2018

MENTAL REPRESENTATIONS OF THE HOMELESS

Stephanie E. McKee

University of Kentucky, s.mckee@uky.edu

Digital Object Identifier: https://doi.org/10.13023/ETD.2018.059

Click here to let us know how access to this document benefits you.

Recommended Citation

MENTAL REPRESENTATIONS OF THE HOMELESS

_____

THESIS

_____

A thesis submitted in partial fulfillment of the
requirements for the degree of Master of Science
in the College of Arts and Sciences
at the University of Kentucky

By

Stephanie Elizabeth McKee

Lexington, Kentucky

Director: Dr. Jazmin Brown-Iannuzzi, Professor of Psychology

Lexington, Kentucky

2017

ABSTRACT OF THESIS

MENTAL REPRESENTATIONS OF THE HOMELESS

Stereotypes surrounding race and socioeconomic status often have overlapping attributes. That is, we tend to stereotypically associate African Americans and poor individuals with being incompetent. Further, people automatically associate African Americans with the concept of poor. The current research examined people's mental representations of a homeless person, a poor person, and a person with a home, to see if people's mental representation of a homeless varied from that of a poor person. Results from Study 1 ($N = 524$), using a bi-racial base image indicate that people, on average, mentally represent the poor and homeless in a similar manner. The results from Study 2 ($N = 496$), using a White base image, replicate the findings from Study 1, and indicate that the findings from Study 1 were not the result of idiosyncratic features of the original base image. Future directions are discussed.

KEYWORDS: stereotypes, race, homeless,

Stephanie Elizabeth McKee

January 23rd, 2018

MENTAL REPRESENTATIONS OF THE HOMELESS

By

Stephanie Elizabeth McKee

<u>Dr. Jazmin L. Brown-Iannuzzi</u>
Director of Thesis

<u>Dr. Mark T. Fillmore</u>
Director of Graduate Studies

<u>January 23rd, 2018</u>
Date

To good friends—
Life would not be the same without you.

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

Introduction

When I hear stories or read about a homeless person, a very distinct image of this person comes to mind. To me, a homeless person is a White male. Although the specific features of this individual may vary from time to time, he is generally dirty, with long hair and a shaggy beard. I imagine him dressed in colors typical of the military (e.g., army green and camouflage). I often assumed that this imagined homeless man is a military veteran and is likely suffering from PTSD or a traumatic brain injury.

It is unclear, however, whether my mental image of a homeless person is representative of the homeless population. Getting an accurate count of the homeless population is not easy. A common sampling method to track the homeless is a point-in-time estimate (i.e., a 1-night estimate of both the sheltered and unsheltered homeless populations). In 2015, there were approximately 564,708 homeless people: 60% of which were male, and 48.5% White (United States Department of Housing and Urban Development (HUD), 2015a). Limiting this population to the sheltered homeless (i.e., people not living on the streets) results in a homeless population that was 55.3% male and 44.8% White. Looking at the unsheltered population results in a homeless population that is 70.8% male and 56.8% White (HUD, 2015a). Thus, unsheltered homeless individuals tend to look like my mental image of the homeless, but the sheltered homeless population may not because the homeless population is more racially diverse than my mental image.

Although I think of a single White man when I think about homeless individuals, families are also victims of homelessness. In 2015, families accounted for 37% of the homeless population (HUD, 2015b), the majority of whom were comprised of women

1

with one or two children (50.9%; HUD, 2015b). Additionally, about 77% of the homeless family population identified as being a member of a minority group, with African Americans making up the majority (50.1%; HUD, 2015b). These statistics indicate that the typical homeless family is comprised of a Black woman with children.

Overall, the statistics on the homeless population highlight the fact that a wide range of individuals –Black, White, male, female, and children – represent the homeless population. However, my mental image of the homeless is quite narrow: White men. As far as I know, research has not investigated the typical representation of the homeless. Investigating this image is important because it may inform people's support (or opposition) toward homeless policies. The current research seeks to examine the typical mental image of a homeless person and to see whether this image may, in part, inform attitudes toward homeless policies

Background

Homelessness is often a result of economic crises and difficult situations. Research shows that being the victim of domestic violence, lack of affordable housing, and insufficient income are leading causes of homelessness (Hecht & Coyle, 2001; U.S. Conference of Mayors, 2014). In fact, approximately 1.5 million Americans became homeless due to the Great Recession (National Alliance to End Homelessness, 2009). And, even prior to the Great Recession, the prevalence of homelessness in the U.S. was on the rise (U.S. Conference of Mayors, 2008).

Although homelessness may result from numerous situations outside of the individual's control, people often make internal attributions about homeless individuals. Homeless people are stereotypically associated with being both low in warmth and

competence (Fiske, Cuddy, Glick, & Xu, 2002). For example, common stereotypes depict the homeless as lazy and dirty (Hecht & Coyle, 2001; Hocking & Lawrence, 2000; Kane, Green, & Jacobs, 2010; Knecht & Martinez, 2012; Whaley & Link, 1998). Consistent with this stereotype, people often think homeless people are dishonest (Lee & Farrell, 2003; Tompsett, Toro, Guzicki, Manrique, & Zatakia, 2006). And, unsurprisingly, people often believe that homeless individuals are delinquents and drug abusers who have had negative experiences with the authorities (Fitzpatrick, Kemp, & Klinker, 2000; Kane, Green, & Jacobs, 2010; U.S. Conference of Mayors, 2008).

These negative views of the homeless may be influenced by the media. Portrayals of the homeless in print (Klodawsky, Farrell, & D'Aubry, 2002) and on television (Lind & Danowski, 1999; Whang & Min, 1999) tend to focus on the negative stereotypes and internal attributions mentioned above (e.g., Hodgetts, Hodgetts, & Radley, 2006; Kendall, 2005; Lind & Danowski, 1999; Toft, 2014). As a result, people may internalize these negative portrayals of homeless individuals and imagine the homeless in terms of these negative internal attributes.

However, it is important to note that these media portrayals are not always consistent. During the Thanksgiving and Christmas holidays, media portrayals of the homeless dramatically shift - portraying the homeless as a needy population deserving of support (Bunis, Yancik, & Snow, 1996). This change in media representation is associated with an increase in sympathy and support for the homeless during the holiday season (Bunis, Yancik, & Snow, 1996). In fact, news coverage of the homeless during this season tends to utilize "disaster pornography" to depict the homeless as vulnerable and in need of assistance (e.g., individuals sleeping on blankets in the street trying to

3

avoid the rain; May, 2003; Swain, 2011). These images have been found to maximize

charitable donations by making the target appear less agentic and, therefore, less capable

of taking care of him/herself (Eayrs & Ellis, 1990), even though these depictions tend to

be less accurate and representative of the typical homeless person's situation (Breeze &

Dean, 2012). Interestingly, this sympathetic coverage ends after the holiday season and

returns to portraying the homeless as responsible for their own circumstances (Bunis,

Yancik, & Snow, 1996). Thus, during the majority of the year, people are shown negative

portrayals of homeless individuals. Given that most of the representations of the

homeless are negative in nature, I predict that mental images of the homeless are also

relatively negative.

Race and Homelessness

Stereotypes surrounding race and socioeconomic status often have overlapping attributes.

For example, African Americans and poor individuals are stereotypically associated with

being incompetent (e.g., Cuddy, Fiske, & Glick, 2008; Fiske, Cuddy, Glick, & Xu, 2002).

In addition, people automatically associate African Americans with the concept of poor

(as opposed to rich; Brown-Iannuzzi, Cooley, McKee, & Hyden, in preparation; Freeman,

Penner, Saperstein, Scheutz, & Ambady, 2011). Moreover, when people imagine a poor

individual, they tend to imagine an African American (Lei & Bodenhausen, 2017).

Further, this association holds when looking at people who grew up around

predominantly poor African Americans *and* when looking at people who grew up around

predominantly poor White individuals (Lei, McKee, & Brown-Iannuzzi, in preparation).

Overall, these findings suggest that race and social class are integrally linked.

It may be the case, however, that homelessness does not covary with racial minority status. That is, people may not imagine a Black homeless person despite the fact that people tend to imagine a Black poor person and a Black welfare recipient. The possibility that homelessness is 'White' is quite interesting because one might assume that the superordinate category (poor) and its racial association (Black) would remain when considering the subordinate category (homeless). Yet, the association between homelessness and 'Whiteness' may be due, in part, to the media. Many portrayals of the homeless tend to feature an "iconic" image of an older White male with a beard sitting on cardboard (Breeze & Dean, 2012). Given the large influence of media on our daily lives, it may be the case the homelessness is stereotypically 'White,' not Black.

The Current Study

The goal of the current research was to investigate the average mental representation of a homeless person, a poor person, and a person with a home (which I also call 'a sheltered person'). I was interested in whether these representations change across target group and depending on the stimulus image used. I hypothesized that the average image of a homeless person would be a White male who looks relatively negative. In addition, I hypothesized that the average image of a poor person would be representative of a Black male who looks relatively negative. Finally, I hypothesized that the average image of a sheltered person would be representative of a White male who looks relatively positive. Moreover, I hypothesized that these images would remain relatively similar regardless of whether the stimulus image changed. This latter hypothesis suggests that the stereotypical mental image of each target group is robust against idiosyncratic changes in the stimuli.

I tested these hypotheses using the reverse correlation procedure. The reverse correlation procedure is used to produce people's mental representations of a target group (see Dotsch & Todorov, 2012; Dotsch, Wigboldus, Langner, & van Knippenberg, 2008, Imhoff & Dotsch, 2013). This is a data driven procedure that utilizes a 'base image.' To this base image I add random noise to create several variants of this image. Then, participants are presented with two images and asked to choose which image is most representative of a given target group (e.g., homeless, poor, person with a home). Finally, I combined all the selected images to create a composite image, or average mental representation, for each target group.

For the purpose of replication and extension, I conducted the reverse correlation procedure twice. The first study used a multiracial base-face (please see Appendix A regarding information about creating this image). The second study used the average White male face from the Karolinska database (also used in previous publications; see Dotsch & Todorov, 2012). Using the White image as the base image provides a conservative test of my hypotheses – if the race of the composite image changes when the base image is White, then we can be fairly certain that this is a result of the stereotype as opposed to an artifact of the stimulus. Moreover, if I find similar images across two different base face studies, there is robust evidence for (or against) my hypotheses.

CHAPTER 2

Study 1 Method

This study consisted of two parts – (1) the *image generation stage,* and (2) the *image processing* stage. These stages are described in sequential detail below.

Stage 1: Image Generation Phase

Participants. We recruited a total of 524 participants from Amazon Mechanical Turk (MTurk). Of these participants, 385 completed the entire survey (150 men, 231 women, 4 other). All partial data was included in the analyses. The sample ranged in age from 19-77 years ($M = 36.64$, $SD = 11.11$). The majority of participants were White (54.8%), followed by Black (6.9%), Asian (5.3%), Hispanic (4.8%), Bi-racial (0.8%), Native American (0.6%), and "other" (0.4%). Additionally, race information was missing for 26.5% of the sample.

Procedure and materials. After giving consent, participants were randomly assigned to complete one of three conditions of a reverse correlation procedure. In each condition, participants were presented with two images side-by-side. In one condition, participants were asked to select the image of the pair which image looks most like a homeless person. In the other condition, participants were asked to select the image of the pair which image looks most like a poor person. And, in the final condition, participants were asked to select the image of the pair which image looks most like a person who has a home. All participants were presented with 400 critical trials and the images within each trial were randomly presented.

After completing the reverse correlation task, participants completed a series of items that assessed perceived causes of homelessness. The item stem was: "People may

become homeless for several reasons. To what extent do you believe the following reasons cause people to become homeless. For each reason, complete the following sentence: _____ causes people to become homeless." The internal attribute items include: laziness, drug abuse, and mental disorders (Cronbach's α = .50). The external attribute items include: lack of affordable housing, lack of good jobs, domestic violence, and a poor economy (Cronbach's α = .74). All items were rated on a 1 (strongly disagree) to 6 (strongly) scale, with higher numbers indicating greater endorsement.

Participants also completed a 12-item scale assessing attitudes towards the homeless related to four facets – community burden, dangerousness, individual causes of homelessness, and the extent to which they are comfortable around the homeless (items modified from Lee et al., 2004). Some examples of items include, "homelessness is a result of irresponsible behavior" (individual causes), "it is not safe to be near homeless people" (dangerousness), "too much government money is spent on the homeless" (community burden), and "I would feel comfortable volunteering with a homeless shelter" (comfort with the homeless). All items were measured on a 6-point scale (1 = strongly disagree, 6 = strongly agree), where higher numbers indicate greater agreement (Cronbach's α = .91).

To assess classist attitudes, participants completed a modified version of the Economic Beliefs Scale (Stevenson & Medler, 1995). This scale contains 9 items designed to measure classist attitudes towards various disadvantaged groups (e.g., the poor, those on welfare). Some examples include, "Homeless people should get their acts together and become productive members of society" and "Poor people are lazy." All

items were measured on a 6-point likert scale (1 = strongly disagree, 6 = strongly agree; Cronbach's α = .92).

We also assessed how much contempt and pity participants feel toward the homeless and the poor (Fiske et al., 2002). Participants were asked, "Imagine that you are a representative member of your community. For the following questions, answer based off how you think your community feels. In general, community members feel [Insert emotion] the homeless [poor]." Contempt is comprised of the emotions: anger, ashamed, contempt, disgusted, frustrated, hateful, resentful, and uneasy. Pity is comprised of: pity and sympathy. All items were rated on a 5-point likert scale (1 = not at all, 5 = extremely), with higher values indicating more negative emotions. Cronbach's α = .81 for the homeless version, and Cronbach's α = .85 for the poor version.

Some of these individual difference items led to drastically different mental representations of the target groups, whereas others did not. Because the findings were not consistent across all measures, I discuss these individual different measures as potential future directions (see Discussion section below).

Lastly, participants were asked demographic questions pertaining to: income, education, political party affiliation, political ideology, age, gender, race/ethnicity, and socioeconomic status. These items were used to describe the sample, but are not otherwise germane.

Stage 2: Image Processing

In order to create the composite images for each condition (poor person, homeless person, or person with a home), I averaged together all of the selected images within each condition using the R package rcicr 0.3.0 (Dotsch, 2015). Averaging the selected images

within each condition allows for repeatedly chosen features, such as mouth shape and nose width, to become more pronounced, creating a clearer image. Thus, through this process the "signal" (or stereotypical features) is amplified and the "noise" (or random features) is reduced. See Table 2.1 for condition grand mean images.

Table 2.1. Grand mean images for each condition using a bi-racial base image.

Poor Image	Homeless Image	Homeowner Image

CHAPTER 3

Study 1 Results

The purpose of Study 1 was to examine the question – what does a homeless person look like? I hypothesized that people's mental representations of homeless person would be 'Whiter' than a poor person. As seen in Table 2.1, this is not the case. The average image of a homeless person and poor person look extremely similar. In fact, the homeless *and* poor person look equally African American, whereas the homeowner looks much 'Whiter' than both the poor and homeless image. Thus, it seems the data does not conform to my hypothesis.

Pixel Luminance Correlation

One way to examine the similarity (or difference) between composite images is to examine the pixel luminance correlation. This correlation quantifies the degree of similarity of a specific pixel in one image to the same pixel in another image, then averaged across all pixels. Thus, a pixel luminance correlation is a measure of the overall similarity between two images (Dotsch & Todorov, 2012). A positive correlation indicates that the images are similar, while a negative correlation indicates that the images are different. Based on the pixel luminance correlation, there is a strong positive relationship between the homeless image and the poor image, $r = .66, p < .001$. This indicates that these two images have similar luminance patterns. In comparison, the homeless image and image of a homeowner are significantly negatively correlated, $r = -.56, p < .001$, as are the poor image and the homeowner image, $r = -.62, p < .001$. Thus, the data-driven method confirms my subjective suspicions – the homeless image and the

poor image are extremely similar to one another and both images are extremely dissimilar to the homeowner image.

Discussion

Although I hypothesized that people's mental representation of a homeless person would be more similar to a homeowner than to a poor person, the results of Study 1 do not support this hypothesis. Overall, it seemed that the categories of "homeless" and "poor" are more similar than "homeless" and "homeowner," or "poor" and "homeowner." One reason for this may be because homelessness is a subcategory of being poor. In addition, there are converging stereotypes surrounding race and socioeconomic status. Both African Americans and poor individuals are viewed as incompetent (e.g., Cuddy et al., 2008; Fiske et al., 2002). Furthermore, people associate African Americans with the concept of poor (Brown-Iannuzzi, Cooley, McKee, & Hyden, in prep) and tend to think of poor people as African American (Lei & Bodenhausen, 2017). Thus, our data suggests that people, on average, mentally represent the poor and homeless in a similar manner.

An alternative explanation for the results of Study 1 is that the bi-racial base image skewed the images to appear darker than they are. This would suggest that idiosyncratic features of the base image unduly influenced the average mental representations created by the participants. Because of this potential confound, I ran an additional reverse correlation study using a White base image.

CHAPTER 4

Study 2 Method

As in Study 1, Study 2 sought to answer the question – what does a homeless person look like? However, this study utilized a White base image. Specifically, we used the "Karolinska" base image, which was created by averaging all the male faces in the Karolinska Face Database (Lundqvist, Flkyt, & Ohman, 1998), and has been used in previous reverse correlation research (e.g., Dotsch & Todorov, 2012). See Figure 4.1 for the Karolinska base image and an example trial. This study also consisted of two parts – (1) the *image generation stage,* and (2) the *image processing* stage.

B:

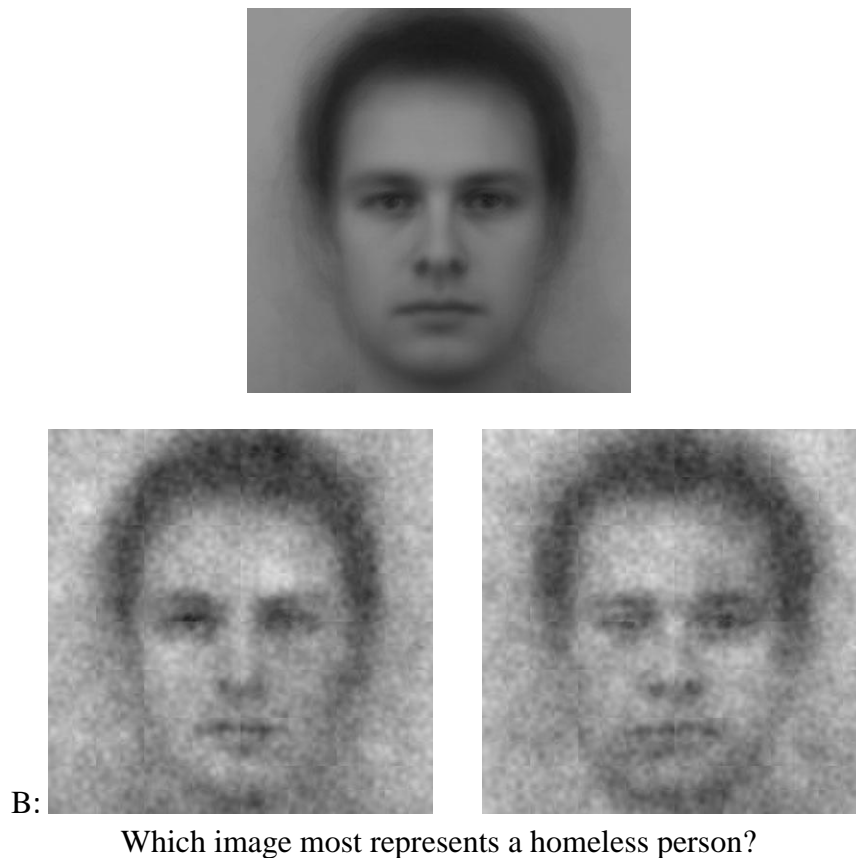Which image most represents a homeless person?

Figure 4.1. The base face used for the reverse correlation images is presented in row A. An example trial and two example stimuli are presented in row B.

Stage 1: Image Generation Phase

   Participants. We recruited a total of 496 participants from MTurk. Of these participants, 386 completed the entire survey (151 men and 235 women), however all partial data was included in the analyses. The sample ranged in age from 19-73 years ($M = 37.28$, $SD = 11.93$). Similar to Study 1, the majority of participants were White (58.9%), followed by Black (6.3%), Asian and Hispanic (5.0% each), Native American (1.2%) and Bi-racial and "other" (0.8% each). We were missing race information for 22.0% of the total sample.

   Procedure and materials. The procedure for Study 2 is the same as Study 1 with a few exceptions regarding materials. Specifically, in Study 2, participants only completed the following measures: perceived causes of homelessness - external (Cronbach's $\alpha = .76$), contempt for the homeless (Cronbach's $\alpha = .91$), contempt for the poor (Cronbach's $\alpha = .94$), and the economic beliefs scale (Stevenson & Medler, 1995; Cronbach's $\alpha = .94$). All other aspects of the study were the same.

Stage 2: Image Processing

   Image processing for Study 2, again, utilized the R package rcicr 0.3.0 (Dotsch, 2015) to create grand mean images for each condition (see Table 4.2).

Table 4.2. Grand mean images for each condition using the Karolinska base image.

Poor Image	Homeless Image	Homeowner Image

CHAPTER 5

Study 2 Results

The purpose of Study 2 was to replicate and extend the findings of Study 1. I extended the previous findings by utilizing a different base stimulus image to ensure that the previous findings were not due to idiosyncratic features of the Study 1 base image. Interestingly, the results of Study 2 were quite similar to the results of Study 1. Specifically, the average image of a homeless person looked more similar to the average image of a poor person than to the average homeowner image." What is interesting about these findings is that the poor and homeless image appear Black, even though we started with a White image. This suggests that the stereotype linking homeless and poor with "Black" is strong, and the findings of Study 1 are not likely due to idiosyncratic features of the Bi-racial base image.

Pixel Luminance Correlation

As in Study 1, I examined the pixel luminance correlations. Again, there is a strong positive correlation between the homeless and poor image, $r = .86$, $p < .001$. This suggests that the luminance patterns are similar between the two images. On the other hand, there is a strong negative correlation between the homeowner and homeless image, $r = -.81$, $p < .001$, and the homeowner and poor image, $r = -.78$, $p < .001$. Thus, similar to the findings of Study 1, the homeless and poor image are similar to one another, and both images are dissimilar to the homeowner image.

Discussion

Study 2 sought to replicate and extend the findings of Study 1. Study 2 utilized a different base image to account for any possible idiosyncratic effects the original stimuli

may have had on the image outcome. Study 2 not only replicated the findings of Study 1, but indicate that the results are not due to an issue with the base image used in Study 1. Specifically, the images created in Study 2 for the homeless and poor conditions not only looked more similar in terms of race (Black), they also displayed similar facial features. A prominent down-turned mouth, wide nose, and narrow eyes were shared by these images, but were in stark contrast to the homeowner image. The homeowner image not only appeared White, but had a thin mouth, and well-defined nose and eye structure. Thus, counter to my hypothesis, but replicating the findings of Study 1, the mental representation of a homeless person is similar to the mental representation of a poor person.

CHAPTER 6

General Discussion

The current research sought to investigate people's mental images of the homeless. In Study 1, I had participants complete a reverse correlation task to generate composite images of a homeless person, poor person, and person with a home, starting with a bi-racial base image. In Study 2, participants completed the same reverse correlation task, but this time the base image was of a White man. In both studies, I hypothesized that the average image of a homeless person would be a White male who looks relatively negative. In addition, I hypothesized that the average image of a poor person would be representative of a Black male who looks relatively negative. Finally, I hypothesized that the average image of a sheltered person would be representative of a White male who looks relatively positive. Counter to my hypothesis that a homeless person would resemble a While male, I instead found that the homeless image instead resembled a Black male. In fact, the average homeless image looked almost identical to the average poor image.

The current research is in line with previous research which investigates the association between race and class. Specifically, previous research has found that people are more likely to associate the word "poor" with African Americans than White Americans (Brown-Iannuzzi, Cooley, McKee, & Hyden, in prep), Additionally, people are more likely to classify a person wearing clothes associated with low socioeconomic status (e.g., a janitor's uniform) as African American opposed to White (Freeman et al., 2011). Lastly, when asked to think of a poor person, people tend to think of African Americans, but not Whites (Lei & Bodenhausen, 2017). The results from this research

indicates that people also seem to associate homeless people with being Black. In fact, the homeless image and the poor image look almost identical. And, both images look relatively Black.

This research is important for a few reasons. First, this research represents the first investigation of people's mental images of the homeless. Our mental representations of the homeless could have broader implications for how we treat these individuals. For example, if we tend to have more negative mental representations of the homeless, we may be less supportive of providing aid in the form of government sponsored social programs, volunteering at a homeless shelter or even donating items to a food pantry. Second, this research found that the image of a poor person and homeless person look equally negative, and are distinctly different from that of the homeowner image. The fact that both the poor and homeless image look equally negative suggests these groups have shared negative stereotypes (e.g., Fiske et al., 2002). Although I initially considered that homelessness may not covary with racial minority status, these findings suggest otherwise. The high pixel luminance correlations between the homeless and poor images not only suggest that these groups share a similar racial category, but also similar facial features as well. It appears that when we think of the subordinate category "homeless" it triggers the superordinate category "poor" and its racial association (Black). Given that previous research has found that mental images of welfare recipients may bias people's decision to provide benefits to these people (Brown-Iannuzzi et al., 2017), the shared negative stereotype between poor and homeless might lead to a similar finding.

Limitations and Future Directions

This study is not without its limitations. First, the data investigated condition based differences in mental representations. This approach is informative because we can investigate the average mental representation. But, we cannot investigate individual differences among mental representations using this approach. Future research may benefit by understanding what individual difference variables are associated with different mental representations of the poor and homeless.

I have done some initial analyses to investigate how individual difference variables may inform mental representations of the target groups, namely the homeless. The only individual difference variable that yielded consistent results was participants' contemptuous attitudes toward the homeless. Specifically, I split participants into three groups based on their contempt toward the homeless: low contempt, medium contempt, and high contempt. Then, I created an average image for each contempt group. As shown in Table 6.1, the average images varied depending on the level of contempt. Specifically, the low contempt homeless image had more clearly defined features compared to the high contempt image. In Study 1, the low contempt image had a more defined nose compared to the high contempt image. In Study 2, the low contempt image had more defined eyes, and a less down-turned mouth compared to the high contempt image. In both studies, the neutral image appears to fall visually between the low and high contempt images, as one might expect. Overall, the differences between the low and high contempt images suggest that contempt plays some role in our attitudes toward the homeless.

Table 6.1. Average images that range on level of contempt for the homeless for Studies 1 and 2.

	Low Contempt	Neutral	High Contempt
Study 1 Homeless Images			
Study 2 Homeless Images			

The differences in mental representations of the homeless based on varying levels of contempt toward the homeless leads to one potential future direction – *why* is contempt associated with different mental representations of the homeless? One possibility is that feeling contempt toward any social group leads to a more negative mental representation of the group. This would suggest that contempt is unrelated to the racial representation of the group, but is related to the physiognomy of the face such that more negative features arise (e.g., Cone & Ferguson, 2015). Another possibility is that groups that share stereotypes with African Americans will also be mentally represented more similarly to African Americans. Thus, people may represent both African Americans *and*

poor/homeless individuals similarly, and contempt simply changes the extremity of these representations. High contempt people may create extremely stereotypical images of both African Americans and poor/homeless, whereas low contempt people may create less stereotypical images of both groups. Thus, contempt may simply exacerbate the negative mental representations of these shared stereotypes. Future research can explore these and other possibilities.

APPENDIX A

Pilot Testing Stimuli

Because this is a data driven task that starts with a 'base image', the base image must represent all possible facial features of interest in order for the participants to indicate specific facial features which fit with the stereotype. Given the statistics on homelessness, it is possible that the composite image of a homeless person could be either White or Black, and either male or female. As a result, it was important to start with a racially and gender ambiguous image to allow for people's responses to drive the outcome of the composite image as opposed to being the result of an artifact of the base image.

For this study, the base face is a composite of four images, a Black man, a Black woman, a White man, and a White woman chosen from the Chicago Face Database (Ma, Correll, & Wittenbrink, 2015). The chosen images were all similar in age (approximately 30 years old), and were rated as highly prototypical. These images were then "morphed" together using Fantamorph (Abrosoft Fantamorph Deluxe, 2011) – a software that allows for individual images to be joined together to create a composite image. A large literature in psychology suggests that perceptions of individuals are more important than is ethnic heritage or biological sex. Thus, because I wanted the base image to be viewed as racially and gender ambiguous, I created a series of morphs which varied on both racial and gender composition. Specifically, I created nine critical images ranging from 45% male (55% female) to 55% male (45% female), and 50% White (50% Black) to 70% White (30% Black; see Table A1).

23

Table A1. Morphs which range on gender and racial composition.

	50% White, 50% Black	60% White, 40% Black	70% White, 30% Black
50% Male, 50% Female			
50% Male, 55% Female			
55% Male, 45% Female			

In order to test the ambiguity of the base images, a sample of Amazon Mechanical Turk (MTurk) participants ($N = 101$) rated the perceived race and gender of each image. The sample included 55 men, 44 women, and 2 participants who declined to answer. The sample was 80.2% White/Caucasian, 3% Black or African American, 7.9% Asian, 5% Hispanic or Latino, 2% other, and 2% declined to answer. Out of the original sample, 1

participant failed the attention check and was excluded from the analyses. To assess

gender, participants were asked, "What gender is the pictured person?" (1 = Definitely

male, 2 = Probably male, 3 = Both male and female, 4 = Probably female, and 5 =

Definitely female). To assess race, participants were asked, "What race is the pictured

person?" (1 = Definitely White, 2 = Probably White, 3 = Both White and Black, 4 =

Probably Black, and 5 = Definitely Black).

First, I investigated the mean gender and race ratings for each image. All images

were rated as relatively gender ambiguous (ratings ranged from 2.70-3.08). However,

only three images were rated as relatively racially ambiguous – the images that were 70%

White (30% Black). Then, I investigated whether these three images differed

significantly from the midpoint of the scale on both gender and race. The only image that

was perceived as both racially and gender neutral (i.e., did not differ from the midpoint of

the scales) was the image that was 70% White (30% Black) and 55% male (45% female);

$t_{race}(99) = 1.54$, $p = .13$, $t_{gender}(99) = 1.07$, $p = .29$. Thus, this image was used as the base

face for the reverse correlations (see Figure A1).

A:

B:
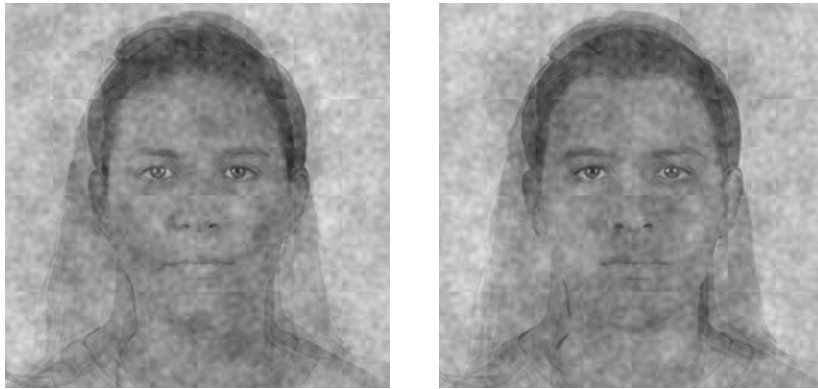
Which image most represents a homeless person?

Figure A1. The base face used for the reverse correlation images is presented in row A. An example trial and two example stimuli are presented in row B.

Appendix B

Study Measures

Study 1: Image Generation

Perceived causes of homelessness:
1 = Strongly disagree; 6 = Strongly agree
People may become homeless for several reasons. To what extent do you believe the following reasons cause people to become homeless. For each reason, complete the following sentence:

_____ causes people to become homeless.

Then, determine the degree to which you agree or disagree with each sentence.
  Internal attributes:
  1. Laziness
  2. Drug abuse
  3. Mental disorders
  External attributes:
  1. Lack of affordable housing
  2. Lack of good jobs
  3. Domestic violence
  4. Poor economy

12-Item Attitudes Toward the Homeless Scale
1 = Strongly disagree; 6 = strongly agree

People may become homeless for several reasons. Below are a series of statements about homelessness. Please indicate the extent to which you agree or disagree with each statement using the scale provided.

1. Many homeless people have themselves to blame for their situation.
2. People are homeless because they do not work hard enough.
3. Homelessness is a result of irresponsible behavior.
4. It is not safe to be near homeless people.
5. Homeless people are more dangerous than the rest of the population.
6. Homeless people are not trustworthy.
7. Society should not have to support or house homeless people.
8. It is a burden on society to feed and house homeless people.
9. Too much government money is spent on homeless people.
10. I would feel comfortable having a homeless shelter in my neighborhood.
11. I would feel comfortable volunteering with a homeless shelter.
12. I would feel comfortable eating lunch with a homeless person.

Modified Economic Beliefs Scale (modified version of Stevenson & Medler, 1995)
1 = Strongly disagree; 6 = Strongly agree
1. People who stay on welfare have no desire to work.
2. Welfare keeps the nation in debt.
3. People who don't make much money are generally unmotivated.
4. Homeless people should get their acts together and become productive members of society.
5. Too many of my tax dollars are spent to take care of those who are unwilling to take care of themselves.
6. If every individual would carry his/her own weight, there would be no poverty.
7. There are more poor people than wealthy people in prisons because poor people commit more crimes.
8. Poor people are lazy.
9. Most poor people are in debt because they can't manage their money.

Pity/Contempt Measure (Fiske et al., 2002)
1 = not at all; 5 = extremely

Imagine that you are a representative member of your community. For the following questions, answer based off how you think your community feels.

In general, community members feel _____ _____ the homeless[poor].

Contempt:
1. Anger toward
2. Ashamed of
3. Contempt for
4. Disgusted by
5. Frustrated by
6. Hateful toward
7. Resentful of
8. Uneasy with
Pity:
1. Pity for
2. Sympathy for

Study 2: Image Generation

Perceived causes of homelessness:
1 = Strongly disagree; 6 = Strongly agree
People may become homeless for several reasons. To what extent do you believe the following reasons cause people to become homeless. For each reason, complete the following sentence:

_____ causes people to become homeless.

Then, determine the degree to which you agree or disagree with each sentence.

Internal attributes:
1. Laziness
2. Drug abuse
3. Mental disorders

External attributes:
1. Lack of affordable housing
2. Lack of good jobs
3. Domestic violence
4. Poor economy

Modified Economic Beliefs Scale (modified version of Stevenson & Medler, 1995)
1 = Strongly disagree; 6 = Strongly agree

1. People who stay on welfare have no desire to work.
2. Welfare keeps the nation in debt.
3. People who don't make much money are generally unmotivated.
4. Homeless people should get their acts together and become productive members of society.
5. Too many of my tax dollars are spent to take care of those who are unwilling to take care of themselves.
6. If every individual would carry his/her own weight, there would be no poverty.
7. There are more poor people than wealthy people in prisons because poor people commit more crimes.
8. Poor people are lazy.
9. Most poor people are in debt because they can't manage their money.

Pity/Contempt Measure (Fiske et al., 2002)
1 = not at all; 5 = extremely

Imagine that you are a representative member of your community. For the following questions, answer based off how you think your community feels.

In general, community members feel _____ _____ the homeless[poor].

Contempt:
1. Anger toward
2. Ashamed of
3. Contempt for
4. Disgusted by
5. Frustrated by
6. Hateful toward
7. Resentful of
8. Uneasy with

Demographic Questions (both Studies)

1. How old are you?

2. What gender are you?
   a. Male
   b. Female
   c. Other

3. What is your political party affiliation?
   a. Republican
   b. Independent
   c. Democrat
   d. Other

4. Please indicate your political identity on social issues (e.g., abortion, gun rights, gay rights). I am _____ on social issues.
   a. Strongly liberal
   b. Moderately liberal
   c. Slightly liberal
   d. In the middle
   e. Slightly conservative
   f. Moderately conservative
   g. Strongly conservative

5. Please indicate your political identity on economic issues (e.g., taxation, government spending). I am _____ on economic issues.
   a. Strongly liberal
   b. Moderately liberal
   c. Slightly liberal
   d. In the middle
   e. Slightly conservative
   f. Moderately conservative
   g. Strongly conservative

6. Think of this ladder as representing where people stand in the United States. At the top of the ladder (rung 10) are the people who are the best off -- those who have the most money, the most education and the most respected jobs. At the bottom of the ladder (rung 1) are the people who are the worst off -- those who have the least money, least education, and the least respected jobs or no job. The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to people at the very bottom. Where would you place yourself on this ladder? Click the number of the rung where you think you stand at this time in your life, relative to other people in the United States.
   a. Bottom of the ladder (1)
   b. 2

c. 3
d. 4
e. 5
f. 6
g. 7
h. 8
i. 9
j. Top of the ladder (10)

7. What is your yearly household income?
    a. Less than $5,000
    b. $5,001-$6,999
    c. $7,000 to $7,499
    d. $7,500 to $9,999
    e. $10,000 to $12,499
    f. $12,500 to $14,999
    g. $15,000 to $19,999
    h. $20,000 to $24,999
    i. $25,000 to $29,999
    j. $30,000 to $34,999
    k. $35,000 to $39,999
    l. $40,000 to $49,999
    m. $50,000 to $59,999
    n. $60,000 to $74,999
    o. $75,000 to $84,999
    p. $85,000 to $99,999
    q. $100,000 to $124,999
    r. $125,000 to $149,999
    s. $150,000 to $174,999
    t. $175,000 or more

8. What is your highest level of education?
    a. Less than a high school degree
    b. High school degree
    c. Some college (no degree)
    d. 2-year college degree
    e. 4-year college degree
    f. Masters level degree (for example M.S. or M.A.)
    g. Doctorate level degree (for example PhD, MD, JDS)

9. What is your race or ethnicity? (please check all that apply)
    a. White or Caucasian
    b. Hispanic
    c. Black or African American
    d. Native American or Pacific Islander
    e. Asian
    f. Biracial

g. Other

References

Abrosoft Fantamorph Deluxe 5.0 [Computer software]. (2011). Retrieved from
  http://www.fantamorph.com

Brown-Iannuzzi, J. L., Dotsch, R., Cooley, E., & Payne, B. K. (2017). The relationship
  between mental representations of welfare recipients and attitudes toward
  welfare. *Psychological Science*, *28*(1), 92-103.

Brown-Iannuzzi, J. L., McKee, S., Cooley, E., Lei, R., & Dotsch, R. *"Breaking" the
  racial coding of welfare: Investigating contextual and stereotypic influences on
  the mental representations of welfare recipients.* Manuscript submitted for
  publication.

Brown-Iannuzzi, J. L., Cooley, E., McKee, S., & Hyden, C. *Implicit associations between
  race and social class.* Unpublished Manuscript.

Breeze, B., & Dean, J. (2012). Pictures of Me: User views on the representation of need
  in homelessness fundraising appeals. *International Journal of Nonprofit and
  Voluntary Sector Marketing, 17*, 132-143.

Bunis, W. K., Yancik, A., & Snow, D. A. (1996). The cultural patterning of sympathy
  toward the homeless and other victims of misfortune. *Social Problems, 43*(4),
  387-402. doi:10.1525/sp.1996.43.4.03x0147q

Clawson, R. A., & Trice, R. (2000). Poverty as we know it. *Public Opinion
  Quarterly, 64*(1), 53-64.

Cone, J., & Ferguson, M. J. (2015). He did *what*? The role of diagnosticity in revising
  implicit evaluations. *Journal of Personality and Social Psychology, 108*, 37-57.

Cuddy, A. J. C., Fiske, S. T., & Glick, P. (2007). The BIAS map: Behaviors from intergroup affect and stereotypes. *Journal of Personality and Social Psychology, 92*(4), 631-648.

Dotsch, R. (2015). rcicr: Reverse correlation image classification toolbox. R package version 0.3.4.1 [Computer software].

Dotsch, R., & Todorov, A. (2012). Reverse correlating social face perception. *Social Psychological and Personality Science, 3*(5), 562-571. doi:10.1177/1948550611430272

Dotsch, R., Wigboldus, D. H., Langner, O., & Knippenberg, A. V. (2008). Ethnic out-group faces are biased in the prejudiced mind. *Psychological Science, 19*(10), 978-980. doi:10.1111/j.1467-9280.2008.02186.x

Eayrs, C.B. and Ellis, N. (1990). Charity advertising: for or against people with a mental handicap? *British Journal of Social Psychology*, *29*(4), 349–360.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods,41*(4), 1149-1160.

Fiske, S. T., Cuddy, A. J., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology, 82*(6), 878-902. doi:10.1037//0022-3514.82.6.878

Fitzpatrick, S. Kemp, P. and Klinker, S. (2000) Single Homelessness: An overview of research in Britain, Bristol: The Policy Press.

Freeman, J. B., Penner, A. M., Saperstein, A., Scheutz, M., & Ambady, N. (2011).

    Looking the part: Social status cues shape race perception. *PLoS ONE, 6*(9).

    doi:10.1371/journal.pone.0025107

Gaertner, S.L., & Dovidio, J.F. (1977). The subtlety of White racism, arousal, and

    helping behavior. *Personality and Social Psychology, 35*(10), 691-707.

Gilens, M. (1996). Race and poverty in America: Public misperceptions and the

    American news media. *Public Opinion Quarterly, 60*(4), 515-541.

Gray, H. M, Gray, K., & Wegner, D. M. (2007). Dimensions of mind perception. *Science,*

    315(5812), 619.

Hecht, L., & Coyle, B. (2001). A comparison of older and younger adult

    emergency shelter seekers in Bakersfield, California. *American Behavioral*

    Scientist, 45(1), 66-79.

Hocking, J.E. & Lawrence, S.G. (2000). Changing attitudes toward the homeless: The

    effects of prosocial communication with the homeless. *Journal of Social*

    Distress and the Homeless, 9(2), 91-110. doi:10.1023/A:1009466217604

Hodgetts, D., Hodgetts, A., & Radley, A. (2006). Life in the shadow of the media:

    imaging street homelessness in London. *European Journal of Cultural Studies,*

    9(4), 497-516.

Imhoff, R. & Dotsch, R. (2013). Do we look like me or like us? Visual projection as self-

    or ingroup-projection. *Social Cognition, 31*, 806-816.

Kane, M. N., Green, D., & Jacobs, R. J. (2010). Perceptions of students about younger

    and older men and women who may be homeless. *Journal of Social Service*

    Research, 36(4), 261-277. doi:10.1080/01488376.2010.493845

Kendall, D. (2005). *Framing class: Media representations of wealth and poverty in America.* Lanham, MD: Rowman & Littlefield Publishers, Inc.

Klodawsky, F., Farrell, S., & D'Aubry, T. (2002). Images of homelessness in Ottawa: implications for local politics. *The Canadian Geographer 46*(2), 126–143.

Knecht, T., & Martinez, L. M. (2012). Engaging the reluctant? Service learning, interpersonal contact, and attitudes toward homeless individuals. *PS: Political Science & Politics, 45*(01), 106-111. doi:10.1017/s104909651100179x

Lee, B. A., & Farrell, C. R. (2003). Buddy, can you spare a dime?: Homelessness, panhandling, and the public. *Urban Affairs Review, 38*(3), 299-324. doi:10.1177/1078087402238804

Lee, B. A., Farrell, C. R., & Link, B. G. (2004). Revisiting the contact hypothesis: The case of public exposure to homelessness. *American Sociological Review, 69*(1), 40-63. doi:10.1177/000312240406900104

Lei, R., & Bodenhausen, G. (2017). Racial assumptions color the mental representation of social class. *Frontiers in Psychology, 8*, 1-6.

Lei, R., McKee, S., & Brown-Iannuzzi, J. L. *Contextual influences on mental representations of the poor*. Unpublished manuscript.

Lind, R. A., & Danowski, J. A. (1999). The representation of the homeless in U.S. electronic media: A computational linguistic analysis. In E. Min (Ed.), *Reading the homeless: The media's image of homeless culture* (pp. 109-120). Westport, Conn: Praeger.

Lundqvist, D., Flykt, A., & Öhman, A. (1998). *The Karolinska Directed Emotional Faces*. Stockholm, Sweden: Psychology Section, Department of Clinical Neuroscience, Karolinska Institute.

Ma, D. S., Correll, J., & Wittenbrink, B. (2015). The Chicago face database: A free stimulus set of faces and norming data. *Behavior Research Methods, 47*, 1122-1135.

May, J. (2003). The view from the street: Geographies of homelessness in the British newspaper press. In A. Blunt (Ed.), *Cultural geography in practice* (pp.23-36). London: Arnold.

National Alliance to End Homelessness. (2009). Homelessness looms as potential outcome of recession. Retrieved from http://www.endhomelessness.org/page/-/files/2161_file_Projected_Increases_in_Homelessness.pdf

Oppenheimer, D. M., Meyvis, T., & Davidenko, N. (2009). Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology, 45*(4), 867-872.

Stevenson, M., & Medler, B. (1995). Is homophobia a weapon of sexism? *Journal of Men's Studies, 4*(1).

Swain, J. (2011). Busting the myth. *Inside Housing.* Retrieved from http://www.insidehousing.co.uk/busting-the-myth/6519274.article

Toft, A. (2014). Contesting the deviant other: Discursive strategies for the production of homeless subjectivities. *Discourse & Society, 25*(6), 783-809. doi:10.1177/0957926514536839

Tompsett, C. J., Toro, P. A., Guzicki, M., Manrique, M., & Zatakia, J. (2006). Homelessness in the United States: Assessing changes in prevalence and public opinion, 1993-2001. *American Journal of Community Psychology, 37(*1-2), 29-46. doi:10.1007/s10464-005-9007-2

United States Conference of Mayors. (2008). Hunger and homelessness survey. Retrieved from http://usmayors.org/pressreleases/documets/hungerhomelessnessreport_ 121208.pdf.

United States Conference of Mayors. (2014). Hunger and homelessness survey. Retrieved from http://usmayors.org/pressreleases/uploads/2014/1211-report-hh.pdf.

United States Department of Housing and Urban Development. (2015a). The 2015 Annual Homeless Assessment Report (AHAR) to Congress: Part 1. Washington, DC: U.S. Government Printing Office.

United States Department of Housing and Urban Development. (2015b). The 2015 Annual Homeless Assessment Report (AHAR) to Congress: Part 2. Washington, DC: U.S. Government Printing Office.

Whaley, A. L., & Link, B. G. (1998). Racial categorization and stereotype-based judgments about homeless people. *Journal of Applied Social Psychology, 28*(3), 189-205. doi:10.1111/j.1559-1816.1998.tb01701.x

Whang, I. & Min, E. (1999). Discourse analysis of television news on public antagonism against the homeless. In E. Min (Ed.), *Reading the homeless: The media's image of homeless culture* (pp. 95-108). Westport, Conn: Praeger.

VITA

Stephanie Elizabeth McKee

Education

June 2015	**M.A.** Psychology Wake Forest University, Winston Salem, NC
June 2009	**B.A.** Psychology, Summa Cum Laude with Distinction Sonoma State University, Rohnert Park, CA

Honors & Awards

2017	Gunto Award for Research in Social Psychology, U. Kentucky
2014	Alumni Travel Award**,** Wake Forest University
2014	College Teaching Preparation Program, Wake Forest University
2013-2015	Full Tuition Award, Wake Forest University
2009	Distinction Award, Psychology Department, Sonoma State
2009	Summa Cum Laude, Sonoma State University
2005-2008	Dean's List, Sonoma State University
2005	Honors at Entrance, Sonoma State University

Publications

McKee, S.*, Brown-Iannuzzi, J. B.*, & Gervais, W. M. (2018). Atheist horns and religious halos: Mental representations of atheists and theists. *Journal of Experimental Psychology: General, 147*, 292-297.
*Equal author contribution

Brown-Iannuzzi, J. L., Lundberg, K. B., & **McKee, S.** (2017). The politics of socioeconomic status: How socioeconomic status may influence political attitudes and engagement. *Current Opinions in Psychology, 18*, 11-14.

Brown-Iannuzzi, J. L., Lundberg, K. B., & **McKee, S**. (2017). Political action in the age of high economic inequality: A multilevel approach. *Social Issues and Policy Review, 11*, 232-273. doi: 10.1111/sipr.12032

Smith, H. J., & **McKee, S**. (2015). Reality and perception: Power and paranoia within the political sphere [Review of the book *Power, Politics, and Paranoia*]. *Social Justice Research,* doi: 10.1007/s11211-015-0238-6

McKee, S., Smith, H. J., Koch, A., Balzarini, R., Georges, M., & Callahan, M. P. (2013). Looking up and seeing green: Women's everyday experiences with physical appearance comparisons. *Psychology of Women Quarterly*, *37*(3), 351-365.