



# Meta-Perceptions of Others' Attitudes Toward Bisexual Men and Women Among a Nationally Representative Probability Sample

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## Abstract

Researchers posit that negative attitudes, prejudice, and discrimination (i.e., binegativity) from heterosexual and gay/lesbian individuals may contribute to health disparities among bisexual individuals relative to heterosexual and gay/lesbian individuals. Recent studies have focused on gay, lesbian, and heterosexual people's (e.g., "others") attitudes toward bisexual people. No studies have investigated how bisexual individuals perceive others' attitudes toward bisexual people, which are generally known as "meta-perceptions." As part of the 2015 National Survey of Sexual Health and Behavior, we collected data from a nationally representative probability sample of 2999 adults, including from a subsample of 33 men and 61 women self-identified as bisexual. The Bisexualities: Indiana Attitudes Scale–bisexual (BIAS-b), a modified 5-item scale assessing bisexual people's perceptions of others' attitudes toward bisexual individuals, was included and was followed by an open-ended text box question. Quantitative scale data were analyzed using descriptive and gamma regression methods. Two coders thematically analyzed the open-ended text box data. The internal consistency of the BIAS-b was high (Cronbach's  $\alpha=0.85$ ). An exploratory factor analysis supported a one-factor solution. Participants responded to statements regarding others' attitudes toward them as bisexual people, including the domains of confusion, HIV/STD risk, incapability of monogamy, promiscuity, and instability ("just a phase"). Participants' text box descriptions largely aligned with these five domains, with the exception of HIV/STD risk. Additionally, some participants reported others' positive perceptions of them as bisexual individuals. In sum, we observed a range of meta-perceptions, primarily neutral to negative, but also including some relatively positive. These results show the need for interventions to promote acceptance of bisexual individuals among heterosexual and gay/lesbian individuals.

**Keywords** Bisexuality · Binegativity · Sexual identity · Meta-perceptions · Sexual orientation

## Introduction

Stigma negatively affects the health and well-being of socially marginalized groups (Calabrese, Meyer, Overstreet, Haile, & Hansen, 2015; Cook, Juster, Calebs, Heinze, & Miller, 2017; Hatzenbuehler & McLaughlin, 2014; Hatzenbuehler, Phelan, & Link, 2013; Rendina et al., 2017). Researchers have quantified the stigmatization of marginalized groups by administering validated surveys to assess the prevalence of negative attitudes toward members of socially stigmatized groups (Helms & Waters, 2016; Herek, 2002). Negative social attitudes, which have been conceptualized as form of structural stigma (Hatzenbuehler et al., 2014), have been associated with worse mental health outcomes for members of marginalized groups, including those with concealable stigmas, such as gay, lesbian, and bisexual individuals (Chaudoir, Earnshaw, & Andel, 2013; Frey & Tropp, 2006). Meta-perceptions, or perceptions of what an

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individual believes others think about him or her, affect how stigmatized individuals react to the attitudes they perceive others hold toward them as a stigmatized person (Frey & Tropp, 2006; Kenny & DePaulo, 1993; Santuzzi, 2007; Santuzzi & Ruscher, 2002). Individuals who report negative meta-perceptions about their stigmatized identities are more likely to view themselves negatively and to expect to be viewed negatively by others (Kenny & DePaulo, 1993). Negative meta-perceptions have also been associated with reporting greater depressive symptoms (Moritz & Roberts, 2017).

Negative attitudes toward bisexual individuals have been proposed to, at least in part, account for the higher prevalence of poor mental health outcomes among bisexual individuals relative to heterosexual as well as gay and lesbian individuals (Colledge, Hickson, Reid, & Weatherburn, 2015; Friedman & Dodge, 2016). Bisexual individuals are not only affected by stigma targeting gay and lesbian individuals (e.g., homonegativity, homophobia, heterosexism), but also stigma specifically directed toward bisexual people from heterosexual and gay/lesbian individuals (e.g., binegativity, biphobia) (Herek, 2009; Israel & Mohr, 2004). Multiple reports, including those based on nationally representative probability samples, have indicated that both heterosexual individuals and gay and lesbian individuals hold negative attitudes toward bisexual individuals (Dodge et al., 2016; Helms & Waters, 2016; Herek, 2002; Roberts, Horne, & Hoyt, 2015). Despite the known influence of stigma on the meta-perceptions and mental health of members of stigmatized groups (Frey & Tropp, 2006; Hatzenbuehler, 2016, 2017), few studies have explored the meta-perceptions of bisexual individuals regarding how others view their bisexuality (Brewster & Moradi, 2010; Paul, Smith, Mohr, & Ross, 2014), and none to our knowledge have attempted to do so via probability-based sampling frames. This study reports the first US nationally representative results from the Bisexualities: Indiana Attitudes Scale–bisexual (BIAS-b), a specific measure assessing the meta-perceptions of bisexual individuals in the general population of the USA. We also report responses from a related open text box question characterizing perceived bisexual stigma.

## Method

### Participants

The National Survey of Sexual Health and Behavior (NSSHB) is a probability-based survey of U.S. adolescents and adults that has had multiple waves of data collection since 2009 (Reece et al., 2010). Overall, 94 NSSHB participants, including 33 bisexual men and 61 bisexual women, completed the BIAS-b in 2015. The 2015 NSSHB included the BIAS-m and BIAS-f, which assessed perceptions of bisexual women and men among non-bisexual groups, as well as the BIAS-b which focused on

bisexual persons' perceptions of how others view bisexuality (meta-perceptions). The design of the study and description of respondents included in the study population analyzed here have been previously described (Dodge et al., 2016). Briefly, we collected data via the KnowledgePanel of GfK Research (GfK) (Menlo Park, CA). Research panels accessed through GfK are based on a national probability sample established using both random digit dialing and an address-based sampling frame covering approximately 98% of all US households. We used post-stratification weights, provided by GfK, to maximize generalizations. The post-stratification weights were produced using an iterative proportional fitting procedure that aligned the study sample to all study benchmark distributions from the March 2015 Current Population Survey. All results hereafter present the weighted data. In the current analysis, 50% of participants were between 35 and 44 years old, 72% were white, and most (66%) had completed some college or more. Respondents were nearly evenly distributed across the four geographic US regions. Likewise, roughly equal proportions of all participants reported household incomes in each income category assessed, though a notably higher percentage of bisexual women (38%) than bisexual men (12%) reported incomes in the lowest category. Table 1 shows the sociodemographic results from the sample of self-identified bisexual respondents.

## Measures

### Sociodemographics

GfK KnowledgePanel requires members to, at least annually, update their demographic profile; thus, some demographic items (e.g., race/ethnicity, gender, household income, education, and geographic region) were not asked again of participants, but were supplied to the research team in a de-identified data set. Additionally, we asked respondents to indicate their sexual orientation/identity: "Which of the following commonly used terms best describes your sexual orientation?: Straight/heterosexual; gay, lesbian, or homosexual; bisexual; asexual (I am not sexually attracted to others); other, please describe." Only respondents who self-identified as "bisexual" completed BIAS-b scale items. The demographics of gay, lesbian, asexual, heterosexual, and other participants from the 2015 NSSHB survey have been reported elsewhere, and being a nationally representative sample, the demographics of the total sample closely reflect those of the U.S. population (Dodge et al., 2016).

### BIAS-b Scale

The BIAS-b is a measure designed to assess how self-identified bisexual people perceive what other people who are not bisexual think about them as bisexual people, or bisexual meta-perceptions. Items were rated on a 7-point Likert-like scale ranging

**Table 1** Sociodemographics of self-identified bisexual individuals ( $N=94$ )

Sociodemographics	Men ( $N=33$ ) <sup>a</sup> $n$ (%)	Women ( $N=61$ ) $n$ (%)	$\chi^2$ ( $df$ )
Age			21.14 (4)*
18–24	5 (15.2)	18 (29.5)	
25–34	11 (33.3)	35 (57.4)	
35–44	3 (9.1)	5 (8.2)	
45–54	3 (9.1)	1 (1.6)	
55+	11 (33.3)	2 (3.3)	
Race/ethnicity			3.80 (4)
White, non-Hispanic	27 (81.8)	41 (67.2)	
Black, non-Hispanic	1 (3.0)	5 (8.2)	
Other, non-Hispanic	1 (3.0)	1 (1.6)	
Hispanic	3 (9.1)	13 (21.3)	
Multiple races/ethnicities	1 (3.0)	1 (1.6)	
Education			5.03 (3)
Less than high school	1 (3.0)	11 (18.0)	
High school	8 (24.2)	12 (19.7)	
Some college	12 (36.4)	23 (37.7)	
Bachelor's degree or higher	12 (36.4)	15 (24.6)	
Household income			9.71 (3)*
< \$25,000	4 (12.1)	23 (37.7)	
\$25,000–\$49,999	9 (27.3)	13 (21.3)	
\$50,000–\$74,999	8 (24.2)	16 (26.2)	
≥ \$75,000	12 (36.4)	9 (14.8)	
Geographic region			0.19 (3)
Northeast	7 (21.2)	14 (23.0)	
Midwest	8 (24.2)	16 (26.2)	
South	8 (24.2)	15 (24.6)	
West	10 (30.3)	16 (26.2)	

\* $p < .05$ <sup>a</sup>One individual self-identified as a transgender man

from strongly disagree to strongly agree. Bisexual respondents were presented with the prompt: “Earlier in the survey, you indicated that you identify your sexual orientation as ‘bisexual.’ Please respond to the next five items in terms of the extent that you agree or disagree with the following statements, based on your own experiences: (1) People think I am confused about my sexuality, (2) People are afraid to have sex with me because of HIV/STD risk, (3) People think that I am incapable of being faithful in a relationship, (4) People think that I would have sex with just about anyone, (5) People think my bisexuality is just a phase.” The development process for the BIAS scale items have been previously described (Dodge et al., 2016). The BIAS-b items mirror closely those included in the BIAS-m and BIAS-f scales, which measure the attitudes of individuals who do not self-identity as bisexual toward bisexual men and women, respectively (Dodge et al., 2016). The internal consistency of the BIAS-b was high (Cronbach’s  $\alpha = 0.85$ ). An exploratory factor analysis provided strong support for a one-factor solution (Table 2). The mean scale score was 15.04,  $SE = 0.77$ .

### Open Text Box Data Capture: Perceived Attitudes Toward Bisexual Men and Women

Immediately following the quantitative BIAS-b scale items, we prompted bisexual respondents to provide responses to an open text box question. Specifically, they were asked: “Briefly (in two sentences or less), how do you think people who are not bisexual (i.e., heterosexual, gay, and lesbian people) feel about bisexual women? About bisexual men?”

### Analyses

We analyzed demographic variables descriptively and used chi-squared tests to identify differences between men and women. Due to the right-skewness of the scale response distributions, we utilized generalized linear modeling with gamma distributions (log link) to assess the association between sociodemographic characteristics and BIAS-b scores (Dodge et al., 2016). The effects of demographic variables on BIAS-b scores were

**Table 2** BIAS-described experiences reported by self-identified bisexual individuals (BIAS-b), response distributions ( $N=94$ )

BIAS-b	Distribution							Factor loading	Communality
	Strongly disagree (%)	Disagree (%)	Somewhat disagree (%)	Neither agree nor disagree (%)	Somewhat agree (%)	Agree (%)	Strongly agree (%)		
People think I am confused about my bisexuality	20.0	22.1	3.2	23.2	14.7	7.4	9.5	0.80	0.64
People are afraid to have sex with me because of HIV/STD risks	56.8	17.9	1.1	17.9	4.2	1.1	1.1	0.64	0.41
People think that I am incapable of being faithful in a relationship	34.7	15.8	5.3	19.0	12.6	6.3	6.3	0.84	0.71
People think that I would have sex with just about anyone	35.8	15.8	7.4	14.7	10.5	9.5	6.3	0.85	0.76
People think that my bisexuality is just a phase	18.1	20.2	6.4	21.3	12.8	10.6	10.6	0.79	0.62

Eigenvalue = 3.13; % of total variance = 62.7%

assessed separately, and variables that were statistically significant ( $p < .05$ ) were entered into the final multivariable model. All analyses were performed using Stata version 13.

Results from the open-ended text box data were thematically analyzed using Dedoose qualitative software by two independent coders (the first and second authors). Five responses were initially coded, and a test was conducted to determine interrater reliability. Any code that had less than 0.80 kappa was discussed between coders, and the codebook was adjusted to optimize coding harmonization. After all coding was completed, coders met with a senior researcher (third author) to discuss any differences in coding. Any coding discrepancies were resolved by consensus.

## Results

### Quantitative Analyses

The response distributions for each item are shown in Table 2. Respondents were most likely to strongly disagree that “People think that I am incapable of being faithful in a relationship” (34.7%) and “People think I would have sex with just about anyone” (35.8%). Over half (56.8%) of respondents strongly disagreed that “People are afraid to have sex with me because of HIV/STD risks.” In contrast, respondents were most likely to indicate neutrality (e.g., they neither agreed nor disagreed) that non-bisexual people “think I am confused about my sexuality”

(23.2%) and “feel that my sexuality is just a phase” (21.3%). In univariate regression analyses, we assessed the effects of age, gender, race/ethnicity, education, income, and geographic region on BIAS-b scores: The effects of race/ethnicity and geographic region were found to be statistically significant ( $p < .05$ ). In multivariable regression analyses, significantly heightened negative meta-perceptions were reported by multi-racial/other participants compared with white participants. Participants living in the Midwest reported fewer negative meta-perceptions compared to those living in the Northeast (Table 3).

### Qualitative Analyses

The open text box question asked bisexual respondents to describe how they thought non-bisexual individuals felt about bisexual men and women, in general, as opposed to how non-bisexual individuals felt about the respondent’s own bisexuality. In total, 74/94 (79%) of respondents answered the open text box question. Five themes emerged regarding open text box responses: confusion and erasure; hypersexuality and promiscuity; infidelity and relationship difficulties; fear, immorality, and abnormality; and positivity. Many respondents also indicated that they perceived others’ attitudes toward bisexual men differed from their attitudes toward bisexual women, a finding which was confirmed with BIAS-m and BIAS-f data collection from the general population of heterosexual, gay/lesbian, and other participants in the 2015 NSSHB (Dodge et al., 2016).

**Table 3** Factors influencing BIAS-described experiences reported by self-identified bisexual individuals (BIAS-b) using gamma regression

Variables	BIAS-b		
	$\beta$	SE	<i>p</i>
Intercept	2.12	0.21	< .001
Gender			
Man	REF	–	–
Woman	0.03	0.17	.870
Race/ethnicity			
White, non-Hispanic	REF	–	–
Black, non-Hispanic	–0.01	0.33	.971
Other, non-Hispanic	–1.38	0.54	.011
Hispanic	–0.03	0.21	.892
Multiple races/ethnicities	–1.16	0.56	.039
Geographic region			
Northeast	REF	–	–
Midwest	0.50	0.23	.028
South	–0.06	0.23	.800
West	0.26	0.23	.262

Model adjusted for all other variables in the table

### Confusion and Erasure

Nearly half of participants who provided open text box data reported they thought others believed bisexual individuals were “confused.” Many of these responses also tied perceptions of confusion related to bisexual identity, to bisexuality being a phase, to bisexuals needing to “pick a side,” or directly to bisexual erasure (e.g., that bisexual women were straight and looking for attention or that bisexual men were actually gay). Representative excerpts included “They’re [bisexuals are] confused and need to pick a gender to go after” (Participant 4240); “Don’t know what they want” (Participant 451); “They may feel that I’m... just trying to hide that I may really be gay and use bi as simply a cover” (Participant 517); “non-bisexuals think bisexual women [are]—doing it for attention” (Participant 3111); “They consistently believe it to be a phase, that you can only like one or the other, not both” (Participant 5900); “Many think it’s [bisexuality] not a real thing” (Participant 4461); “Many people feel that ones [sic] sexuality is defined by the gender of their partner and not their attractions” (Participant 756).

### Hypersexuality and Promiscuity

Approximately half of open text box respondents also indicated they felt others associated being bisexual with hypersexuality and promiscuity. Statements included “People feel that [by] stating you are bisexual, you are more sexually active and/or sexually permissive” (Participant 117); “They think we are promiscuous” (Participant 191); “They think...that you

like anything and everything that moves” (Participant 5874). Responses to this theme were frequently gendered, with many respondents indicating that bisexual women in particular were viewed as hypersexual: “About bi women, most people think it’s hot and think they are whores” (Participant 76).

### Infidelity and Relationship Difficulties

Many respondents also indicated they believed others thought that bisexual individuals would be difficult to be in a relationship with because of the potential for infidelity. Statements included “[Non-bisexual people think] they [bisexual people] are cheaters” (Participant 5153); “[Non-bisexual people think] that perhaps they [bisexual people] would be difficult to be in a relationship with” (Participant 4565); “...straight people don’t trust bisexual people because they fear a bi person couldn’t commit to just one sex” (Participant 5433).

### Fear, Immorality, and Abnormality

Participants commented in over 100 uniquely coded excerpts that others viewed bisexual people as abnormal or immoral or that they were fearful of them. Statements included “They don’t feel comfortable being near them. They think that ‘bi’ people are abnormal” (Participant 1444); “They [non-bisexuals] have been taught to believe that it is wrong” (Participant 4682); “... people who are not bisexual... [think bisexuals] were raised the wrong way by their parents” (Participant 4330); “Some gays/lesbians may see it as denial or betrayal” (Participant 4312); “They [non-bisexuals] are usually suspicious of them [bisexuals]” (Participant 3019).

### Positivity

Despite the large number of statements from respondents indicating endorsement of negative attitudes toward bisexual people, slightly more than half of participants ( $n = 49$ ) made at least one statement that they felt others held neutral or positive attitudes about bisexual men and women. Such statements included “Many [non-bisexuals] are positive about bisexuality” (Participant 4312); “I think most people that are not bisexual are accepting of bisexual men and women” (Participant 4458); “I think they are surprised but would never say anything. It’s pretty mainstream these days” (Participant 5705). One participant felt positive attitudes toward bisexuality increased after non-bisexual individuals interacted with bisexual individuals: “...[non-bisexuals] wonder if we are for real, but after knowing us for a while realize we are, and become ok with that” (Participant 3248). Some participants found that acceptance and support of bisexuality varied by gender: “They most likely accept bisexual women more than bisexual men” (Participant 991). Some participants viewed this seemingly greater acceptance of bisexual women as contingent upon bisexual women’s

sexual availability: “Some people, particularly straight men, seem to like bisexual girls as they prove to be an opportunity for a threesome” (Participant 6149).

## Discussion

This study reports findings from the 2015 NSSHB, the first nationally representative probability survey to assess a subsample of bisexual people’s meta-perceptions of other people’s attitudes toward them, as bisexual individuals. Quantitative findings from the BIAS-b revealed that bisexual respondents indicated they either disagreed (Items 2–4: HIV/STD risk; infidelity; hypersexuality) or neither agreed nor disagreed (Items 1 and 5: confused; “It’s a phase”) that others endorsed negative attitudes about bisexual individuals. It is important that these scale items assessed respondents’ perceptions of how others view their own bisexuality, very specifically, versus how others view bisexual people more generally (as we captured in the open-ended text box data). Multivariable regression indicated meta-perceptions of negative attitudes from the general population toward bisexual people were elevated for multi-racial/other and non-Midwestern participants. We did not find significant gender differences.

Qualitative findings from the open-ended text box question fell into five main themes (confusion and erasure; hypersexuality and promiscuity; infidelity and relationship difficulties; fear, immorality, and abnormality; and positivity) that paralleled BIAS-b quantitative findings. For instance, more respondents indicated that they felt others viewed bisexual men and women as being confused or going through a phase than those who indicated they felt others would refuse to have sexual relationships with them for fear of HIV/STD risk. It is possible that the overlap in themes between the BIAS-b and open text box question was influenced by the order of questionnaire administration. This concern is tempered by the finding that open text box results also revealed themes not captured by the quantitative BIAS-b scale, including some participants who said they simply did not know what others thought of bisexual women or men. Additionally, many respondents reported they believed others held positive attitudes about bisexual individuals, especially bisexual women. In contrast, we did not find statistical differences between self-identified bisexual men and women’s BIAS-b scores, indicating that bisexual men and women do not differ in their meta-perceptions of others toward them as bisexual people. This may have been due to a lack of statistical power. Still future research should investigate whether the perceptions of more positive attitudes toward bisexual women are intrinsically tied to stigmatizing attitudes that bisexual women are more sexually promiscuous.

During the formative research processes that led to BIAS scale item development and refinement, no positive attitudes toward bisexual people were uncovered (Dodge et al., 2016;

Friedman et al., 2014). The emergence of the positive theme from the open text box responses aligns with the high number of bisexual participants who did not report negative meta-perceptions toward them as bisexual people. It may also indicate a shift toward more positive attitudes of bisexual women and men from when the scale was first developed in 2012 to the administration of the 2015 NSSHB. At least one other study has also described positive perceptions of bisexuality (Scales-Rostovsky, Riggle, Pascale-Hague, & McCants, 2010). Future research would benefit from exploring meta-perceptions of bisexual transgender, non-binary, gender-queer, and other groups of individuals who may not identify as male or female.

The 2015 NSSHB also includes the BIAS-m and BIAS-f scales that assess attitudes that non-bisexual persons endorse about bisexual men and women, respectively (Dodge et al., 2016; Friedman et al., 2014). The items in these scales closely parallel the items of the BIAS-b. Comparison of the overall BIAS-b mean scale score (15.04 for bisexual respondents) to BIAS-m (13.94 for heterosexual and 8.04 for gay/lesbian respondents) and BIAS-f (13.05 for heterosexuals and 7.40 for gay/lesbian respondents) (Dodge et al., 2016) may indicate that bisexual individuals feel other individuals hold more negative attitudes toward them than others report. In general, individuals who report negative meta-perceptions are more likely to report depressive symptoms (Moritz & Roberts, 2017). Future research should investigate how bisexual stigma is associated with negative meta-perceptions and assess how these may be associated with the exacerbated mental health disparities observed among bisexual compared to gay and lesbian populations (Bostwick, Boyd, Hughes, & McCabe, 2010). Future research should also explore how meta-perceptions are similar to or different from internalized sexual stigma (e.g., internalized binegativity). Although these may similarly predict poor psychosocial health, they are different constructs and we did not attempt to measure internalized binegativity in this study.

In a subsample of bisexual individuals from a larger U.S. nationally representative probability sample, we observed a range of perceptions of others’ attitudes toward bisexual individuals, primarily neutral to negative, but also including some positive perceptions. Development of future measures to explore bisexual meta-perceptions may incorporate positive aspects of bisexual identity and potentially also focus less on the bisexual-specific stigma related to HIV/STD risk. Our results add to the growing literature describing measures for assessing bisexual-specific attitudes in order to facilitate investigation into their potential impact on the health of bisexual populations.

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