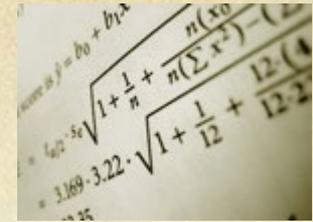
- Health Literacy: *Newest Vital Sign (NVS)*  
(Weiss, et al., 2005) [5 open ended application questions]
  - Cronbach  $\alpha$  in this study .707
- Self-Efficacy: *New General Self-Efficacy Scale (NGSE)*  
(Chen, Cully, & Eden, 2001) [8 questions answered with a 4 point Likert-type scale]
  - Cronbach's  $\alpha$  in this study .954
- Readiness for Change: *Health Risk Intervention (HRI)*  
(Prochaska, 1997) [multiple choice and categorical yes/no questions]
  - Cronbach's  $\alpha$  in this study \_\_\_
- Spirituality: *Daily Spiritual Experience Scale (DSES)*  
Underwood (2002) (16 item likert type instrument)
  - Cronbach's  $\alpha$  in this study .952
- Domestic Violence: *First Assessment Screening Tool (FAST)*  
(McFarland, 2016) Series of yes no questions
  - Cronbach's  $\alpha$  in this study .86
- Health Promotion Behaviors: *Health Promotion Lifestyle Profile II (HPLPII)*  
(Walker, Sechrist, & Pender, 1995) [4 point likert-type scale]
  - Cronbach's  $\alpha$  in this study .953

# Data Collection



- One time data collection: Online survey
- Participants completed survey in an average of 30-40 minutes

# Analysis of Data (SPSS 26<sup>tm</sup>)



## Descriptive statistics of sample population

Normality ( $\mu$ ,  $s$ )

Other sample characteristics (BMI, education, lifestyle, history of military service)

Main Study variables

## Descriptive analysis of scores for main study variables

Health literacy, self-efficacy, readiness for change spirituality, domestic violence, & health promotion behaviors

Cronbach's alpha coefficients for all instruments

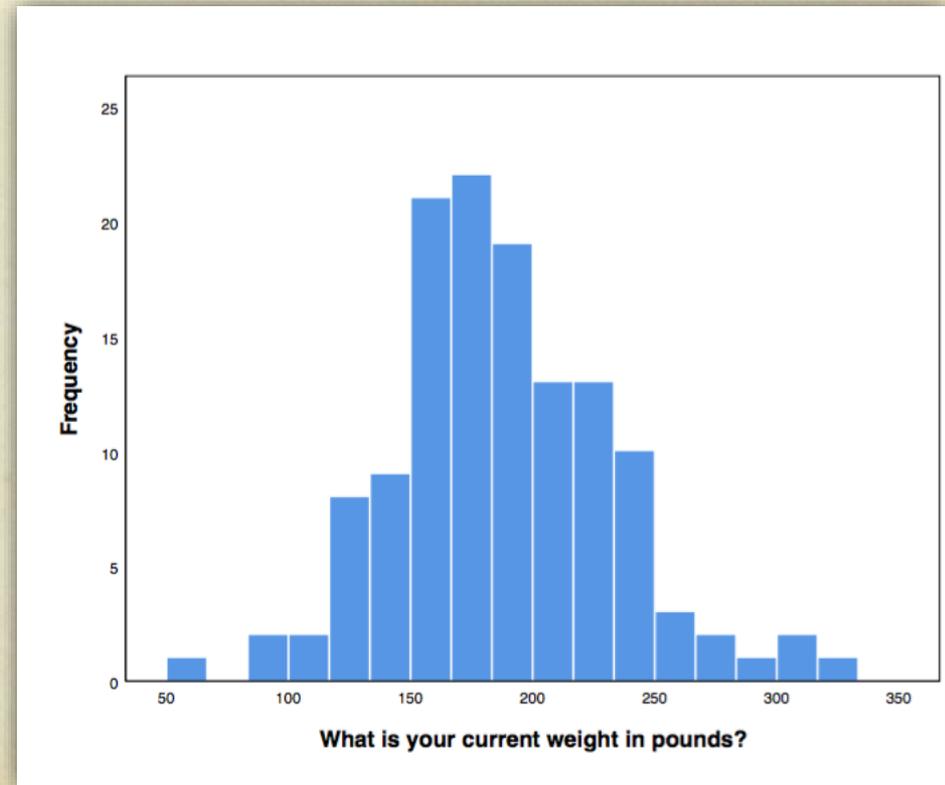
## Inferential analyses

- ✓ *Pearson product-moment correlations* (for parametric data)
- ✓ *Spearman's rank-order correlations* (for non-parametric data)
  
- ✓ *Bivariate correlations* (nature of the relationship - research hypothesis)
  
- ✓ *Multiple regressions* (relative contributions of main variables - research question)

# Demographics (n=152)

Participants reporting having the following conditions:	Yes	%
Hypertension	24.3	24.3
Bronchitis or asthma	23	16.8
Diabetes or high blood sugar	16	11.6
Stroke	14	10.1
Heart attack	10	7.2

○ Mean BMI: 32.2 (Obese)



# Other demographic data

Question	Frequency	Percent	Missing
Follow an exercise program <i>Never/sometimes</i>	103	57.8	15
Follow an exercise program <i>Often/Routinely</i>	34	22.4	
Choose diet low in fat/cholesterol <i>Never/Sometimes</i>	93	61.2	15
Choose diet low in fat/cholesterol <i>Routinely/Often</i>	44	28.7	

Also,  
88 (57.9%)  
Reported  
not getting  
enough  
sleep

# And...

Question	Frequency	Percent	Missing
Limit use of sugars and food containing sugar <i>Never/sometimes</i>	83	54.6	16
Limit use of sugars and food containing sugar <i>Often/Routinely</i>	53	34.9	
Read or watch TV programs about improving health <i>Never/Sometimes</i>	92	60.5	14
Read or watch TV programs about improving health <i>Routinely/Often</i>	46	30.2	

# History of Domestic Violence

## Have you ever been in an abusive relationship?

	Frequency	Percent
Yes	40	26.3
No answer	41	27.0

According to the CDC, **1 in 4** women are victims of domestic violence (**4,774,000 / year**).

**3** women are murdered every day in the US by a current or former male partner.

Black women experience intimate partner violence at a rate of **35% higher** than white women.

<b><i>Variable</i></b>	<b><i>Mean/SD</i></b>	<b><i>Min</i></b>	<b><i>Max</i></b>
Health Promotion	76.48/24.5	1	133
Readiness for Change	12.99/4.9	2	22
Health Literacy	2.26/1.8	0	6
Self Efficacy	17.03/5.3	0	24
Spirituality	54.45/14.8	10	75

# Health Literacy

<i>Level of health literacy</i>	<i>Frequency</i>	<i>Percent</i>
Inadequate	60	39.5
Limited	55	36.2
Adequate	37	24.3

75.7 % of participants had limited or inadequate health literacy

# Readiness for change

Stage	Frequency	Percent
Precontemplation	13	8.6
Contemplation	29	19.1
Preparation	35	23
Action	53	34.9
Maintenance	6	3.9

50.7 % of participants were *not* actively taking steps to improve their health

# Self Efficacy

Level	Frequency	Percent
Low	13	8.6
Moderate	19	12.5
High	81	53.3

I will be able to  
achieve most of  
the goals that I  
have set for  
myself

*Agree/strongly agree*

61%

# Spirituality

Stage	Frequency	Percent
high	74	71.2
moderate	20	21
low	5	7.8

I feel guided by  
God in the  
midst of daily  
activities:

*Every day/many times a day*

**62 %**

# Domestic Violence (FAST)

Stage	Frequency	Percent
History (yes)	40	26.3
No answer	41	26.9

# Health literacy

- Among women with higher BMI, health literacy was more often inadequate or limited
- There was no significant correlation of higher education to higher levels of health literacy ( $p > .402$ )

# Research Question

**Multiple regression analysis results:** Health literacy, readiness for change, self-efficacy, spirituality and a history of domestic violence on health promotion behaviors

Predictor	$\beta$	SE $\beta$
Constant	16.845	10.1
Health Literacy (NVS)	.101	
Readiness for Change (HRI)	.315*	
Self Efficacy (NGSE)	.611*	
Spirituality (DSAS)	.351*	
Domestic Violence (FAST)	.039	

\* = significant (p<.05)

# Model Fit

- DSAS  $F(1,152) = 9.342, p < .005, R^2 = .071$  [contributing 7.1%]
- NGSE:  $F(1, 152) = 13.210, p < .001, R^2 = .062$  [contributing 6.2 %]
- NVS:  $F(1,152) = 2.48, p < .389, R^2 = .012$  [*not significant*]
- HRI:  $F(1,152) = 16.201, p < .001, R^2 = .507$  [contributing 50.7%]
- FAST  $F(1,111) = 19.039, p < .001, R^2 = .418$  [contributing 41.8%]
  - [among the 40 of 111 participants that responded 41 missing answers]

# Health Literacy Correlation to Self-Efficacy and Spirituality

	Correlation	significance
Health Literacy To Self Efficacy	-.071	.454 (not significant)
Health Literacy to Spirituality	-.125	.193 (not significant)



Discussion of comparative findings from original study

# Health literacy

Complexity of measurement of health literacy

(literacy + numeracy + applied math problem solving)

Although significant in original study, this study produced a weaker and insignificant correlation to health promotion, and is inversely related to self efficacy and spirituality...

# Self-efficacy and Spirituality

Although significantly correlated to health promotion, participants who possessed the belief that they could accomplish their goals, and felt a strong connection to God more often had inadequate or limited health literacy.

Participants with high levels of self efficacy and spirituality were more likely to be obese and less ready to implement positive change to promote their health, such as exercising regularly or eating a diet rich in fruits and vegetables.

They were also more likely to report hypertension.

# Readiness for change

In previous study 75.8 % of participants reported not being ready to change. (*all recruited at Bellevue Hospital in Manhattan*)

This study showed 50.7 % of participants not ready to change.

However, 50 participants were recruited at a health promotion event in Bridgeport, Hosted by the National Coalition of 100 Black Women Leaders. 75 recruited at a hospital based OBGYN clinic in Bridgeport, CT, and others at local churches and a local grocery store

# Health promotion behaviors

- The mean score of 76 out of 133 possible points for the HPLP II is only one point lower than previous study, validating the representative sample of participants.
- Mean score is approximately 18% points lower than the average HPLP II score in a previous descriptive study of 545 Hispanic adults
- Women with the lowest HPLP II scores had the highest BMIs of all participants (both studies)
- Engagement in health promotion behaviors is not fully explained by these variables.
  - However the inverse nature of the relationship of self-efficacy and spirituality to health literacy is a concerning finding as this has a negative correlation to health promotion behaviors
  - Obesity is negatively correlated to specific health promotion behaviors, such as exercise and healthy eating habits
  - The strong relationship of a history of domestic violence to health promotion behaviors indicates a need for further exploration in community health



# Strength/Implications of the replication study

Methodological: sample size, participant availability, data collection methods and location, minimal missing data

BMI of participants mirrors state and national census statistics among Black women

Diversity of recruitment settings may have contributed to the representative sample population

# Limitations

- Limited to those who speak English
  - Language barriers may pose other restrictions on health promotion
- Applied math skills are sometimes not retained in adulthood
  - Although the NVS is widely accepted, it may not be valid among populations with inadequate math skills
- This sample does not fully represent a history of military service and its relationship to health promotion behaviors and requires a different population sample.

# Theoretical conclusions

- Complexity of the concept of health literacy
  - Lack of consensus as to the optimal conceptual constructs of health literacy
- Should larger sample population be considered in replication study to include history of domestic violence and military service
- Negative relationship between self-efficacy and spirituality as main variables has not been previously reported

# Practical conclusions

- Reporting of a history of DV is affiliated with social stigma, fear of harm/death
  - Under reporting is common
  - According to the CDC and research by Rachel Louise Snyder (*No Visible Bruises, 2019*)
    - 50 women in the US are fatally shot by the men they love every day
    - The most dangerous place for a woman may be in her home
- When working in the community to promote health, it is vitally important to consider the many barriers to protecting one's health that may lie well under the surface....

# Summary/Conclusions

- Previous studies indicate that health literacy is correlated to health promotion behaviors
- However, community engagement activities geared to promoting health literacy may be best integrated into spiritual settings in populations such as urban Black women
- Self-efficacy as a perception may be inadequate without an intentional integration with health literacy
  - Spiritual settings that engage self-efficacy with health promotion activities may be more effective in moving the needle toward healthier communities of urban Black women.

# Conclusions/Implications

- The negative correlation of health literacy to self-efficacy and spirituality indicates a gap between ability and perception
  - This gap could lead to an inability to protect one's health
- The understanding of factors relating to one's ability to protect their health is poorly understood.
  - Current screening methods for uncovering domestic violence are inadequate
  - Community leaders and health educators will benefit their communities by establishing safe channels for urban Black women to protect their health

Questions?  
Comments?

