Who is Bisexual? Perceptions of Sexual Orientations Under Ambiguity

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Who is Bisexual?
Perceptions of Sexual Orientations under Ambiguity
by
Megan E. Wilson

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The Graduate School
of Washington University in
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requirements for the degree
of Master of Arts

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# Table of Contents

List of Figures.................................................................................................................................iv
Acknowledgements ...........................................................................................................................v
Abstract................................................................................................................................................vi
1. Introduction .......................................................................................................................................1
   1.1 Social Categorization of Sexual Orientation ........................................................................3
   1.2 The Current Studies ............................................................................................................8
2. Study 1 ..............................................................................................................................................9
   2.1 Method .......................................................................................................................................10
      2.1.1 Participants ..................................................................................................................10
      2.1.2 Procedure ...................................................................................................................11
      2.1.3 Materials ....................................................................................................................11
         Categorization. ....................................................................................................................11
         Bisexual-Straight Implicit Bias. ........................................................................................12
         Explicit Bias Against Bisexual People. .............................................................................13
   2.2 Results .......................................................................................................................................13
      2.2.1 Matched vs. Mismatched Information .........................................................................14
      2.2.2 Differences in Categorization Decisions by Characteristics of the Target .............15
      2.2.3 Differences in Categorization Decisions by Characteristics of the Perceiver ..........16
      2.2.4 Categorization as Identity or Behavior .......................................................................17
   2.3 Discussion ...................................................................................................................................19
3. Study 2 ..............................................................................................................................................22
   3.1 Method .......................................................................................................................................23
      3.1.1 Participants ..................................................................................................................23
      3.1.2 Procedure ...................................................................................................................24
      3.1.3 Materials ....................................................................................................................24
         Categorization. ....................................................................................................................24
         Bisexual-Straight Implicit Bias. ........................................................................................25
         Explicit Bias Against Bisexual People. .............................................................................25
   3.2 Results .......................................................................................................................................25
      3.2.1 Differences in Categorization Decisions by Characteristics of the Target .............25
      3.2.2 Differences in Categorization Decisions by Characteristics of the Perceiver ..........27
List of Figures

Figure 2.1: Explicit bias on the Intolerability and Instability facets predicting categorization in line with target sexual behavior vs. target sexual identity. More positive explicit biases indicate more intolerance (Intolerability) for bisexual people.................................................................18
Figure 2.2: Implicit bias against bisexual people predicting categorization in line with target behavior vs. target sexual identity. More positive implicit biases indicate stronger implicit preferences for straight people over bisexual people.................................................................19
Figure 3.1: Probabilities of categorizing targets as Straight, Bisexual, or Gay, based on Target Sexual Identity and Recency of Target Sexual Behavior.................................................................32
Figure 3.2: Probabilities of categorizing targets as Straight, Bisexual, or Gay based on Target Sexual Identity and Target Sexual Behavior Duration.................................................................33
Figure 4.1: Probabilities of categorizing targets as straight, bisexual, or gay, based on the sexual behavior or attraction of the target. .........................................................................................46
Figure 4.2: Explicit bias (overall) predicting categorization in line with target sexual behavior vs. target sexual identity. More positive explicit biases indicate stronger explicit bias against bisexual people.................................................................49
Figure 4.3: Implicit bias against bisexual people predicting categorization in line with target sexual behavior vs. target sexual identity. More positive implicit biases indicate stronger implicit preferences for straight people over bisexual people.................................................................50
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How do people determine another individual’s sexual orientation? As sexuality often does not have visible cues, people must often rely on how others identify and behave. However, sexual identity and behavior can often conflict (Pathela et al., 2006; Ross et al., 2003). In Study 1, I examined whether participants perceived individuals to be straight, gay, or bisexual when identity and behavior conflicted (e.g., a man who identifies as “straight” but had sex with other men). Study 2 examined how perceptions were affected by the characteristics of the target and their behavior and Study 3 examined how perception was related to characteristics of the perceiver. I find that when information conflicts, participants were highly likely to perceive individuals as bisexual despite how the individuals identified. In addition, I find differences in perception based on characteristics of the target (e.g., men were more likely to be perceived as gay than bisexual), as well as characteristics of the perceiver (e.g., anti-bisexual prejudice predicted higher reliance on behavior rather than identity in categorization). These findings illustrate how perceptions of sexuality are multiply determined by characteristics of the target and perceiver.
1. **Introduction**

When a person encounters a new individual, they spontaneously categorize that individual into social categories (Allport, 1954; Kawakami, Amodio, & Hugenberg, 2017). This process is known as social categorization, and occurs when a perceiver categorizes another individual, or target, into a social group such as race or gender. Social categorization facilitates living in a social world. Social categorization helps people differentiate themselves from others and determine if people belong to one’s own group or another group (Bodenhausen, Kang, & Peery, 2012). Social categorization involves both bottom-up and top-down processes. Bottom-up categorization processes describe the initial evaluation and categorization of an individual. Examples of bottom-up processes include facial cues (e.g., face shape), bodily cues (e.g., bodily movements), and social cues (e.g., emotion expressions). Top-down processes, on the other hand, describe the personal beliefs, motivations, and expectancies that may influence our perceptions and judgments of people.

Some social categories, such as race and gender, are more physically visible and recognizable, and are thus able to be categorized very quickly and accurately (Ito & Urland, 2003). Categorization into less visible social categories, such as political orientation or religion, still occurs, but people tend to be slower and less accurate in these categorizations (Rule & Ambady, 2008; Rule, Garrett, & Ambady, 2010; Rule & Ambady, 2010). In addition, some individuals belong to categories that are nondiscrete, such as biracial individuals who may not be identifiable as completely belonging to one race or another race. These individuals may be seen as more ambiguous, which makes categorization more difficult. In cases of ambiguity, top-down processes are especially influential in social categorization. For instance, categorizing Black-
White biracial individuals as Black rather than White is related to how implicitly biased a person is against Black vs. White people and how scarce economic resources are believed to be (Hugenberg & Bodenhausen, 2004; Krosch & Amodio, 2014).

Regardless of the accuracy by which a person is categorized, social categorization is consequential for intergroup relations. Social Identity Theory suggests that a core aspect of people’s identities lies within their social groups (Tajfel & Turner, 1979). This identification can, in turn, lead to prejudice, stereotyping, and discrimination against out-group members. For example, seeing someone as an ingroup member can increase empathy for that individual compared to seeing that individual as an outgroup member (Tarrant, Dazeley, & Cottom, 2009). Additionally, categorizing an individual as an ingroup member can make people more likely to help that individual in times of emergency or distress than categorizing them as an outgroup member (Levine, Prosser, & Reicher, 2005; Dovidio et al., 1991). Minimal group paradigms, where subjects are put into groups without anything actually differentiating them, further showcase categorization’s role in prejudice, discrimination, and stereotyping. Even though in these paradigms there is nothing actually differentiating groups from each other, people will still show preferences toward the group they are assigned to (Tajfel & Turner, 1979; Turner, 1981, 1982). Beyond categorization as an in-group or out-group member, the specific groups into which an individual is categorized can activate different stereotypes (Hamilton, 1981) and can lead to discrimination. For instance, job candidates categorized as women are less likely than male candidates to be perceived as competent when being evaluated by a man (Foschi, Lai, & Sigerson, 1994), and when working in a male-dominated field (Boldry, Wood, & Kashy, 2001; Heilman, 2001). Viewing women as less competent than men in the workplace can contribute to hiring discrimination against women, and the wage gap between men and women (Moss-Racusin
et al., 2012).

The primacy of social categorization in prejudice, discrimination, and stereotyping is particularly apparent in the case of mistaken group identity. Take for instance the case of Black-White biracial individuals, who may be miscategorized as Black or White rather than biracial (Ho, Sidanius, Levin, & Banaji, 2011; Chen & Hamilton, 2012). This miscategorization may not only be harmful for the target individuals’ levels of stress and self-esteem (Albuja, Gaither, Sanchez, Straka, & Cipollina, 2019), but also means that these target individuals will be subjected to the stereotypes, prejudice, and discrimination associated with a group with which they may not actually identify.

1.1 Social Categorization of Sexual Orientation

The categorization of an individual’s sexual orientation can be particularly challenging due to a lack of clear physical markers and changes in the expression of sexual orientation over the lifespan. Sexual orientation can be distinguished by three components (LeVay & Baldwin, 2012): what a person identifies as (sexual identity), who a person is attracted to (sexual attraction), and how a person behaves sexually (sexual behavior). These three components of a person’s sexual orientation can often conflict, yet there are large variations in how frequently studies find that these components conflict. One study indicated that about 10% of self-identifying straight men reported engaging in non-straight sexual behavior (Pathela et al., 2006), while another study found that about 4.2% of men and 8.2% of women reported conflicts between their sexual attraction and sexual behavior (Smith, et al., 2003). One study found large variations in how often components of sexual orientation conflict depending on the person’s race and gender (Ross, et al., 2003). In this study, Asian men and women reported the lowest amount of conflicts (21.6% and 27.2%, respectively), and African-American women and White men
reported the highest amount of conflicts (66.6% and 65.3%, respectively).

These conflicts between different components of sexuality may arise due to cultural influences, change over time, or different conceptions of sexual identity. Conflicts between components of sexuality may arise due to cultural pressures to identify a certain way. For instance, some people report identifying as straight in certain public settings (e.g., the workplace) even though they privately identify as non-straight (Gusmano, 2009; Austin, 2013). Further, because many people have insecurities toward dating bisexual individuals (Armstrong & Reissing, 2014), bisexual-identifying individuals may hide their bisexual identity (McLean, 2008). Conflict between components of sexuality may also arise due to changes in identity, attraction, and behavior over time. For example, research on female bisexuality research finds female sexuality is somewhat fluid for many women, and thus some women engage in behavior that does not directly match their identity (Diamond, 2008). Finally, people are known to define sexual orientation terms differently (Sell, 1997; Savin-Williams, 2009), which may contribute to discrepancies between a person’s self-identified sexual orientation and their behavior (Korchmaros, Powell, & Stevens, 2013). For example, some women have been shown to change their sexual orientation based on their current sexual behavior, rather than their sexual attraction (Diamond, 2008). Because these three components of sexual orientation can often conflict, the process of social categorization may be more difficult.

These kinds of conflicts between components of a person’s sexual orientation may be especially apparent in the social categorization of bisexual people. For instance, a bisexual person who is in a monogamous relationship will not have a matching sexual identity and sexual behavior in the same way that a straight or gay person in a monogamous relationship would. For example, a bisexual woman who is in a monogamous relationship with a man may be perceived
as acting straight rather than bisexual. In fact, in 2015 a movement called #StillBisexual was developed in order to combat the idea that bisexual people in relationships are not truly bisexual (#StillBisexual, 2020). Studies on bisexual individuals in monogamous relationships also find that others assume previously-identifying bisexual individuals will take on a new sexual orientation when entering a monogamous relationship (Lannutti, 2008), and bisexual individuals in monogamous relationships report feeling as though their bisexual identity is invisible or being threatened (Ochs, 2011; Hayfield, Campbell, & Reed, 2018). To this end, bisexual women who enter monogamous straight relationships have employed strategies in order to make their bisexual identity more visible to others (Hartman-Linck, 2014; Tabatabai & Linders, 2011).

When people categorize a target individual’s sexual orientation, they may rely on a variety of different information in order to decide how to categorize an individual. People may rely on characteristics of the target, such as their gender or their sexual identity. They may also consider information about a target’s sexual behavior, such as how recent their mismatching sexual behavior occurred, or how long the behavior lasted. Finally, how people categorize may be related to characteristics of the people doing the categorizing. Attitudes and beliefs about bisexual people may predict how people categorize ambiguous targets’ sexual orientations.

Under conditions of ambiguity, perceptions of a target's sexual orientation may be influenced by characteristics of the target. For instance, because there are more self-identified bisexual women than men (Pew Research Center, 2020), people may use their knowledge of base rates to judge women as more likely to be bisexual compared to similar men. Similarly, researchers have theorized that adolescence and emerging adulthood are times of increased sexual experimentation (Erikson, 1968, Leveque & Pedersen, 2010). Perceptions that younger people are more likely to experiment with their sexuality may mean that people will categorize a
younger target’s sexual orientation in line with their sexual identity rather than their sexual behavior more often than they would with an older person’s sexual orientation. Further, because there are more self-identified bisexual individuals who are younger (i.e., 18-36 years old; Brown, 2020), people may use their knowledge of base rates to judge younger targets as more likely to be bisexual compared to older targets.

The behavior and desires of straight-identifying people may also be perceived differently from those of non-straight-identifying people. High-status groups are known to have more “policing,” or tighter boundaries around group membership (e.g., the “one drop rule” for White identification in the U.S.; Khanna, 2010). Some evidence suggests that a similar “one-time rule” of gayness exists, meaning individuals identifying as the higher-status group (i.e., straight) may have more requirements for maintaining that identification compared to individuals identifying with a lower-status group (i.e., gay and bisexual identities; Anderson, 2008).

The circumstances surrounding a person’s behavior are highly influential for impressions of that person (Mann & Ferguson, 2015; Ferguson et al., 2019). For instance, an extremely negative piece of information, such as being convicted of a violent crime, can cause people to evaluate a person negatively, even when presented with 100 countervailing positive behaviors (Cone & Ferguson, 2015). Similar findings emerge even when evaluating a target with well-established positive impressions (i.e., Gandhi; Van Dessel, Ye, & De Houwer, 2019). Other research has shown that both the believability of behavioral information and attributions for behavior can affect how diagnostic the behavior is of who a person is (Hovland & Weiss, 1951; Wyer, 2010). And so, when it comes to categorizing an individual’s sexual orientation, two things regarding an individual’s sexual behavior that may be relevant are the recency of a person’s sexual behavior, and the duration of the behavior. The recency of a person's sexual
behavior may matter due to the timecourse of sexual identification over the lifespan. Because heterosexuality is often seen as the norm (Ingraham 1996; Evans, 2009), people typically begin by identifying as straight. Later on, individuals with minority sexual identities engage in a “coming-out” process, wherein they come to see themselves as non-straight and gradually begin to disclose that identity to others, as well as start to engage in behavior more in accordance with their new sexual identity (Coleman, 1982; Diamond, 1998). Because of this, behavior that is more recent may be seen as more indicative of who a person actually is. Relatedly, the duration and consistency of a person’s behavior has been found to be related to how much others perceive that behavior of being who a person is. For example, children as young as 3 years old evaluate people who do bad things consistently more negatively than people who do bad things inconsistently (Boseovski & Lee, 2006). Thus, people may categorize more recent sexual behaviors and more enduring sexual behaviors differently than they would less recent or shorter-term sexual behaviors.

The categorization of sexual orientation under conditions of ambiguity may also be related to characteristics of the perceiver. Research on the categorization of Black-White biracial individuals suggests that prejudice influences social categorization, such that people who hold more anti-Black prejudice are more likely to categorize ambiguous biracial targets as Black rather than White, particularly when those people have more essentialist views about race (Pettigrew, et al., 1958; Hugenberg & Bodenhausen, 2004; Ho, Roberts, & Gelman, 2015). These results may extend to perceptions of bisexual targets, as bisexual and biracial individuals both belong to two dichotomous groups while not belonging exclusively to either. Similar to the categorization of biracial individuals, people who are more implicitly biased, or less explicitly tolerant of bisexual people may be more likely to categorize targets as gay,
because they may see sexuality as a dichotomy, and will choose to categorize targets into the lower-status group (i.e., gay). Relatedly, the stereotypes that a person endorses about men’s and women’s sexual orientations may contribute to social categorization. For instance, in Mohr & Rochlen (1999) one component of bias against bisexual people relates to the perception that bisexuality is a temporary phase, or an unstable identity. One might expect that people who believe that bisexuality is not a real sexual orientation may be more likely to categorize targets as straight or gay/lesbian rather than bisexual.

1.2 The Current Studies

The current research aims to understand how people categorize an individual’s sexual orientation when information about a person’s sexual orientation matches (e.g., a man who identifies as straight and has sex with women) or does not match (e.g., a man who identifies as straight and has sex with men). Further, the research seeks to examine where and how differences in categorization occur, whether due to factors regarding the target of categorization (e.g., target gender) the circumstances around the target’s behavior (e.g., how long ago the behavior occurred), or the individual making the categorization decisions (e.g., explicit bias against bisexual people). Study 1 seeks to establish how people categorize when a target’s sexual identity either matches or does not match their behavior. Study 2 seeks to understand what additional information about a target or the target’s behavior may influence categorization decisions when a person’s sexual identity does not match their behavior (i.e., target age, when behavior occurred, how often behavior occurred). Finally, Study 3 seeks to extend these findings by including a greater array of mismatched situations (e.g., bisexual identity and gay behavior), as well as information on a target’s sexual attraction.
2. Study 1

In Study 1, I examined how people categorize an individual’s sexual orientation when there is limited information available. Participants were given statements about a target individual including the target’s gender, sexual identity, and recent sexual behavior (e.g., “A man identifies as being attracted to women, but has had romantic relationships with only men in the last year.”). Participants received statements about targets who were either men or women, identified as straight, bisexual, or gay, and exhibited either straight, bisexual, or gay sexual behavior. We operationalized a target’s sexual identity and behavior as *matched* if the target’s sexual identity and behavior were directed toward the same gender(s). For example, a woman who identifies as being attracted to women and has had recent romantic relationships with only women would be considered as having matched sexual identity and behavior. For the purposes of this study, matched bisexuality was operationalized as a target identifying as being attracted to both men and women and engaging in recent sexual behavior with both men and women. We operationalized a target’s sexual identity and behavior as *mismatched* if the target’s sexual identity and behavior were not directed toward the same gender(s). For example, a woman who identifies as being attracted to women and had recent romantic relationships with women and men would be considered as having mismatched sexual identity and behavior.

I first examined how these categorizations differ when information about the target individual’s sexual orientation matches vs. mismatches. I expected that when information about a target individual’s sexual orientation matched, people would be likely to simply categorize

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1 For the purposes of the present studies, I operationalize target gender as “man” or “woman.” However, in all studies we do not actually specify whether I am referring to biological sex or gender identity. Rather, I simply say someone is “a man” or “a woman.” Due to default expectations that people are cisgender (Harwood & Vick, 2012), I expect that people are thinking about this in terms of cisgender men and women.
targets based on what they said and did. However, when information about a target’s sexual orientation did not match, I hypothesized that people would be less likely to categorize targets as straight. Following this, I examined what factors lead to differences in categorization decisions when information was mismatched. To this end, I looked at both characteristics of the target (i.e., target gender) as well as characteristics of the perceiver (i.e., implicit and explicit bias against bisexual people). Because there are more self-identified bisexual women than self-identified bisexual men (Brown, 2020), I hypothesized that female targets would be more likely to be categorized as bisexual compared to male targets. Additionally, because research on the categorization of biracial individuals finds differences in categorization due to implicit and explicit bias (Hugenberg & Bodenhausen, 2004; Ho, Roberts, & Gelman, 2015), I also hypothesized that when participants were more implicitly or explicitly biased against bisexual people, they would be more likely to categorize targets with mismatching sexual identity and behavior as gay rather than bisexual. Finally, I aimed to understand the role of implicit and explicit bias against bisexual people in categorizing targets in line with their sexual identity or sexual behavior, when the two did not match. I hypothesized that people who were more implicitly or explicitly biased against bisexual people would be more likely to categorize targets in line with their sexual behavior rather than their identity.

2.1 Method

2.1.1 Participants

A power analysis revealed that 528 participants were needed to have 80% power to detect a small effect size of an odds ratio of 1.30 for a simple bivariate logistic regression, and the theoretical base rate of the event set to .33 (at-chance levels). Accounting for participant
exclusion (~4% for Implicit Association Test misbehavior), I planned to collect 550 participants. I ended up collecting 554 participants from Project Implicit (mean age = 32.59 years, SD = 15.22 years; 63.7% Female; 85.8% Straight, 3.4% Gay/Lesbian, 6.0% Bisexual, 4.8% Other; 99.6% Cisgender; 57.1% White, 12.1% Black, 10.7% Asian, 10.9% Hispanic, 9.2% Other). 20 participants (3.6%) were excluded from analyses due to completing 10% or more IAT critical trials faster than 300 ms, leaving 534 participants in the final analyses.

2.1.2 Procedure

After consenting and completing a commitment device adapted from Zhou & Fishbach (2016), participants viewed 14 statements with information regarding an individual’s sexual orientation and were asked how they would categorize that individual’s sexual orientation. The order of statements was randomized such that participants saw all statements about men (or women) before reading any statements about women (or men). Participants were then asked to complete a Bisexual-Straight Implicit Association Test (IAT). Following this, participants completed a scale assessing explicit biases toward bisexual people and additional demographic questions before being debriefed. All materials are available in Appendix A (below) or at the OSF (https://osf.io/5kfbr/?view_only=e731cc6c10004e2a805c2afce93cfcb1).

2.1.3 Materials

Categorization. Participants were presented with statements about a target's gender, sexual identity, and recent sexual behavior. These statements took the form: "A [man/woman] identifies as being attracted to [men/women/both women and men], but has had romantic relationships with [only men/only women/both men and women] in the last year." They were then asked, “If you had to pick, what would you consider this [wo]man's sexual orientation to be?” Participants then chose either "Straight", "Bisexual", or "Gay".
In total, each participant was presented with 14 statements with information about individuals in a 2 (Target Gender: Male, Female) x 3 (Target Sexual Identity: Gay, Bisexual, Straight) x 3 (Recent Sexual Behavior: Gay, Bisexual, Straight) design that excluded four combinations: male gay identity with straight behavior, female gay identity with straight behavior, male straight identity with gay behavior, and female straight identity with gay behavior, in order to focus on mismatched targets that expressed bisexual identity or behavior. Six of these statements included matching identity and behavior information (e.g., a woman identifies as straight and has only had recent romantic relationships with men). The remaining eight statements included mismatched identity and behavior information (e.g., a woman identifies as bisexual and has only had recent romantic relationships with women).

**Bisexual-Straight Implicit Bias.** The Bisexual-Straight Implicit Association Test ($\alpha = .85$) consists of 7 blocks (Greenwald et al., 1998). Throughout the 7 blocks, participants were asked to use the “E” and “I” keys to categorize the Bisexual and Straight words, as well as the Good and Bad words, into categories assigned at the top of the screen (e.g., Bisexual and Good, Straight and Bad). The blocks consist first of two 20-trial practice blocks (Bisexual vs. Straight; Good vs. Bad), followed by a section with one 20-trial and one 40-trial block (e.g., Bisexual and Bad, Straight and Good). Following this, there was an additional 20-trial practice block where the Straight and Bisexual categories are switched, and two 20-trial and 40-trial blocks where the associations are flipped from those of trial 3 (e.g., Bisexual and Good, Straight and Bad).

The Good words were “Joy”, “Glorious”, “Wonderful”, “Happy”, “Laughter”, “Peace,” and the Bad words were “Awful”, “Agony”, “Terrible”, “Horrible”, “Failure”, and “Hurt”. The Bisexuality words were “Bisexual”, “Bi”, “Likes both sexes”, “Dates both sexes.” The Straight words were “Straight”, “Hetero”, “Likes opposite sex”, “Dates opposite sex”. The IAT was scored using the $D$
scoring algorithm recommended by Greenwald, Nosek, & Banaji, 2003. A positive $D$ score on the IAT indicates faster responses for the Straight-Good and Bisexual-Bad pairings compared to the Bisexual-Good and Straight-Bad pairings, meaning a person is more implicitly biased against bisexual people. A negative $D$ score indicates faster responses for the Bisexual-Good and Straight-Bad pairings, meaning a person is more implicitly biased against straight people.

**Explicit Bias Against Bisexual People.** My measure of explicit bias against bisexual people was adapted from Mohr & Rochlen's Explicit Bias Against Bisexuals scale (1999) to test participants’ explicit bias against bisexual people using a 7-point Likert scale with the response options ranging from (1) Strongly Disagree to (7) Strongly Agree. The original measure included parallel questions for both bisexual men and women separately, but for the purposes of this study these questions were adapted to be about bisexual people in general. We measured two facets of bias: Instability, which included 7 questions referring to how enduring one believes bisexuality to be (e.g., “Most people who identify as bisexual are temporarily experimenting with their sexuality”; $\alpha = .87$), and Intolerability, which included 7 questions referring to how moral and tolerable one believes bisexuality to be (e.g., “As far as I’m concerned, bisexuality is unnatural”; $\alpha = .91$).

**2.2 Results**

All hypotheses and planned analyses were pre-registered at the OSF (https://osf.io/5kfbr/?view_only=e731cc6c10004e2a805c2afce93cfcb1). In my pre-registration, I planned to compare matched and mismatched statements by only examining the straight compared to gay and straight compared to bisexual contrasts. However, I added in the bisexual compared to gay contrast for completeness. For the remaining analyses, I only pre-registered the bisexual compared to gay contrast. However, for completeness I also conducted unplanned
analyses that compared straight to non-straight, bisexual to non-bisexual, gay to non-gay, bisexual to straight, and gay to straight categorization decisions.

2.2.1 Matched vs. Mismatched Information

I first sought to understand if people categorized differently when information was matched vs. mismatched. To test this, I ran a series of binomial logistic regressions with categorization decisions as the dependent variable and whether the information was matching vs. mismatching as the independent variable, with a random intercept for participant.

I found that when information about a target’s sexual identity and sexual behavior matched, people were likely to categorize targets based on how they identified and behaved. Targets were categorized as straight 33.5% of the time, bisexual 35.0% of the time, and gay 31.5% of the time. The odds of categorizing as gay vs. straight were not significantly different when statements matched (\(b = 0.04, p = .34, OR = 1.05, 95\% CI[0.96, 1.14]\)), nor was straight vs. bisexual (\(b = 0.27, p = .14, OR = .94, 95\% CI[0.86, 1.02]\)), nor bisexual vs. gay (\(b = 0.10, p = .24, OR = .93, 95\% CI[0.84, 1.01]\)). When a target identified as straight and had straight behavior, 92.9% of targets were categorized as straight. When a target identified as bisexual and had matching bisexual behavior, 95.2% of targets were categorized as bisexual. When a target identified as gay and had gay behavior, 89.4% of targets were categorized as gay. This indicates that when a target’s sexual identity and behavior matched, people largely categorize the individual as how they identify and behave.

When information about a target’s sexual identity and behavior was mismatched, targets were more likely to be categorized as bisexual compared to gay or straight. Targets were most likely to be categorized as bisexual (80.4%), followed by gay (10.6%), then straight (9.0%). Participants were more likely to categorize targets as bisexual compared to straight (\(b = 3.17, p <\))
.001, OR = 22.40, 95% CI[19.28, 29.09]), as well as bisexual compared to gay \((b = 1.95, p < .001, OR = 7.04, 95% CI[6.17, 8.03])\). There were no significant differences between the odds of categorizing as straight vs. gay \((b = 0.10, p = .32, OR = 1.11, 95% CI[0.96, 1.25])\). This suggests that when information about a person’s sexual orientation is ambiguous, people are most likely to categorize that person as bisexual.

2.2.2 Differences in Categorization Decisions by Characteristics of the Target

I next sought to understand what factors contributed to differences in how people categorize individuals when information was mismatched. When sexual identity and behavior conflicted, participants were generally likely to categorize targets as bisexual across men and women. Men were most likely to be categorized as bisexual (80.0%), followed by gay (12.9%) then straight (8.1%). Women were most likely to be categorized as bisexual (80.9%), followed by straight (9.7%) then gay (9.4%).

To test whether the target's gender predicted differences in categorization decisions, I ran a series of binomial logistic regressions with categorization decisions as the dependent variable, target gender as the independent variable, and a random intercept for participant.

Overall, female targets were more likely than male targets to be perceived as straight when identity and behavior conflicted. Female targets were predicted to be 25% more likely than male targets to be categorized as straight rather than non-straight \((b = .22, p = .05, OR = 1.25, 95% CI[1.00, 1.56])\), and 33% more likely than male targets to be categorized as straight rather than gay \((b = .41, p = .003, OR = 1.33, 95% CI[1.02, 1.87])\). There were no significant differences between male and female targets in terms of categorization as straight compared to bisexual \((b = 0.19, p = .10, OR = .82, 95% CI[0.96, 1.66])\). When targets were perceived as non-straight, female targets were more likely to be categorized as bisexual than male targets. Female
targets were predicted to be 31% more likely to be categorized as bisexual compared to gay compared to male targets ($b = 0.27, p = .01, \text{OR} = 1.31, 95\% \text{ CI}[1.06, 1.62])

2.2.3 Differences in Categorization Decisions by Characteristics of the Perceiver

Another possibility was that differences in categorization would emerge based on characteristics of the participant. To test whether implicit or explicit bias predicted differences in categorization decisions, I ran a series of binomial logistic regressions with categorization decisions as the dependent variable, explicit bias against bisexual people on the Instability and Intolerability facets, and implicit bias as the independent variables, as well as a random intercept for participant.

Overall, people who were more explicitly biased against bisexual people were more likely to categorize targets as gay when identity and behavior conflicted. A 1-unit increase in the belief that bisexuality is unstable predicted a 20% higher probability of categorizing a target as gay rather than non-gay ($b = 0.18, p < .001, \text{OR} = 1.20, 95\% \text{ CI}[1.09, 1.32])$, 18% lower probability of categorization as bisexual rather than gay ($b = 0.20, p < .001, \text{OR} = .82, 95\% \text{ CI}[0.73, 0.92]$), and 12% lower probability of categorization as straight rather than gay ($b = 0.11, p = .01, \text{OR} = 0.88, 95\% \text{ CI}[0.82, 0.98]$). A 1-unit increase in intolerance toward bisexual people also predicted 19% higher probability of categorization as gay compared to non-gay ($b = 0.18, p < .001, \text{OR} = 1.19, 95\% \text{ CI}[1.09, 1.30]$), 18% lower probability of categorization as bisexual compared to gay ($b = 0.20, p < .001, \text{OR} = .82, 95\% \text{ CI}[0.75, 0.91]$), and 12% lower probability of categorizing a target as gay compared to straight ($b = 0.12, p = .02, \text{OR} = 0.88, 95\% \text{ CI}[0.81, 0.98]$). Neither facet of explicit bias predicted significant differences as bisexual compared to
straight \((ps > .44)\). Implicit bias did not significantly predict any differences in categorization \((ps > .30)\).

### 2.2.4 Categorization as Identity or Behavior

The third aim of the research was to understand if implicit and explicit bias predicted categorization in line with a target’s stated sexual identity vs. stated sexual behavior. For the purposes of this research question, responses that aligned with neither a target’s stated sexual identity nor their behavior were removed. There were 365 responses that did not fit this criteria (4.7% of responses), leaving 7332 responses for the analysis. To this end, the research found that higher explicit bias against bisexual people significantly predicted higher odds of categorizing in line with a target’s sexual behavior rather than their sexual identity. Both the Instability \((b = 0.19, p < .001, OR = 1.21, 95\% CI[1.14, 1.28])\) and Intolerability \((b = 0.17, p < .001, OR = 1.18, 95\% CI[1.12, 1.25])\) facets uniquely predicted likelihood of categorizing in line with behavior over identity, such that people who were more explicitly biased against bisexual people were more likely to categorize in line with a target’s sexual behavior rather than their sexual identity (see Figure 1). Similarly, implicit bias significantly predicted categorization in the same direction as explicit bias \((b = 0.39, p < .001, OR = 1.48, 95\% CI[1.22, 1.80])\), such that a 1-point increase in implicit bias against bisexual people predicted a 48% higher probability of categorizing in line with a target’s sexual behavior compared to a target’s sexual identity (see Figure 2).
Figure 2.1: Explicit bias on the Intolerability and Instability facets predicting categorization in line with target sexual behavior vs. target sexual identity. More positive explicit biases indicate more intolerance (Intolerability) for bisexual people.
**2.3 Discussion**

Study 1 found that when a target’s sexual identity matches their sexual behavior, people categorize that target based on what they say and do. When a target's sexual identity does not match their sexual behavior, targets are more likely to be categorized as bisexual compared to straight or gay. Under these conditions of inconsistency, female targets were more likely than male targets to be categorized as straight. When targets were not categorized as straight, I also found that female targets were more likely than male targets to be categorized as bisexual rather than gay. Categorizing male and female targets differently may reflect knowledge about the base rates of differences in male and female sexual orientations, or may reflect differences in
stereotypes about male and female sexualities. For example, there is some evidence that female sexuality is more fluid than male sexuality (Diamond, 2016). If people are aware of these gender differences in sexual fluidity, they may believe that straight women are more likely to display non-straight sexual behavior. As a result, people may be more likely to categorize female targets who identify as straight as such even when their behavior is seemingly inconsistent with a straight identity. Building off of precarious manhood theory (Vandello & Bosson, 2012), there is also evidence that straightness is more precarious for men than it is for women (Mize & Manago, 2018), meaning men with even a single same-sex sexual encounter are seen as non-straight more often than are women with similar behaviors. This suggests that there may be different standards for straightness for men compared to women. Similar results may occur in the present study, where male targets who show any sign of non-straightness may be categorized as non-straight more often than female targets in the same circumstances.

In addition, I found differences in how targets are categorized based on the participant's explicit bias, such that people who are more explicitly biased against bisexual people were more likely to categorize targets as gay. This result may suggest that people who are more explicitly biased against bisexual people perceive targets differently than people who are less explicitly biased. This may be due to beliefs that bisexual individuals will change their sexual identity or may reflect more rigid beliefs about what sexual orientations are valid. However, implicit bias did not significantly predict categorization decisions. Measurement correspondence may explain why explicit bias but not implicit bias predicted categorization decisions. The explicit bias scale shared the same self-report method as the categorization task and may have examined facets of bias that are more directly relevant to the social categorization of bisexual people (i.e., Intolerability, Instability) than general associations with goodness or badness.
Finally, I found differences in categorization in line with a target’s sexual identity or sexual behavior depending on how implicitly or explicitly biased an individual is against bisexual people, such that people who are more implicitly or explicitly biased against bisexual people were more likely to categorize an individual in line with their stated behavior rather than their stated identity. This result is consistent with the possibility that people who have negative feelings toward bisexual individuals may disregard a target’s sexual identity and instead rely on their behavior to understand who they are. While in certain cases, categorization in line with a target’s sexual behavior may reflect that a target has yet to come out of the closet or does not know their true sexual orientation yet, this also may reflect general beliefs that a target is not the sexual orientation that they say they are. Regardless of whether or not an individual is “correct” in their categorization decision, categorization against one’s identity could have negative effects for the target of categorization (McLemore, 2018).

These findings indicate that there are many factors involved in social categorization of a person’s sexuality, particularly when information is ambiguous. Although these findings signal that there are many ways in which people differ in how they categorize target individuals, Study 1 was limited in that it focused on how people categorize with just information about sexual identity and behavior, meaning we do not know if the same categorization decisions would be made if a participant had access to other information about a target. The mismatching statements in Study 1 also only focused on cases in which a target either identified or behaved in a bisexual manner, meaning the results could differ if the target’s mismatching identity and behavior were straight vs. gay.
3. **Study 2**

In Study 2, I aimed to further understand what information perceivers consider when making categorization decisions about a target. In addition to a target’s age, sexual identity, and sexual behavior, one aspect of the target that may be relevant is the target’s age. Because people believe that younger people experiment with their sexuality more (Erikson, 1968), I predicted that people would be more likely to categorize younger targets as bisexual compared to targets who were older in age. Further, because there is evidence that the circumstances surrounding a person’s behavior are influential for impressions of that person (Mann & Ferguson, 2015; Ferguson et al., 2019), I also aimed to understand the role of the recency and duration of a target’s mismatching sexual behavior in categorization decisions. I hypothesized that more recent and longer-term behaviors would be seen as more indicative of who someone truly is, and thus people would be more likely to be categorized in line with that behavior. Because there may be stricter boundaries for categorization as the majority group (i.e., straight), I also hypothesized that there would be larger differences in categorization decisions due to characteristics of the behavior (i.e., behavior recency and duration) when a target identified as straight (and therefore had gay behavior), rather than when a target identified as gay (and had straight behavior). Additionally, since male sexuality is seen as more precarious than female sexuality (Mize & Manago, 2018), I also explored whether there would be differences in the effects of behavior duration and recency depending on whether the targets were male or female.

As in Study 1, participants were given statements about targets that included the target’s gender, sexual identity, and sexual behavior. In addition to the information provided about the targets in Study 1, participants were given information about a target’s age, how recent the mismatching sexual behavior occurred, and the duration of the behavior. One important
difference between the prompts of Study 1 and Study 2 was in what mismatching sexual identities and behaviors were presented. The mismatching statements in Study 1 focused specifically on targets with either a bisexual identity or behavior. However, in Study 2 we aimed to extend this to cases in which targets show a straight versus gay mismatch, meaning they show either a straight identity and mismatching gay behavior, or vice versa. Additionally, Study 1 used the language “identifies as being attracted to [men/women/both men and women], which may have confounded sexual identity and sexual attraction. Participants could have focused on sexual identity (i.e., “identifies as”) sexual attraction (i.e., “being attracted to”), or a mixture of both. If participants focused on the sexual attraction, this may have changed the meaning of the statements from what was intended. In order to more explicitly address sexual identity rather than sexual attraction, Study 2 changed the language regarding sexual identity to “identifies as [gay/straight]”.

3.1 Method

3.1.1 Participants

A power analysis planning for 85% power to detect a small effect size of $R^2 = .02$ for a linear regression revealed that I would need 442 participants. Accounting for participant exclusion (~4% for IAT misbehavior), I planned to collect 460 participants. I ended up collecting 471 participants from Project Implicit (mean age = 32.2 years, SD = 14.1 years; 68.0% Female; 82.8% Straight, 5% Gay/Lesbian, 8.5% Bisexual, 3.7% Other; 98.7% Cisgender; 68.6% White, 8.5% Black, 3.8% Asian, 3.6% Hispanic, 15% Other). 23 participants (4.9%) were excluded from analyses due to completing 10% or more IAT critical trials faster than 300 ms, leaving 448 participants in the final analyses.
3.1.2 Procedure

After consenting and completing a commitment device adapted from Zhou & Fishbach (2016), participants viewed 48 statements with information regarding an individual’s sexual orientation and were asked how they would categorize that individual’s sexual orientation. The order of statements was randomized such that participants saw all statements about men (or women) before reading any statements about women (or men). Participants were then asked to complete a Bisexual-Straight Implicit Association Test (IAT). Following this, participants completed a scale assessing explicit biases toward bisexual people scale and additional demographic questions before being debriefed. All materials are available in Appendix B (below) or at the OSF (https://osf.io/5kfbr/?view_only=71c618adbedf4762bf18ec06b7f53708).

3.1.3 Materials

Categorization. Participants were presented with statements about a target’s gender, age, sexual identity, sexual behavior, how recent their sexual behavior occurred, and how long their sexual behavior endured. These statements took the form: “A [21/30/50] year-old [man/woman] identifies as [straight/gay], but had a [one-time-thing/year-long relationship] with a [man/woman] [in the last year/five years ago].” They were then asked, “If you had to choose, what would you consider this [wo]man’s sexual orientation to be?” Participants then chose either “Straight”, Bisexual”, or “Gay”.

In total, participants were presented with 48 statements with information about individuals in a 2(Target Gender: Male, Female) x 3 (Target Age: 21, 30, 50 years old) x 2 (Target Sexual Identity: Straight, Gay) x 2 (Recency of Sexual Behavior: “In the last year”, “5 years ago”) x 2 (Duration of Sexual Behavior (“One-time thing”, “year-long relationship”)
design. In this study, all statements included mismatching information about a target’s sexual identity and behavior that included either a straight identity and gay behavior, or vice versa.

**Bisexual-Straight Implicit Bias.** The Bisexual-Straight Implicit Association Test ($\alpha = .84$) used in Study 1 was again used in Study 2.

**Explicit Bias Against Bisexual People.** The measure of explicit bias against bisexual people that was used in study 1 was again used in study 2 with the two facets: Instability ($\alpha = .88$) and Intolerability ($\alpha = .90$).

### 3.2 Results

All hypotheses and planned analyses were pre-registered at the OSF (https://osf.io/5kfbr/?view_only=71c618adbedf4762bf18ec06b7f53708). Only the bisexual vs. gay contrasts were pre-registered in this section. However, for completeness I also conducted unplanned analyses that compared straight to non-straight, bisexual to non-bisexual, gay to non-gay, bisexual to straight, and gay to straight categorization decisions.

Overall, when a target’s sexual identity and behavior were mismatched, targets were most likely to be categorized as gay (36.4 %), followed by bisexual (32.8%), then straight (30.8%).

#### 3.2.1 Differences in Categorization Decisions by Characteristics of the Target

I first sought to understand what factors would lead to differences in categorization decisions when information about a target’s sexual identity and sexual behavior did not match. I started by looking at target gender. When sexual identity and behavior conflicted, participants were about equally as likely to categorize targets as gay, bisexual, and straight. Men were most likely to be categorized as gay (37.1%), followed by bisexual (32.9%) then straight (30.0%). Women were most likely to be categorized as gay (35.7%) followed by straight (33.5%) then bisexual (30.8%).
To test whether the target’s gender predicted differences in categorization decisions, I ran a series of binomial logistic regressions with categorization decisions as the dependent variable, target gender as the independent variable, and a random intercept for participant.

Overall, when identity and behavior conflicted, female targets were more likely than male targets to be categorized as straight. Compared to male targets, female targets were predicted to be 21% more likely to be categorized as straight rather than non-straight ($b = 0.19, p < .001, OR = 1.21, 95\% CI[1.14, 1.28]$), as well as 54% more likely to be categorized as straight rather than bisexual ($b = 0.43, p < .001, OR = 1.54, 95\% CI[1.40, 1.70]$), and 16% more likely to be categorized as straight compared to gay ($b = 0.15, p < .001, OR = 1.16, 95\% CI[1.09, 1.24]$). When targets were not categorized as straight, male and female targets showed no predicted significant differences in categorization as bisexual rather than gay ($b = 0.06, p = .30, OR = 1.06, 95\% CI[0.95, 1.18]$).

I next examined the role of target sexual identity in categorization decisions. When sexual identity and behavior conflicted, targets were most likely to be categorized in line with their sexual identity. Targets who identified as straight were most likely to be categorized as straight (61.8%) followed by bisexual (34.1%) then gay (4.1%). Gay-identifying targets were most likely to be categorized as gay (68.7%) followed by bisexual (29.5%) then straight (1.8%).

To test whether a target’s sexual identity predicted differences in categorization decisions, I ran a series of multi-level logistic regressions with categorization decisions as the dependent variable, target sexual identity as the independent variable, and a random intercept for participant.

Overall, targets were likely to be categorized in line with their sexual identity when sexual identity and behavior conflicted. Relative to targets that identified as gay, targets that
identified as straight were expected to be about 606 times as likely to be categorized as straight compared to non-straight \((b = 6.41, p < .001, \text{OR} = 606.63, 95\% \text{CI}[493.05, 746.37])\), 5220 times as likely to be categorized as straight rather than gay \((b = 8.56, p < .001, \text{OR} = 5220.21, 95\% \text{CI}[3828.71, 7117.44])\), 20 times more likely to be categorized as straight vs. bisexual \((b = 3.01, p < .001, \text{OR} = 20.23, 95\% \text{CI}[16.67, 24.56])\). Targets that identified as straight were also predicted to be 99.5% less likely to be categorized as gay compared to non-gay compared to targets than identified as gay \((b = 5.32, p < .001, \text{OR} = 0.005, 95\% \text{CI}[.0043, .0056])\). When targets were perceived as non-straight, targets that identified as straight were expected to be about 17 times more likely than targets that identified as gay to be categorized as bisexual rather than gay \((b = 2.88, p < .001, \text{OR} = 17.79, 95\% \text{CI}[17.77, 17.80])\). Overall, these results suggest that people do rely on a target’s sexual identity when making categorization decisions.

One additional characteristic of the target that was added in Study 2 was the age of the target. Target age did not significantly predict differences in categorization, contrary to our hypothesis that younger targets would be perceived as bisexual more often than older targets \((ps > .30)\). 21-year-old targets were most likely to be categorized as gay (36.6%), followed by straight (32.0%), then bisexual (31.4%). 30-year-old targets were most likely to be categorized as gay (36.5%), followed by bisexual (31.8%), then straight (31.7%). 50-year-old targets were most likely to be categorized as gay (36.2%), followed by bisexual (32.1%), then straight (31.7%).

### 3.2.2 Differences in Categorization Decisions by Characteristics of the Perceiver

In Study 2, I attempted to replicate the results of Study 1 that showed that higher explicit bias, but not implicit bias, predicted higher likelihood of categorizing targets as gay rather than bisexual. To test this, I ran a series of logistic regressions with categorization decisions as the
dependent variable, explicit bias on the Instability and Intolerability facets and implicit bias as the independent variables, and a random intercept for participant.

Unlike in Study 1, participants in Study 2 who were more intolerant of bisexual people were less likely to categorize targets as straight. A 1-unit increase in intolerance toward bisexual people predicted a 16% decrease in likelihood of categorizing a target as straight rather than non-straight \((b = 0.17, p = .002, \text{OR} = 0.84, 95\% \text{CI}[0.76, 0.94])\), as well as a 4% decrease in likelihood of categorizing a target as straight rather than gay \((b = 0.04, p = .04, \text{OR} = 0.96, \text{CI}[0.92, 0.99])\). People who were more intolerant of bisexual people were also expected to be 21% more likely to categorize targets as bisexual rather than non-bisexual \((b = 0.19, p < .001, \text{OR} = 1.21, 95\% \text{CI}[1.20, 1.21])\). Intolerance toward bisexual people did not significantly predict differences in categorization as bisexual compared to gay \((b = 0.21, p = .17, \text{OR} = 1.23, 95\% \text{CI}[0.91, 1.65])\).

Believing that bisexuality was more unstable led to higher likelihood of categorizing targets as bisexual overall. A 1-unit increase in beliefs that bisexuality is unstable predicted a 65% increase in likelihood of categorizing a target as bisexual rather than non-bisexual \((b = .50, p < .001, \text{OR} = 1.65, 95\% \text{CI}[1.651, 1.652])\), as well as a 60% higher likelihood of categorizing as bisexual compared to gay \((b = .47, p = .003, \text{OR} = 1.60, 95\% \text{CI}[1.17, 2.19])\), and a 37% lower likelihood of categorizing as straight rather than bisexual \((b = 0.49, p < .001, \text{OR} = 0.61, 95\% \text{CI}[0.43, 0.87])\).

Higher levels of implicit bias similarly predicted a 17% increased probability of categorizing as bisexual vs. non-bisexual \((b = 0.16, p < .001, \text{OR} = 1.17, 95\% \text{CI}[1.17, 1.18])\). However, since no follow-up contrasts were significant, this result should be interpreted with caution.
3.2.3 Differences in Categorization Decisions by Circumstances of the Behavior

In addition to characteristics of the target and participant, I sought to understand how different circumstances surrounding a target’s mismatching sexual behavior (i.e., recency and duration of sexual behavior) would relate to differences in categorization decisions. Overall, when identity and behavior conflicted, targets who engaged in longer mismatching behavior were most likely to be categorized as bisexual (41.1%) followed by gay (32.4%) then straight (26.5%). Targets who engaged in one-time mismatching behavior were most likely to be categorized as gay (40.5%) followed by straight (37.1%) then bisexual (22.4%).

To test whether the recency or duration of a target’s mismatching behavior predicted differences in categorization decisions, I ran a series of logistic regressions with categorization decisions as the dependent variable and behavior duration and recency as the independent variables, with a random intercept for participant.

Overall, targets who had longer-term mismatching behavior were predicted to be more likely than targets with shorter-term mismatching behavior to be categorized as bisexual. Targets with longer-term mismatching behavior were expected to be 6.36 times as likely to be categorized as bisexual rather than non-bisexual ($b = 1.85, p < .001, OR = 6.36, 95\% CI[5.81, 6.96]$), 5.22 times as likely to be categorized as bisexual rather than gay ($b = 1.65, p < .001, OR = 5.22, 95\% CI[4.72, 5.78]$), and 90% less likely to be categorized as straight rather than bisexual ($b = 2.31, p < .001, OR = 0.10, 95\% CI[0.09, 0.11]$). When targets were not categorized as bisexual, targets with longer-term mismatching behavior were predicted to be 11% less likely than targets with shorter-term mismatching behavior to be categorized as straight rather than gay ($b = 0.12, p < .001, OR = 0.89, CI[0.83, 0.95]$).
Overall, when identity and behavior conflicted, targets who engaged in more recent mismatching behavior were most likely to be categorized as bisexual (36.3%) followed by gay (34.2%) then straight (30.5%). Targets who engaged in less recent mismatching behavior were most likely to be categorized as gay (38.7%) followed by straight (34.0%) then bisexual (27.3%).

Overall, targets who had more recent mismatching behavior were more likely than targets with less recent mismatching behavior to be categorized as bisexual. Targets who engaged in more recent mismatching behavior were expected to be 2.28 times more likely to be categorized as bisexual rather than non-bisexual ($b = 0.82, p < .001$, OR = 2.28, 95% CI[2.10, 2.47]), as well as 2.25 times more likely to be categorized as bisexual compared to gay ($b = 0.81, p < .001$, OR = 2.25, 95% CI[2.05, 2.46]), and 60% less likely to be categorized as straight compared to bisexual ($b = 0.91, p < .001$, OR = 0.40, 95% CI[0.36, 0.45]). When targets were not categorized as bisexual, there were no predicted significant differences in likelihood of being categorized as straight compared to gay depending on the recency of the behavior ($b = 0.02, p = .47$, OR = 0.98, 95% CI[0.92, 1.04]).

3.2.4 Interactions between Characteristics of the Target and Circumstances of Behavior

The final aim of Study 2 was to understand if the effects of behavior duration and recency would depend on the gender or sexual identity of the target. To test whether the effects of behavior duration or behavior recency depended on the target’s gender, I ran a series of binomial logistic regressions with categorization decisions as the dependent variable, with half of the models containing the interaction between behavior duration and target gender, and the other half containing the interaction between behavior recency and target gender, with a random intercept for participant. There were no significant interactions with target gender ($ps > .28$).
To test whether the effects of behavior duration or behavior recency depended on the target’s sexual identity, I ran a series of binomial logistic regressions with categorization decisions as the dependent variable, with half of the models containing the interaction between behavior duration and target sexual identity, and the other half containing the interaction between behavior recency and target sexual identity. All models also included a random intercept for participant.

Overall, these analyses found that how recent the mismatching behavior was predicted larger differences in categorization decisions when the target identified as straight rather than gay (see Figure 3). For behavior recency, a significant interaction emerged when contrasting categorization as straight compared to non-straight ($b = 0.84, p < .001, \text{OR} = 0.43, 95\% \text{ CI}[0.31, 0.59]$). For straight-identifying targets, engaging in gay behavior recently rather than five years ago predicted a 53% lower probability of being categorized as straight rather than non-straight. For gay-identifying targets, the recency of straight behavior was not expected to be associated with differences in categorization as straight compared to non-straight ($b = 0.09, p = 0.53, \text{OR} = 1.10, 95\% \text{ CI}[0.81, 1.48]$). Additionally, straight-identifying targets who engaged in more recent gay behavior had lower predicted odds of categorization as bisexual rather than non-bisexual compared to gay-identifying targets ($b = 0.17, p = .04, \text{OR} = 0.84, 95\% \text{ CI}[0.72, 0.99]$), and higher predicted odds of being categorized as gay compared to non-gay ($b = 1.02, p < .001, \text{OR} = 2.77, 95\% \text{ CI}[2.20, 3.47]$) compared to gay-identifying targets. Follow-up contrasts revealed that straight-identifying targets with more recent gay behavior had higher predicted odds of categorization as gay compared to straight ($b = 0.74, p < .001, \text{OR} = 2.11, 95\% \text{ CI}[1.42, 3.13]$), as well as lower predicted odds of categorization as bisexual compared to gay ($b = 0.63, p < .001, \text{OR} = 0.53, 95\% \text{ CI}[0.52, 0.54]$) than did gay-identifying targets. There were no significant
differences between straight-identifying targets with longer-term behavior and gay-identifying targets with longer-term behavior when comparing categorization as straight compared to bisexual ($b = 0.28, p = .14, OR = 0.75, 95\% CI[0.52, 1.09])

**Figure 3.1:** Probabilities of categorizing targets as Straight, Bisexual, or Gay, based on Target Sexual Identity and Recency of Target Sexual Behavior.

Overall, how long the mismatching behavior lasted predicted larger differences in categorization when the target identified as straight rather than gay (see Figure 4). For behavior duration, a significant interaction emerged when comparing categorization as straight compared to non-straight ($b = 1.66, p < .001, OR = 0.19, 95\% CI[0.13, 0.24])

For straight-identifying targets, engaging in a longer-term gay behavior rather than a shorter-term gay behavior predicted 85% less likelihood of being categorized as straight compared to non-straight. For gay-identifying targets, the duration of straight behavior was not expected to be associated with differences in categorization as straight compared to non-straight ($b = .15, p = .31, OR = 0.86,$
95% CI[0.63, 1.16]). Straight-identified targets who engaged in longer-term gay behavior also had higher predicted likelihood of categorization as gay rather than non-gay compared to gay-identifying targets ($b = 1.82, p < .001, OR = 6.17, 95% CI[4.88, 7.80]) and higher predicted likelihood of categorization as bisexual rather than non-bisexual compared to gay-identifying targets ($b = 0.11, p < .001, OR = 1.11, 95% CI[1.10, 1.12])

Follow-up contrasts revealed that straight-identifying targets with longer-term mismatching behavior were expected to be more likely to be categorized as gay compared to straight ($b = 1.06, p < .001, OR = 2.90, 95% CI[1.94, 4.34]) less likely to be categorized as straight compared to bisexual ($b = 1.05, p < .001, OR = 0.35, 95% CI[0.349, 0.350]), and less likely to be categorized as bisexual compared to gay ($b = 1.05, p < .001, OR = 0.35, 95% CI[0.34, 0.36]) than were gay-identifying targets with long-term behavior.

**Figure 3.2:** Probabilities of categorizing targets as Straight, Bisexual, or Gay based on Target Sexual Identity and Target Sexual Behavior Duration.
3.3 Discussion

Study 2 found that there are a variety of factors that influence the way a perceiver categorizes a target individual, including characteristics of the target (i.e., target gender, target sexual identity), characteristics of the perceiver (i.e., explicit bias), as well as characteristics of the mismatching behavior (i.e., behavior duration, behavior recency). While both Studies 1 & 2 found that female targets were more likely to be categorized as straight, there were some differences in which contrasts were significant. Study 1 found no significant differences in the categorization of male and female targets as straight compared to bisexual, while Study 2 found that female targets were more likely to be categorized as straight rather than bisexual. Relatedly, Study 1 found that female targets were more likely to be categorized as bisexual rather than gay, where Study 2 found no significant differences on this contrast. These differences could be due to the inclusion and consideration of more information regarding a target’s sexual identity and behavior (e.g., duration of behavior), or could be due to differences in the study design. While Study 1 included bisexual identities and behaviors, and Study 2 focused solely on gay and straight identities and behaviors. Since bisexuality is sometimes seen as “in-between” straightness and gayness (Gooß, 2008), the discrepancy between a straight (or gay) identity with gay (or straight) behavior may have been seen as more extreme than the discrepancy between a straight (or gay) identity with bisexual behavior. This may have caused participants to respond slightly differently than in Study 1. However, both studies consistently show female targets are more likely than male targets to be categorized as straight. This is in line with previous research, suggesting that straightness is more precarious for men rather than women, meaning men with any hint of non-straightness are less likely to be categorized as straight compared to similar women (Mize & Manago, 2018). Additionally, Study 2 found that people are likely to categorize
an individual in line with their sexual identity, indicating that people are more likely to consider how an individual identifies than how they act when making categorization decisions.

In addition, Study 2 found that bias against bisexual people predicted differences in categorization decisions. However, in conflict with the results of Study 1, Study 2 showed that believing that bisexuality is unstable predicted higher likelihood of categorizing targets as bisexual. This difference could also be due to differences in study design, wherein Study 2 focused only on straight and gay contrasting identities and behaviors.

New to Study 2, I found that people categorized targets differently depending on the recency and duration of the mismatching behavior. These results suggest that people may be weighing more recent or more prolonged behaviors more heavily when making categorization decisions compared to less recent or shorter behaviors. This suggests that rather than a single occurrence being diagnostic of what sexual orientation an individual is, people may see these more recent or more prolonged behaviors as more of a part of who someone truly is.

Further, Study 2 found an interaction between target sexual identity and the circumstances of a behavior, such that how recent a behavior was or how long the behavior endured predicted larger differences in categorization when the target identified as straight. These results suggest that people may be perceiving a straight identity as more exclusive, and so they are weighing these mismatching gay behaviors more heavily than when a person already identifies as a sexual minority (i.e., gay). However, these results could also reflect beliefs about people being “in the closet,” who might identify as straight at present but will later come out as gay. In other words, because non-straight people typically start out by identifying as straight and then later transition to identifying as another sexual identity (Coleman, 1982; Diamond, 1998), people may believe that it is more likely that a straight-identifying person will later come out as
gay, rather than a gay-identifying person later coming out as straight, which may lead to people categorizing targets differently depending on their current sexual identity.

4. **Study 3**

In Study 3, I first examined whether I could replicate the results of Studies 1 and 2. I expected to find that people would be more likely to categorize targets in line with their sexual identity, and that people would be more likely to categorize female targets as straight. Further, in Study 3 I aimed to understand what factors may be driving differences in categorization by target gender. Research has shown that people are generally more explicitly biased toward bisexual men rather than bisexual women (Dodge et al., 2016). For the same reason that explicit bias against bisexual people in general might predict differences in categorization, I aimed to explore whether differences in bias toward bisexual men compared to women may drive differences in categorization by target gender. Additionally, there is also evidence that female sexuality may be more fluid or malleable than male sexuality (Diamond, 2016). As such, people may expect that straight-identifying women are more likely to engage in non-straight sexual behavior than straight-identifying men. Thus, another possibility that I explored was that perceptions of differences in sexual fluidity for men compared to women would predict differences in categorization by target gender,

Additionally, Studies 1 & 2 focused on only two components of a person’s sexual orientation: sexual identity and sexual behavior. Importantly, Study 1 used language regarding attraction in descriptions of targets’ sexual identity (i.e., targets “identified as being attracted to...”). However, the focus was still on how the target openly identified, rather than who they were actually sexually attracted to. Therefore, Study 3 explored whether the gender that a person
is sexually attracted to, without mention of acting on that attraction, would predict differences in categorization, particularly when information was mismatched.

Finally, in Study 3 I aimed to further understand the role of implicit and explicit bias against bisexual people in categorization decisions. On this front, I first aimed to resolve the inconsistencies between Study 1, which showed that higher explicit bias against bisexual people predicted higher likelihood of categorizing ambiguous targets as gay rather than bisexual, and Study 2, which showed that higher explicit bias against bisexual people predicted higher likelihood of categorizing ambiguous targets as bisexual rather than gay. Additionally, I hypothesized that I would replicate the results of Study 1 that showed that perceivers who were more explicitly or implicitly biased against bisexual people would categorize a target in line with their behavior rather than their identity.

4.1 Method

4.1.1 Participants

A power analysis planning for 85% power to detect a small effect size of $R^2 = .02$ for a linear regression revealed that I would need 442 participants. Accounting for participant exclusion (~4% for IAT misbehavior), I planned to collect 460 participants. I ended up collecting 477 participants from Project Implicit (mean age = 38.68 years, SD = 13.43 years; 71.9% Female; 79.8% Straight, 4.5% Gay/Lesbian, 11.0% Bisexual, 4.7% Other; 99.1% Cisgender; 76.3% White, 6.8% Black, 2.1% Asian, 2.5% Hispanic, 12.3% Other). 7 participants (1.5%) were excluded from analyses due to completing 10% or more IAT critical trials faster than 300 ms, leaving 470 participants in the final analyses.
4.1.2 Procedure

After consenting and completing a commitment device adapted from Zhou & Fishbach (2016), participants viewed 36 statements with information regarding an individual’s sexual orientation and were asked how they would categorize that individual’s sexual orientation. The order of statements was randomized such that participants saw all statements about men (or women) before reading any statements about women (or men). Participants were then asked to complete a Bisexual-Straight IAT. Following this, participants completed two explicit bias measures: one regarding bias against bisexual men, and the other regarding bias against bisexual women. The order of male vs. female explicit bias scales was randomized such that participants would answer all questions about one gender (e.g., men) before all questions about the other (e.g., women). Finally, participants were asked to rate their beliefs about how fluid male vs. female sexual orientations are and completed additional demographic questions before being debriefed. All materials are available in Appendix C (below) or at the OSF (https://osf.io/5kfbr/?view_only=f662085a878d435dabaa1e788fe46929).

4.1.3 Materials

Categorization. Participants were presented with statements about a target’s gender, sexual identity, and another component of a target’s sexual orientation (i.e., sexual behavior or sexual attraction). These statements took the form: “A [man/woman] identifies as [straight/bisexual/gay]. [He/she] had [romantic relationships with/romantic attractions to] [only women/only men/both men and women] in the last year.” They were then asked, “If you had to choose, what would you consider this [wo]man’s sexual orientation to be?” Participants then chose either “Straight”, “Bisexual”, or “Gay”.
In total, participants were presented with 36 statements with information about individuals in a 2(Target Gender: Male, Female) x 3 (Target Sexual Identity: Straight, Bisexual, Gay) x 6 (Sexual Component: Straight Behavior, Bisexual Behavior, Gay Behavior, Straight Attraction, Bisexual Attraction, Gay Attraction) design. Twelve of these statements included matching identity and behavior information (e.g., a woman identifies as straight and has only had recent romantic relationships with men). The remaining 24 statements included mismatched identity and behavior information (e.g., a woman identifies as straight and has only had recent romantic relationships with women).

**Bisexual-Straight Implicit Bias.** The Bisexual-Straight Implicit Association Test (α = .89) used in Studies 1 & 2 was again used in Study 3. Since the IAT relies on fast response times in order to evaluate responses, Study 3 changed some of the Bisexual and Straight words, due to slower response times for certain words (> 1500 milliseconds). The Bisexual words were: “Bisexual”, “Bi”, “Bisexuality”, and “Bisexual people.” The Straight words were: “Straight”, “Heterosexual”, “Heterosexuality”, and “Straight people.”

**Explicit Bias Against Bisexual People.** In Study 3, the measure of explicit bias against bisexual people that was used in Studies 1 & 2 was adapted by replacing “bisexual people” with “bisexual [wo]men”, in order to assess explicit bias toward bisexual men and women separately. For both men and women, the same two facets as in Studies 1 & 2 were used: Instability (ex. “Most [wo]men who identify as bisexual are temporarily experimenting with their sexuality”; Male scale: α = .88; Female scale: α = .88) and Intolerability (ex. “As far as I’m concerned, [fe]male bisexuality is unnatural”; Male scale: α = .90; Female scale: α = .90).

**Beliefs in Sexual Fluidity by Gender.** The measure of beliefs of sexual fluidity for men vs. women were a series of questions regarding how sexually fluid men’s vs. women’s sexual
orientations were \((\alpha = .85)\). The response options were presented as a Likert scale ranging 1 to 7, with (1) being “men much more likely” and (7) being “women much more likely.’ There were 8 items, which included: “To be sexually attracted to both men and women”, “to date both men and women”, “to experiment with their sexuality”, “to change what gender they’re sexually attracted to”, “to be sexually attracted to the same gender for their entire lives \((R)\)”, “to have sex with both men and women”, “to only have sex with one gender \((R)\)”, and “to flirt with both men and women.”

4.2 Results

All hypotheses and planned analyses were pre-registered at the OSF (https://osf.io/5kfbr/?view_only=f662085a878d435dabaa1e788fe46929). For examining the differences in categorization decisions when information matches compared to mismatches, the pre-registered contrasts included bisexual compared to straight, bisexual compared to gay, and straight compared to gay. For the remaining analyses, I pre-registered the contrasts that compared straight to non-straight, bisexual to non-bisexual, gay to non-gay, bisexual to straight, and gay to straight categorization decisions.

4.2.1 Matched vs. Mismatched Information

As in Study 1, I first sought to understand if people categorized differently when information was matched versus mismatched. To test this, I ran a series of binomial logistic regressions with categorization decisions as the dependent variable and whether the information was matching vs. mismatching as the independent variable, with a random intercept for participant. I found that when information about a target’s sexual identity and sexual behavior matched, people were likely to categorize targets based on how they identified and behaved. Targets were categorized as straight 32.5% of the time, bisexual 35.1% of the time, and gay
32.4% of the time. No contrasts yielded significant results ($ps > .06$). When a target identified as bisexual and had matching bisexual behavior, 94.3% of targets were categorized as bisexual. When a target identified as straight and had straight behavior, 99.3% of targets were categorized as straight. When a target identified as gay and had gay behavior, 99.5% of targets were categorized as gay. This indicates that when a target’s sexual identity and behavior matched, people largely categorize the individual as how they identified and behaved.

When information about a person’s sexual orientation was mismatched, targets were most likely to be categorized as Bisexual (68.5%), followed by Gay (17.8%), then Straight (13.7%). Targets were predicted to be more likely to be categorized as bisexual compared to straight ($b = 2.51$, $p < .001$, OR = 12.33, 95% CI[9.77, 16.27]) as well as bisexual compared to gay ($b = 1.32$, $p < .001$, OR = 3.76, 95% CI[3.45, 4.10]). Targets were also predicted to be more likely to be categorized as gay compared to straight ($b = 0.16$, $p < .001$, OR = 1.17, 95% CI[1.05, 1.32]). These results are similar to Study 1, in that targets who had mismatching sexual identity and behavior/attraction were more likely to be categorized as bisexual than gay or straight.

### 4.2.2 Differences in Categorization Decisions by Characteristics of the Target

As in Studies 1 & 2, I explored what factors influence differences in categorization decisions when information about a target’s sexual orientation is mismatching. Consistent with Studies 1 & 2, I examined the role of target gender in categorization decisions. When a target’s sexual identity and behavior were mismatched, women were most likely to be categorized as Bisexual (69.0%), followed by Gay (16.5%), then Straight (14.5%). Similarly, men were most likely to be categorized as Bisexual (68.0%), followed by Gay (19.2%), then Straight (12.8%).

To test whether the target's gender predicted differences in categorization decisions when information was mismatched, I ran a series of binomial logistic regressions with categorization
decisions as the dependent variable, target gender as the independent variable, and a random intercept for participant.

Overall, female targets were more likely than male targets to be categorized as straight. When information was matching, female targets were expected to be 8% more likely to be categorized as straight rather than non-straight \((b = 0.08, p = .04, \text{OR} = 1.08, \text{95\% CI}[1.01, 1.17])\), as well as 31% more likely to be categorized as straight rather than gay \((b = 0.27, p < .001, \text{OR} = 1.31, \text{95\% CI}[1.15, 1.50])\), and 16% more likely to be categorized as straight compared to bisexual \((b = 0.15, p = .03, \text{OR} = 1.16, \text{95\% CI}[1.02, 1.32])\). When targets were not categorized as straight, female targets were expected to be 22% more likely than male targets to be categorized as bisexual rather than gay \((b = 0.20, p < .001, \text{OR} = 1.22, \text{95\% CI}[1.09, 1.36])\).

As in Study 2, I also examined if there would be any differences in categorization decisions depending on the sexual identity of the target when information about a target’s sexual orientation was ambiguous. When sexual identity and behavior conflicted, participants were generally likely to categorize targets as bisexual. Targets who identified as gay were most likely to be categorized as bisexual (56.7%), followed by gay (39.6%), and straight (3.7%). Targets who identified as straight were most likely to be categorized as bisexual (56.3%), followed by straight (34.0%), and gay (9.7%). Finally, targets who identified as bisexual were most likely to be categorized as bisexual (92.4%), followed by gay (4.2%), then straight (3.4%).

To test whether target sexual identity predicted differences in categorization decisions, I ran a series of binomial logistic regressions with categorization decisions as the dependent variable and target sexual identity as the independent variable, with a random intercept for participant. For consistency with Study 2, target sexual identity was dummy coded with gay-identified target as the reference group.
Overall, when information about a target’s sexual identity and behavior was mismatched, targets were likely to be categorized in line with their sexual identity. Targets that identified as straight were predicted to be over 75 times more likely than gay-identified targets to be categorized as straight compared to non-straight ($b = 4.32$, $p < .001$, OR $= 75.40$, 95% CI[75.22, 75.58]), as well as about 54 times as likely to be categorized as straight rather than gay ($b = 4.00$, $p < .001$, OR $= 54.39$, 95% CI[41.98, 70.45]), and almost 7 times more likely to be categorized as straight vs. bisexual ($b = 1.91$, $p < .001$, OR $= 6.79$, 95% CI[5.24, 8.78]). In contrast, straight-identifying targets were predicted to be 89% less likely than gay-identifying targets to be categorized as gay compared to non-gay ($b = 2.23$, $p < .001$, OR $= 0.11$, 95% CI[0.03, 0.05]). Bisexual-identifying targets were predicted to be about 29 times more likely than gay-identifying targets to be categorized as bisexual rather than non-bisexual ($b = 3.37$, $p < .001$, OR $= 29.2$, 95% CI[29.15, 29.22]), as well as 41 times more likely to be categorized as bisexual rather than gay ($b = 3.71$, $p < .001$, OR $= 41.00$, 95% CI[33.07, 50.83]), and 90% less likely to be categorized as straight rather than bisexual ($b = 2.23$, $p < .001$, OR $= 0.10$, 95% CI[0.08, 0.15]).

4.2.3 Differences in Categorization Decisions by Characteristics of the Perceiver

As in Studies 1 & 2, I examined the role of participants’ implicit and explicit bias in categorization decisions when information about a target’s sexual orientation is mismatched. To test the role of implicit and explicit bias in categorization decisions, I ran a series of binomial logistic regressions with categorization decisions as the dependent variable. For the purposes of this analysis, the explicit bias against bisexual women and explicit bias against bisexual men scales were combined to more closely resemble Studies 1 & 2 (i.e., Intolerability and Instability facets). There were 7 models run for each contrast. One model included only implicit bias, one
only explicit bias on the Intolerability facet, one only explicit bias on the Instability facet, and
one included only explicit bias overall. One model included both facets of explicit bias as well as
implicit bias, and one model included explicit bias (overall) and implicit bias. All models also
included a random intercept for participant.

Overall, neither implicit nor explicit bias were consistent predictors of categorization
decisions when information about a target’s sexual orientation was mismatched. However, 2 out
of the 7 models showed that higher explicit bias predicted lower odds of categorizing targets as
bisexual rather than gay. These models used explicit bias (overall) as the independent variable
(entered independently or simultaneously with implicit bias). Controlling for implicit bias, a 1-
point increase in explicit bias (overall) predicted 16% less likelihood of categorizing targets as
bisexual rather than gay ($b = 0.16$, $p = .02$, OR $= 0.84$, 95% CI [0.73, 0.97]).

**4.2.4 Differences in Categorization Decisions by Sexual Component**

New to study 3, I examined the role of the component of sexual orientation (i.e., behavior
or attraction) and what sexual orientation the behavior/attraction was consistent with (i.e., gay,
bisexual, or straight). Overall, targets were likely to be categorized as bisexual.

To test this, I ran a series of binominal logistic regressions with categorization decisions as
the dependent variable and a random intercept for participant. The pre-registration stated that I
would run sexual orientation component as a 6-level independent variable (i.e., Straight
Behavior, Bisexual Behavior, Gay Behavior, Straight Attraction, Bisexual Attraction, Gay
Attraction, Gay Behavior, Gay Attraction, Bisexual Behavior, Bisexual Attraction, Straight
Behavior, Straight Attraction). However, after further examination I ran the analysis as a 2-level
sexual orientation component (behavior, attraction), dummy coded with “behavior” as the
reference group, by 3-level target of behavior/attraction (straight, bisexual, gay), dummy coded
with “gay” as the reference group, interaction. The models also included a random intercept for participant. This change in analysis was done in order to separate the effect of a target showing a behavior or attraction from the sexual orientation to which that behavior/attraction corresponds.

Overall, the results showed no significant differences depending on whether a behavior or attraction was shown ($p_s > .05$), with two exceptions. The exceptions to this pattern were that targets who had bisexual attraction were less likely than targets who displayed bisexual behavior to be categorized as bisexual rather than non-bisexual ($b = 0.28$, $p = .02$, OR = 0.75, 95% CI[0.60, 0.95]), and less likely to be categorized as bisexual rather than gay ($b = 0.35$, $p = .01$, OR = 0.71, 95% CI[0.53, 0.93]). This suggests that people may see bisexual attraction as less indicative of a person actually being bisexual compared to a bisexual behavior. However, the same was not true for gay or straight behaviors and attractions.

Regardless of whether a behavior or attraction was shown, participants were less likely to identify people with the sexual orientation corresponding to their behavior/attraction (see Figure 5). Targets that showed a straight behavior/attraction were less likely than targets who showed a gay behavior/attraction to be categorized as straight rather than non-straight ($b = 1.12$, $p < .001$, OR = 0.34, 95% CI[0.26, 0.41]), as well as less likely to be categorized as straight rather than gay ($b = 1.17$, $p < .001$, OR = 0.31, 95% CI[0.24, 0.40]), and less likely to be categorized as straight rather than bisexual ($b = 0.85$, $p < .001$, OR = 0.43, 95% CI[0.33, 0.55]). Targets who showed a bisexual behavior/attraction were less likely than targets who showed a gay behavior/attraction to be categorized as bisexual rather than non-bisexual ($b = 0.48$, $p < .001$, OR = 0.62, 95% CI[0.52, 0.73]), as well as less likely to be categorized as bisexual rather than gay ($b = 0.59$, $p < .001$, OR = 0.55, 95% CI[0.45, 0.67]). These results show that people respond
similarly to behaviors and attractions, but differentiate based on the sexual orientation that corresponds to the behavior or attraction.

**Figure 4.1:** Probabilities of categorizing targets as straight, bisexual, or gay, based on the sexual behavior or attraction of the target.

4.2.5 Explaining Target Gender Differences in Categorization Decisions

Because Studies 1, 2, and 3 found differences in how people categorize target individuals depending on the gender of the target, I aimed to understand what factors might drive these differences. To this end, I examined whether perceptions of differences in how fluid male vs. female sexualities are as well as differences in explicit bias toward bisexual men vs. women would drive differences in categorization decisions by target gender.

To test this, I first ran a *t*-test to examine whether participants perceived differences in the fluidity of male and female sexuality. Participants rated female sexuality as being significantly more fluid than male sexuality (*t*(10725) = 66.11, *p* < .001, *d* = 0.64). I also ran *t*-tests to
examine whether participants reported different levels of explicit bias toward bisexual men vs. women, on the Intolerability facet, Instability facet \((t(21811) = 0.34, p = .73, d = .004)\), as well as explicit bias overall \((t(21641) = 1.81, p = .07, d = .02)\). The \(t\)-tests found that only the Intolerability facet showed significant differences, such that participants reported significantly less tolerance for bisexual men compared to bisexual women \((t(21638) = 3.09, p = .002, d = .04)\).

To test whether differences in explicit bias toward bisexual men compared to women predicted differences in categorization by target gender, I next ran a series of binomial logistic regressions with categorization decisions as the dependent variable, and the interaction between explicit bias and target gender as the independent variable, with a random intercept for participant. No models yielded significant results, suggesting that differing explicit bias toward bisexual men compared to women does not relate to differences in how participants categorize male and female targets \((p > .18)\).

Following this, I ran a series of binomial logistic regressions with categorization decisions as the dependent variable, and the interaction between perceptions of sexual fluidity and target gender as the independent variable, with a random intercept for participant.

Overall, believing that female sexuality is more fluid than male sexuality predicted less likelihood of categorizing female targets as gay. A 1-unit increase in believing that female sexuality is more fluid than male sexuality predicted a 19% decrease in likelihood of being categorized as gay rather than non-gay for female targets \((b = 0.20, p = .02, OR = 0.81, 95\% \text{ CI}[0.69, 0.97])\), as well as a 23% increase in likelihood of being categorized as bisexual rather than gay \((b = 0.20, p = .02, OR = 1.23, 95\% \text{ CI}[1.02, 1.47])\). No other contrasts yielded significant interactions \((p > .15)\). These results show that perceptions of differences in sexual
fluidity for men and women are related to differences in categorization by target gender for some contrasts.

4.2.6 Categorization in Line with Sexual Behavior/Attraction vs. Sexual Identity

The final aim of Study 3 was to see if I could replicate the results of Study 1 that showed that higher implicit and explicit bias against bisexual people predicted higher likelihood of categorizing a target in line with their sexual behavior rather than their sexual identity.

To test this, I ran a series of binomial logistic regressions with categorization decisions as the dependent variable and implicit and explicit bias as the independent variables, with a random intercept for participant. All models also included an interaction with component of sexual orientation (i.e., behavior, attraction) in order to see if the results differed when a behavior or attraction was shown. For the purposes of this analysis, the explicit bias against bisexual men and women scales were combined, as well as the Intolerability and Instability scales, to become a single explicit bias against bisexual people overall scale.

Overall, the results showed that consistent with Study 1, higher implicit and explicit bias predicted higher likelihood of categorizing targets in line with their sexual behavior rather than their identity. A 1-unit increase in explicit bias (overall) predicted 61% higher likelihood of categorizing a target in line with their sexual behavior rather than their identity \( (b = 0.47, p < .001, \text{OR} = 1.61, 95\% \text{ CI}[1.36, 1.90]; \text{see Figure 6}) \). Similarly, a 1-unit increase in implicit bias predicted 92% higher likelihood of categorizing a target in line with their behavior rather than their identity \( (b = 0.65, p < .001, \text{OR} = 1.92, 95\% \text{ CI}[1.34, 2.74]; \text{see Figure 7}) \). These results did not differ depending on whether a behavior or attraction was shown \( (ps > .39) \).
Figure 4.2: Explicit bias (overall) predicting categorization in line with target sexual behavior vs. target sexual identity. More positive explicit biases indicate stronger explicit bias against bisexual people.
Figure 4.3: Implicit bias against bisexual people predicting categorization in line with target sexual behavior vs. target sexual identity. More positive implicit biases indicate stronger implicit preferences for straight people over bisexual people.

4.3 Discussion

Study 3 replicated the results of Study 1, showing that when information about a target’s sexual orientation matches, people largely categorize the person as how they identify and behave. Study 3 also replicates the results of Study 1 and Study 2 showing that targets are more likely to be categorized as bisexual rather than gay or straight when information about a target’s sexual orientation is mismatched.

When information about a target’s sexual orientation is mismatching, Study 3 also replicated the results of Studies 1 & 2 showing that female targets were more likely than male targets to be categorized as straight. New to Study 3, I sought to understand why people might be categorizing targets differently depending on the target’s gender. To this end, I found that
perceptions of female sexuality being more fluid than male sexuality predicted differences in how male and female targets were categorized. However, being more or less explicitly biased toward bisexual men compared to bisexual women did not predict differences in how male compared to female targets were categorized. This suggests that perceptions of differences in how fluid female compared to male sexuality could be contributing to why female targets are being categorized as straight more often than male targets. If people believe that female sexuality is more fluid than male sexuality, they may give more leeway to straight-identified females who have a nonstraight behavior or attraction.

A new addition to Study 3 was in understanding whether differences in categorization occur depending on whether a target’s sexual behavior or attraction was presented, as well as the sexual orientation of that behavior/attraction (i.e., straight, bisexual, gay). To this end, I found that people largely did not categorize targets differently depending on whether a behavior or attraction was shown, but that people did categorize targets differently depending on what sexual orientation the behavior/attraction was associated with. This indicates that sexual attraction did not differ from sexual behavior in the categorization of sexual orientation. Rather, the target of that behavior or attraction is more important.

Finally, Study 3 aimed to further understand the role of implicit and explicit bias in categorization decisions and address the discrepancies between Study 1 and Study 2. Whereas Study 1 showed higher explicit bias predicted categorization as gay rather than bisexual, Study 2 showed the opposite. To this end, I first found that higher explicit bias overall, but not implicit bias, predicted categorizing targets as gay more often than as bisexual. This result more closely matches Study 1 than Study 2. This result may suggest that people who are more explicitly biased against bisexual people are more likely to categorize targets into the lower-status group
(i.e., gay). In addition to this, I aimed to see if I could replicate the results of Study 1 showing that higher implicit and explicit bias predicted higher likelihood of categorizing targets with ambiguous sexual orientations in line with their behavior or attraction rather than their identity. Like Study 1, these results suggest that people who are more biased against bisexual people are more likely to weigh a target’s sexual behavior more heavily than the target’s sexual identity. As stated before, there are times in which a person’s sexual behavior may actually be more indicative of their sexual orientation, such as when a person is yet to come out of the closet. However, particularly if a target is made aware that they are being categorized against their identity, this categorization against a target’s identity may be harmful for them.

5. General Discussion

My goal in the present studies was to understand how people categorize individuals when information about their sexual orientation is more or less ambiguous. Further, I aimed to understand where and how people differ in the ways in which they categorize these individuals, including characteristics of the target (i.e., target gender, sexual identity, age), characteristics of a target’s sexual behavior (i.e., behavior duration and recency), and characteristics of the perceiver (i.e., implicit and explicit bias against bisexual people).

When information about a target’s sexual orientation is less ambiguous (i.e., identity and behavior match), I find that people are likely to categorize targets according to how they act and identify. However, when information about a target’s sexual orientation is more ambiguous, I found that people consider a variety of information when categorizing a target’s sexual orientation. I consistently found that female targets are more likely to be seen as straight than male targets, possibly reflecting beliefs that female sexuality is more fluid than male sexuality.
(Diamond, 2016). Additionally, I found that people are likely to categorize individuals in line with their sexual identity than with their sexual attraction or behavior, but that this happens more often when a target identifies as gay rather than straight. This finding may be because the target is already willingly taking on a minority identity, which may be a less closely-guarded identity than a majority identity (i.e., straight; Anderson, 2008). This would mean there would be a lower perceived threshold for claiming a minority identity rather than a majority identity. However, this may also reflect perceptions of how people understand changes in sexual identity over the lifespan. Because straight is often considered the ‘norm’ (Farvid, 2015), most people are generally inclined to identify as straight early in life and only begin to identify as non-straight later in life (Coleman, 1982; Diamond, 1998). For instance, people may believe that a target who identifies as straight but has demonstrated recent gay behavior is just not ready to come out of the closet. It may be harder for people to imagine a person displaying straight behavior, but choosing to identify as gay. Counter to hypotheses, there was no evidence for differences in categorization depending on the age of the target. That people did not categorize targets differently by age might suggest that people do not view age as a reliable indicator of how likely someone is to be straight, bisexual, or gay when information about their sexuality is present. Additionally, since younger people (age 18-36) are proportionately more likely to identify as lesbian, gay, bisexual, or transgender (LGBT) than do older people (age 52+; Brown, 2020), this may mean that people are not incorporating the prevalence of sexual identification by age when making categorization decisions.

The present studies also found that across studies, implicit and explicit bias against bisexual people were not reliable indicators of the categorization of targets’ sexual orientations. Study 1 found that higher explicit bias, but not implicit bias, predicted higher likelihood of
categorizing targets as gay rather than bisexual. Study 2 found that only higher explicit bias on
the instability component predicted lower likelihood of categorizing targets as gay rather than
bisexual. Finally, Study 3 showed that most models were non-significant, but that when
controlling for implicit bias, higher explicit bias (overall) predicted categorizing targets as gay
rather than bisexual, more in line with Study 1. These findings contrast with research on biracial
individuals that shows that higher implicit and explicit bias toward Black people predict
categorizing biracial targets as Black rather than White (Hugenberg & Bodenhausen, 2004; Ho,
Roberts, & Gelman, 2015). It is possible that findings on Black-White biraciality do not
generalize to sexual orientation. The “one-drop rule,” where individuals with any evidence of
non-Whiteness are categorized as non-White, may be unique to race, or the visibility of race may
make the processes of categorization different than those of sexual orientation. However, in the
present studies, both implicit and explicit bias against bisexual people consistently predict
categorization in line with a target’s behavior rather than their identity, such that people who are
more implicitly or explicitly biased against bisexual people are more likely to categorize targets
in line with their behavior rather than their identity. Categorizing an individual against their
identity may lead to harmful outcomes for that individual, such as higher stress or lower self-
esteem (McLemore, 2018). Furthermore, categorizing against an individual’s stated identity
could also force that individual to disclose their sexual orientation before they are ready, which
may put the individual in physical or emotional harm’s way (Steinfeld, 2020).

Finally, the present studies find that characteristics regarding a target’s sexual behavior
predict differences in categorization. When behavior and identity conflict, people categorize
target individuals with more recent and more enduring mismatching behaviors as gay more often
than they do with less recent or shorter-term behaviors. This might suggest that one-time
behaviors or behaviors further in the past might be seen as less important for understanding a person's sexual orientation than more recent or longer-term behaviors. Further, these results were found to be dependent on the target’s sexual identity, such that there were more dramatic effects of behavior recency and duration when a target identified as straight. This might suggest that a straight identity is more closely-guarded than a gay identity, meaning a person must meet stricter criteria in order to be categorized as straight (Anderson, 2008). Importantly though, these findings do not mean that people did not still consider these short-term or less recent mismatching behaviors when categorizing an individual. Study 3 found that the sexual orientation of a target’s behavior or attraction predicted lower likelihood of categorizing targets in line with the corresponding sexual orientation. These results suggest that any behavior or attraction that does not match a person’s sexual may be taken into account when categorizing targets, but also that people differentiate based on the characteristics of the behavior or attraction when making categorization decisions.

5.1 Limitations and Future Directions

One limitation of my studies is that the sample, taken from Project Implicit, was largely white and heterosexual. While there is evidence of bias against bisexual people from both straight and gay/lesbian people, particularly surrounding the stability of bisexuality (Friedman et al., 2014, McLean, 2008), it is difficult to know if non-straight people would categorize targets with ambiguous sexual orientations in the same way as in the present studies. Further, the current studies were almost exclusively cisgender and including people who self-identified as either male or female. Because transgender individuals are often subjected to being categorized against their gender identity (McLemore, 2018), transgender individuals may be more empathetic toward targets who may also be miscategorized, and thus may be more likely to categorize targets
according to their sexual identity. Relatedly, since biracial individuals, like bisexual individuals, are also uniquely situated between two binary groups, it is possible that biracial people think about sexual orientation as less binary, and may then categorize ambiguous targets differently.

The present studies also focused on verbal statements about individuals. However, it may be rare that people get such complete information about a person’s sexual identity, desires, and behavior in real-world settings. Instead, people may have to rely on less direct cues. Past research has established that people are able to rely on visual information when categorizing others’ sexual orientations, and that people are able to accurately categorize targets above chance when only using visual information (Rule & Ambady, 2008; Lick et al., 2013). In these cases, people are more likely to use perceived gender typicality in order to categorize targets, such that more gender-atypical targets are more likely to be categorized as gay, and more gender-typical targets are more likely to be categorized as straight (Freeman et al., 2010; Lick et al., 2013). However, people also generally report being unconfident in these categorization decisions (Rule et al., 2008), and thus it is possible that verbal information may be seen as more helpful in situations where it is available. Therefore, future research may want to compare how verbal and visual information interact in the categorization of sexual orientation.

Beyond the focus of the present studies on verbal information, it is also possible that the current studies did not include other information that may be relevant to the categorization of sexual orientation. For instance, the present studies did not differentiate between sexual attraction (i.e., who one has sexual desires for) and romantic attraction (i.e., who one wants to have a romantic relationship with outside of sex). Thus, future research may aim to examine if people categorize targets differently based on whether the behaviors or attractions are sexual or romantic in nature. Further, there may be relevant aspects of the participant that were not
included in the study. For example, research on authoritarian personality (Adorno et al., 1950) suggests that people who are higher in authoritarianism are more likely to view categories as rigid (Altemeyer, 1998; Peterson & Zurbriggen, 2010). Additionally, people high in authoritarianism are more likely to endorse sexist and homophobic attitudes, as well as more likely to endorse negative gender roles (Duncan, Peterson, & Winter, 1997; Haddock, et al., 1993; Peterson & Zurbriggen, 2010). With this in mind, participants who are higher in authoritarianism may have been more likely to rigidly categorize targets as gay or straight rather than bisexual, or to rely on gender stereotypes in order to categorize targets. Thus, elements of the participant such as authoritarian personality may be helpful to include in future studies in order to get a more complete view of what factors predict differences in categorization of sexual orientation.

Additionally, the present studies did not impose time constraints on participants or give any instruction for how quickly they should make their categorization decisions. However, real-world settings differ in the degree to which people have time to make a judgment. In general, when people are put under time pressure, they tend to use fewer pieces of information when making decisions (Edland & Svenson, 1993). Thus, these results may not actually be indicative of how someone will categorize an individual in a time-sensitive situation. Research suggests that in these cases, people may be more likely to rely on their stereotypes to make decisions (Dijker & Koomen, 1996). For instance, people may rely on gender stereotypes, such as how sexually fluid one gender is over the other, or regarding how people of different genders express their sexuality. This, in turn, may enhance gender differences in categorization, such that women become even more likely than men to be categorized as straight than in the present studies.
The current studies also measure sexual orientation in terms of categories, but people may differ in how much they actually do this in their daily lives. Sexual orientation is commonly conceptualized as being dichotomous – wherein people can be gay or straight, but over time people have begun to think of sexuality as being more continuous or less category-based (Rust, 2000). Importantly the current study also specifically asked people how they would categorize if they had to choose between these three groups (i.e., straight, gay, bisexual). There are certainly other categories of sexual orientations, and it is possible that given the choice people would choose to categorize a different way, or just refrain from categorizing an individual altogether.

Lastly, although there is much research about the consequences of how people are categorized into social groups (Kawakami, Amodio, & Hugenberg, 2017; Johnson, Lick, & Carpinella, 2015), the current studies do not explore the specific consequences of how target individuals are categorized. Thus, future research could expand on these studies by including behavioral outcomes that identify how people treat targets depending on how they categorize them. Further, while research on mis-gendering transgender individuals suggests that being categorized against a person’s identity may be harmful (McLemore, 2018), those findings may not generalize to sexual orientation. Thus, future studies may explore what consequences there are for a target being categorized against their sexual identity.

5.2 Conclusions

The current studies demonstrate that people take into account a variety of information when making decisions about how to categorize target individuals’ sexual orientations. People were likely to consider both characteristics about the target and about the target’s sexual behavior. Some of this information was more closely tied to a target’s sexual orientation, such as
their sexual identity or sexual behavior. However, some information was more inconsistently relevant, such as the target’s gender. Further, people’s implicit and explicit biases toward bisexual people were related to whether they categorized targets in line with their sexual behavior or their sexual identity. In sum, the current studies demonstrate that people take into account many pieces of information when categorizing target individuals’ sexual orientations.
References


Steinfeld J. (2020). Forced out of the closet: As people live out more of their lives online right now, our report highlights how LGBTQ dating apps can put people’s lives at risk. *Index on Censorship, 49*(2):101-104.


Who We Are. (n.d.). Retrieved September 1, 2020, from https://stillbisexual.com/who-we-are/


Appendix A: Detailed Description of Study 1 Procedure

Technical Overview of Tasks:

**Implicit Association Test:**
The following stimuli are used:
- Bisexual: Bisexual, Bi, Likes both sexes, Dates both sexes
- Straight: Straight, Hetero, Likes opposite sex, Dates opposite sex
- There are 7 blocks with the following characteristics
  1. 20 trials Practice Targets only
  2. 20 trials Practice Concepts only
  3. 20 trials Practice Targets & Concepts (Bad + Bisexual)
  4. 40 trials Test Targets & Concepts (Bad + Bisexual)
  5. 20 trials Practice Targets only
  6. 20 trials Practice Targets & Concepts (Bad + Straight)
  7. 40 trials Test Targets & Concepts (Bad + Straight)
- There is a 250ms delay between trials after a response is provided
- If more than 10% of reactions are faster than 300ms, the participant is excluded
- Trials with reactions faster than 400ms are excluded
- Trials with reactions slower than 10000ms are excluded
- In addition to the Bisexual and Straight categories, the following categories as stimuli are also used:
  - Good: Joy, Glorious, Wonderful, Happy, Laughter, Peace
  - Bad: Terrible, Hurt, Horrible, Failure, Awful, Agony

**Procedure Step-by-Step:**

**Commit Page**
In this study, you will be asked to complete questionnaires about your attitudes and beliefs and a sorting task.

This session will take approximately 10-15 minutes to complete. Many people may be tempted to visit other web pages while taking the study. **If a lot of people browse other pages or do other things during the study, the study's data won't be usable. However, our research depends on good quality data.** So, please make sure you are willing to sit through the study before starting it.

If you would like to participate, please type this exact sentence into the box below: "I will complete this study with my full attention." and press "Submit".

Text response.
[Submit]

**Sexual Categorization**
Order of male questions/female questions is randomized. 
Questions include the following:
“A (woman/man) identifies as being attracted to men, but has had romantic relationships with both men and women in the last year. If you had to pick, what would you consider this (woman's/man’s) sexual orientation to be?”
- Gay/Lesbian
- Bisexual
- Straight

“A (woman/man) identifies as being attracted to women, but has had romantic relationships with both men and women in the last year. If you had to pick, what would you consider this (woman's/man’s) sexual orientation to be?”
- Gay/Lesbian
- Bisexual
- Straight

“A (woman/man) identifies as being attracted to both women and men, but has had romantic relationships with only women in the last year. If you had to pick, what would you consider this (woman's/man’s) sexual orientation to be?”
- Gay/Lesbian
- Bisexual
- Straight

“A (woman/man) identifies as being attracted to both women and men, but has had romantic relationships with only men in the last year. If you had to pick, what would you consider this (woman's/man’s) sexual orientation to be?”
- Gay/Lesbian
- Bisexual
- Straight

“A (woman/man) identifies as being attracted to both men and women, and has had romantic relationships with both men and women in the last year. If you had to pick, what would you consider this (woman's/man’s) sexual orientation to be?”
- Gay/Lesbian
- Bisexual
- Straight

“A (woman/man) identifies as being attracted to men, and has had romantic relationships with only men in the last year. If you had to pick, what would you consider this (woman's/man’s) sexual orientation to be?”
- Gay/Lesbian
- Bisexual
- Straight
“A (woman/man) identifies as being attracted to women, and has had romantic relationships with only women in the last year. If you had to pick, what would you consider this (woman's/man’s) sexual orientation to be?”

- Gay/Lesbian
- Bisexual
- Straight

**Implicit Measure:**

**Implicit Association Test**

Next, you will use the two sides of the screen to categorize items into groups as fast as you can. These are the items that belong to each of the four groups:

<table>
<thead>
<tr>
<th>Category</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Joy, Glorious, Wonderful, Happy, Laughter, Peace</td>
</tr>
<tr>
<td>Bad</td>
<td>Terrible, Hurt, Horrible, Failure, Awful, Agony</td>
</tr>
<tr>
<td>Bisexual</td>
<td>Bisexual, Bi, Likes both sexes, Dates both sexes</td>
</tr>
<tr>
<td>Straight</td>
<td>Straight, Hetero, Likes opposite sex, Dates opposite sex</td>
</tr>
</tbody>
</table>

There are seven parts. The instructions change for each part. Pay attention!

Part 1 of 7

Put a left finger on the E key for items that belong to the category **Straight people**.
Put a right finger on the I key for items that belong to the category **Bisexual people**.
Items will appear one at a time.

If you make a mistake, a red X will appear. Press the other key to continue. Go as fast as you can while being accurate.

Press the **space bar** when you are ready to start.
### Part 2 of 7

Put a left finger on the E key for items that belong to the category **Bad**.
Put a right finger on the I key for items that belong to the category **Good**.

If you make a mistake, a red X will appear. Press the other key to continue. **Go as fast as you can** while being accurate.

Press the **space bar** when you are ready to start.

<table>
<thead>
<tr>
<th>Press 'E' for</th>
<th>Press 'I' for</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bad</strong></td>
<td><strong>Good</strong></td>
</tr>
<tr>
<td>or</td>
<td>or</td>
</tr>
<tr>
<td><strong>Straight people</strong></td>
<td><strong>Bisexual people</strong></td>
</tr>
</tbody>
</table>

### Part 3 of 7

Use the E key for **Straight people** and for **Bad**.
Use the I key for **Bisexual people** and for **Good**.
Each item belongs to only one category.

If you make a mistake, a red X will appear. Press the other key to continue. **Go as fast as you can** while being accurate.

Press the **space bar** when you are ready to start.
Part 4 of 7

This is the same as the previous part.
Use the E key for Straight people and for Bad.
Use the I key for Bisexual people and for Good.
Each item belongs to only one category.

Go as fast as you can while being accurate.

Press the space bar when you are ready to start.

Part 5 of 7

Watch out, the labels have changed position!
Use the left finger on the E key for Bisexual people.
Use the right finger on the I key for Straight people.

Go as fast as you can while being accurate.

Press the space bar when you are ready to start.
Press "E" for Bad
or
Bisexual people

or

Press "I" for Good

or

Straight people

Part 6 of 7

Use the E key for Bisexual people and for Bad.
Use the I key for Straight people and for Good.
Each item belongs to only one category.

If you make a mistake, a red X will appear. Press the other key to continue.
Go as fast as you can while being accurate.

Press the space bar when you are ready to start.

Press "E" for Bad
or
Bisexual people

or

Press "I" for Good

or

Straight people

Part 7 of 7

This is the same as the previous part.
Use the E key for Bisexual people and for Bad.
Use the I key for Straight people and for Good.
Each item belongs to only one category.

Go as fast as you can while being accurate.

Press the space bar when you are ready to start.

Press space to continue to the next task
Explicit Attitudes
“Please rate the extent to which you agree or disagree with the following.
Most people who identify as bisexual have not yet discovered their true sexual orientation.”
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following.
Most people who identify as bisexual are temporarily experimenting with their sexuality.”
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following.
Bisexuals are afraid to commit to one lifestyle.”
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following.
Most people who claim to be bisexual are in denial about their true sexual orientation.”
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following.
Gay people are less confused about their sexual orientation than bisexual people.”
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following. 
Just like homosexuality and heterosexuality, bisexuality is a stable sexual orientation.”
(Reverse coded)
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following. 
Bisexuality is not a perversion.” (Reverse coded)
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following. 
As far as I'm concerned, bisexuality is unnatural.”
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following. 
The growing acceptance of bisexuality indicates a decline in American values.”
• Strongly disagree
• Moderately disagree
“Please rate the extent to which you agree or disagree with the following.
Bisexuality is harmful to society because it breaks down natural divisions between the sexes.”

- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

“Please rate the extent to which you agree or disagree with the following.
Bisexuality is immoral.”

- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

“Please rate the extent to which you agree or disagree with the following.
Bisexuals are sick.”

- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

**Additional Demographics**

“Do you consider yourself to be transgender?”

- Yes
- No
“Do you consider yourself to be:”

- Heterosexual
- Homosexual
- Bisexual
- Asexual
- Other
- Prefer not to say
Appendix B: Detailed Description of Study 2 Procedure

Technical Overview of Tasks:

Implicit Association Test:
*The following stimuli are used:*
- Bisexual: Bisexual, Bi, Likes both sexes, Dates both sexes
- Straight: Straight, Hetero, Likes opposite sex, Dates opposite sex
- There are 7 blocks with the following characteristics
  1. 20 trials Practice Targets only
  2. 20 trials Practice Concepts only
  3. 20 trials Practice Targets & Concepts (Bad + Bisexual)
  4. 40 trials Test Targets & Concepts (Bad + Bisexual)
  5. 20 trials Practice Targets only
  6. 20 trials Practice Targets & Concepts (Bad + Straight)
  7. 40 trials Test Targets & Concepts (Bad + Straight)
- There is a 250ms delay between trials after a response is provided
- If more than 10% of reactions are faster than 300ms, the participant is excluded
- Trials with reactions faster than 400ms are excluded
- Trials with reactions slower than 10000ms are excluded
- In addition to the Bisexual and Straight categories, the following categories as stimuli are also used:
  - Good: Joy, Glorious, Wonderful, Happy, Laughter, Peace
  - Bad: Terrible, Hurt, Horrible, Failure, Awful, Agony

Procedure Step-by-Step:

Commit Page
In this study, you will be asked to complete questionnaires about your attitudes and beliefs and a sorting task.

This session will take approximately 10-15 minutes to complete. Many people may be tempted to visit other web pages while taking the study. If a lot of people browse other pages or do other things during the study, the study's data won't be usable. However, our research depends on good quality data. So, please make sure you are willing to sit through the study before starting it.

If you would like to participate, please type this exact sentence into the box below: "I will complete this study with my full attention." and press "Submit".

Text response.
[Submit]

Sexual Categorization
Order of male questions/female questions is randomized.  
The following questions will be included with the response options:

- Gay
- Bisexual
- Straight

Women’s Questions

1) A 21-year-old woman identifies as being straight, but had sex with a woman once last year.
2) A 21-year-old woman identifies as being straight, but had a 1-year long relationship with a woman last year.
3) A 21-year-old woman identifies as being straight, but had sex with a woman once 5 years ago.
4) A 21-year-old woman identifies as being straight, but had a 1-year long relationship with a woman 5 years ago.
5) A 21-year-old woman identifies as being gay, but had sex with a man once last year.
6) A 21-year-old woman identifies as being gay, but had a 1-year long relationship with a man last year.
7) A 21-year-old woman identifies as being gay, but had sex with a man once 5 years ago.
8) A 21-year-old woman identifies as being gay, but had a 1-year long relationship with a man 5 years ago.
9) A 30-year-old woman identifies as being straight, but had sex with a woman once last year.
10) A 30-year-old woman identifies as being straight, but had a 1-year long relationship with a woman last year.
11) A 30-year-old woman identifies as being straight, but had sex with a woman once 5 years ago.
12) A 30-year-old woman identifies as being straight, but had a 1-year long relationship with a woman 5 years ago.
13) A 30-year-old woman identifies as being gay, but had sex with a man once last year.
14) A 30-year-old woman identifies as being gay, but had a 1-year long relationship with a man last year.
15) A 30-year-old woman identifies as being gay, but had sex with a man once 5 years ago.
16) A 30-year-old woman identifies as being gay, but had a 1-year long relationship with a man 5 years ago.
17) A 50-year-old woman identifies as being straight, but had sex with a woman once last year.
18) A 50-year-old woman identifies as being straight, but had a 1-year long relationship with a woman last year.
19) A 50-year-old woman identifies as being straight, but had sex with a woman once 5 years ago.
20) A 50-year-old woman identifies as being straight, but had a 1-year long relationship with a woman 5 years ago.
21) A 50-year-old woman identifies as being gay, but had sex with a man once last year.
22) A 50-year-old woman identifies as being gay, but had a 1-year long relationship with a man last year.
23) A 50-year-old woman identifies as being gay, but had sex with a man once 5 years ago.
24) A 50-year-old woman identifies as being gay, but had a 1-year long relationship with a man 5 years ago.

Men’s Questions
1) A 21-year-old man identifies as being straight, but had sex with a man once last year.
2) A 21-year-old man identifies as being straight, but had a 1-year long relationship with a man last year.
3) A 21-year-old man identifies as being straight, but had sex with a man 5 years ago.
4) A 21-year-old man identifies as being straight, but had a 1-year long relationship with a man 5 years ago.
5) A 21-year-old man identifies as being gay, but had sex with a woman once last year.
6) A 21-year-old man identifies as being gay, but had a 1-year long relationship with a woman last year.
7) A 21-year-old man identifies as being gay, but had sex with a woman once 5 years ago.
8) A 21-year-old man identifies as being gay, but had a 1-year long relationship with a woman 5 years ago.
9) A 30-year-old man identifies as being straight, but had sex with a man once last year.
10) A 30-year-old man identifies as being straight, had a 1-year long relationship with a man last year.
11) A 30-year-old man identifies as being straight, but had sex with a man 5 years ago.
12) A 30-year-old man identifies as being straight, but had a 1-year long relationship with a man 5 years ago.
13) A 30-year-old man identifies as being gay, but had sex with a woman once in the last year.
14) A 30-year-old man identifies as being gay, but had a 1-year long relationship with a woman in the last year.
15) A 30-year-old man identifies as being gay, but had sex with a woman once 5 years ago.
16) A 30-year-old man identifies as being gay, but had a 1-year long relationship with a woman 5 years ago.
17) A 50-year-old man identifies as being straight, but had sex with a man once in the last year.
18) A 50-year-old man identifies as being straight, had a 1-year long relationship with a man in the last year.
19) A 50-year-old man identifies as being straight, but had sex with a man 5 years ago.
20) A 50-year-old man identifies as being straight, but had a 1-year long relationship with a man 5 years ago.
21) A 50-year-old man identifies as being gay, but had sex with a woman once in the last year.
22) A 50-year-old man identifies as being gay, but had a 1-year long relationship with a woman in the last year.
23) A 50-year-old man identifies as being gay, but had sex with a woman once 5 years ago.
24) A 50-year-old man identifies as being gay, but had a 1-year long relationship with a woman 5 years ago.

Implicit Measure:
Implicit Association Test

Next, you will use the two sides of the screen to categorize items into groups as fast as you can. These are the items that belong to each of the four groups:

<table>
<thead>
<tr>
<th>Category</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Joy, Glorious, Wonderful, Happy, Laughter, Peace</td>
</tr>
<tr>
<td>Bad</td>
<td>Terrible, Hurt, Horrible, Failure, Awful, Agony</td>
</tr>
<tr>
<td>Bisexual</td>
<td>Bisexual, Bi, Likes both sexes, Dates both sexes</td>
</tr>
<tr>
<td>Straight</td>
<td>Straight, Hetero, Likes opposite sex, Dates opposite sex</td>
</tr>
</tbody>
</table>

There are seven parts. The instructions change for each part. Pay attention!

Press "E" for Straight people
Press "I" for Bisexual people

Part 1 of 7

Put a left finger on the E key for items that belong to the category Straight people.
Put a right finger on the I key for items that belong to the category Bisexual people.
Items will appear one at a time.

If you make a mistake, a red X will appear. Press the other key to continue. Go as fast as you can while being accurate.

Press the space bar when you are ready to start.
<table>
<thead>
<tr>
<th>Press &quot;E&quot; for</th>
<th>Press &quot;I&quot; for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bad</td>
<td>Good</td>
</tr>
</tbody>
</table>

**Part 2 of 7**

Put a left finger on the **E** key for items that belong to the category **Bad**.
Put a right finger on the **I** key for items that belong to the category **Good**.

If you make a mistake, a red **X** will appear. Press the other key to continue.
*Go as fast as you can* while being accurate.

Press the **space bar** when you are ready to start.

<table>
<thead>
<tr>
<th>Press &quot;3&quot; for</th>
<th>Press &quot;1&quot; for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bad</td>
<td>Good</td>
</tr>
<tr>
<td>or</td>
<td>or</td>
</tr>
<tr>
<td><strong>Straight people</strong></td>
<td><strong>Bisexual people</strong></td>
</tr>
</tbody>
</table>

**Part 3 of 7**

Use the **E** key for **Straight people** and for **Bad**.
Use the **I** key for **Bisexual people** and for **Good**.
Each item belongs to only one category.

If you make a mistake, a red **X** will appear. Press the other key to continue.
*Go as fast as you can* while being accurate.

Press the **space bar** when you are ready to start.
Part 4 of 7

This is the same as the previous part.
Use the E key for Straight people and for Bad.
Use the I key for Bisexual people and for Good.
Each item belongs to only one category.

Go as fast as you can while being accurate.

Press the space bar when you are ready to start.

Part 5 of 7

Watch out, the labels have changed position!
Use the left finger on the E key for Bisexual people.
Use the right finger on the I key for Straight people.

Go as fast as you can while being accurate.

Press the space bar when you are ready to start.
Part 6 of 7

Use the E key for Bisexual people and for Bad.
Use the I key for Straight people and for Good.
Each item belongs to only one category.

If you make a mistake, a red X will appear. Press the other key to continue.
Go as fast as you can while being accurate.

Press the space bar when you are ready to start.

Part 7 of 7

This is the same as the previous part.
Use the E key for Bisexual people and for Bad.
Use the I key for Straight people and for Good.
Each item belongs to only one category.

Go as fast as you can while being accurate.

Press the space bar when you are ready to start.

Press space to continue to the next task
**Explicit Attitudes**

“Please rate the extent to which you agree or disagree with the following.

**Most people who identify as bisexual have not yet discovered their true sexual orientation.**

- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

“Please rate the extent to which you agree or disagree with the following.

**Most people who identify as bisexual are temporarily experimenting with their sexuality.**

- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

“Please rate the extent to which you agree or disagree with the following.

**Bisexuals are afraid to commit to one lifestyle.**

- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

“Please rate the extent to which you agree or disagree with the following.

**Most people who claim to be bisexual are in denial about their true sexual orientation.**

- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

“Please rate the extent to which you agree or disagree with the following.

**Gay people are less confused about their sexual orientation than bisexual people.**
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following.
Just like homosexuality and heterosexuality, bisexuality is a stable sexual orientation.” (Reverse coded)
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following.
Bisexuality is not a perversion.” (Reverse coded)
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following.
As far as I'm concerned, bisexuality is unnatural.”
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following.
The growing acceptance of bisexuality indicates a decline in American values.”
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following.
Bisexuality is harmful to society because it breaks down natural divisions between the sexes.”
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following.
Bisexuality is immoral.”
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following.
Bisexuals are sick.”
• Strongly disagree
• Moderately disagree
• Slightly disagree
• Neither
• Slightly agree
• Moderately agree
• Strongly agree

Additional Demographics

“Do you consider yourself to be transgender?”
• Yes
• No
“Do you consider yourself to be:”
- Heterosexual
- Homosexual
- Bisexual
- Asexual
- Other
- Prefer not to say
Appendix C: Detailed Description of Study 3 Procedure

Technical Overview of Tasks

Social Categorization Task:
*Order of male questions/female questions is randomized.*

Women’s Questions
1) A woman identifies as being straight. She had romantic relationships with only women in the last year.
2) A woman identifies as being straight. She had romantic relationships with both men and women in the last year.
3) A woman identifies as being straight. She had romantic relationships with only men in the last year.
4) A woman identifies as being straight. She has only been romantically attracted to women in the last year.
5) A woman identifies as being straight. She has been romantically attracted to both men and women in the last year.
6) A woman identifies as being straight. She has been romantically attracted to only men in the last year.
7) A woman identifies as being gay. She had romantic relationships with only men in the last year.
8) A woman identifies as being gay. She had romantic relationships with both men and women in the last year.
9) A woman identifies as being gay. She had romantic relationships with only women in the last year.
10) A woman identifies as being gay. She has only been romantically attracted to men in the last year.
11) A woman identifies as being gay. She has been romantically attracted to both men and women in the last year.
12) A woman identifies as being gay. She has only been romantically attracted to women in the last year.
13) A woman identifies as being bisexual. She had romantic relationships with only women in the last year.
14) A woman identifies as being bisexual. She had romantic relationships with only men in the last year.
15) A woman identifies as being bisexual. She had romantic relationships with both men and women in the last year.
16) A woman identifies as being bisexual. She has only been romantically attracted to women in the last year.
17) A woman identifies as being bisexual. She has only been romantically attracted to men in the last year.
18) A woman identifies as being bisexual. She has been romantically attracted to both men and women in the last year.

Men’s Questions
1) A man identifies as being straight. He had romantic relationships with only women in the last year.
2) A man identifies as being straight. He had romantic relationships with both men and women in the last year.
3) A man identifies as being straight. He had romantic relationships with only men in the last year.
4) A man identifies as being straight. He has only been romantically attracted to women in the last year.
5) A man identifies as being straight. He has been romantically attracted to both men and women in the last year.
6) A man identifies as being straight. He has been romantically attracted to only men in the last year.
7) A man identifies as being gay. He had romantic relationships with only men in the last year.
8) A man identifies as being gay. He had romantic relationships with both men and women in the last year.
9) A man identifies as being gay. He had romantic relationships with only women in the last year.
10) A man identifies as being gay. He has only been romantically attracted to men in the last year.
11) A man identifies as being gay. He has been romantically attracted to both men and women in the last year.
12) A man identifies as being gay. He has only been romantically attracted to women in the last year.
13) A man identifies as being bisexual. He had romantic relationships with only women in the last year.
14) A man identifies as being bisexual. He had romantic relationships with only men in the last year.
15) A man identifies as being bisexual. He had romantic relationships with both men and women in the last year.
16) A man identifies as being bisexual. He has only been romantically attracted to women in the last year.
17) A man identifies as being bisexual. He has only been romantically attracted to men in the last year.
18) A man identifies as being bisexual. He has been romantically attracted to both men and women in the last year.
Implicit Measure: Implicit Association Test

Stimuli:
Bisexual:
  • Bisexual
  • Bi
  • Bisexuality
  • Bisexual people

Straight:
  • Straight
  • Heterosexual
  • Heterosexuality
  • Hetero
  • Straight people

Next, you will use the two sides of the screen to categorize items into groups as fast as you can. These are the items that belong to each of the four groups:

<table>
<thead>
<tr>
<th>Category</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Joy, Glorious, Wonderful, Happy, Laughter, Peace</td>
</tr>
<tr>
<td>Bad</td>
<td>Terrible, Hurt, Horrible, Failure, Awful, Agony</td>
</tr>
<tr>
<td>Bisexual</td>
<td>Bisexual, Bi, Bisexuality, Bisexual People</td>
</tr>
<tr>
<td>Straight</td>
<td>Straight, Heterosexual, Heterosexuality, Straight People</td>
</tr>
</tbody>
</table>

There are seven parts. The instructions change for each part. Pay attention!

Part 1 of 7

Put a left finger on the E key for items that belong to the category Straight people.
Put a right finger on the I key for items that belong to the category Bisexual people.
Items will appear one at a time.

If you make a mistake, a red X will appear. Press the other key to continue. Go as fast as you can while being accurate.

Press the space bar when you are ready to start.
Part 2 of 7

Put a left finger on the E key for items that belong to the category Bad. Put a right finger on the I key for items that belong to the category Good.

If you make a mistake, a red X will appear. Press the other key to continue. Go as fast as you can while being accurate.

Press the space bar when you are ready to start.

Part 3 of 7

Use the E key for Straight people and for Bad. Use the I key for Bisexual people and for Good. Each item belongs to only one category.

If you make a mistake, a red X will appear. Press the other key to continue. Go as fast as you can while being accurate.

Press the space bar when you are ready to start.
Press 'B' for
Bad
or
Straight people

Press 'G' for
Good
or
Bisexual people

Part 4 of 7

This is the same as the previous part.
Use the E key for Straight people and for Bad.
Use the I key for Bisexual people and for Good.
Each item belongs to only one category.

Go as fast as you can while being accurate.

Press the space bar when you are ready to start.

Press 'B' for
Bisexual people

Press 'G' for
Straight people

Part 5 of 7

Watch out, the labels have changed position!
Use the left finger on the E key for Bisexual people.
Use the right finger on the I key for Straight people.

Go as fast as you can while being accurate.

Press the space bar when you are ready to start.
Part 6 of 7

Use the E key for Bisexual people and for Bad.
Use the I key for Straight people and for Good.
Each item belongs to only one category.

If you make a mistake, a red X will appear. Press the other key to continue. Go as fast as you can while being accurate.

Press the space bar when you are ready to start.

Part 7 of 7

This is the same as the previous part.
Use the E key for Bisexual people and for Bad.
Use the I key for Straight people and for Good.
Each item belongs to only one category.

Go as fast as you can while being accurate.

Press the space bar when you are ready to start.

Press space to continue to the next task
Explicit Attitudes

Instability:
“Please rate the extent to which you agree or disagree with the following.
Most (men/women) who identify as bisexual have not yet discovered their true sexual orientation.”
- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

“Please rate the extent to which you agree or disagree with the following.
Most (men/women) who identify as bisexual are temporarily experimenting with their sexuality.”
- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

“Please rate the extent to which you agree or disagree with the following.
Bisexual (men/women) are afraid to commit to one lifestyle.”
- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

“Please rate the extent to which you agree or disagree with the following.
Most (men/women) who claim to be bisexual are in denial about their true sexual orientation.”
- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

“Please rate the extent to which you agree or disagree with the following. Gay (men/women) are less confused about their sexual orientation than bisexual (men/women).”
- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

“Please rate the extent to which you agree or disagree with the following. Just like homosexuality and heterosexuality, bisexuality is a stable sexual orientation for (men/women).” (Reverse coded)
- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

**Intolerability**
“Please rate the extent to which you agree or disagree with the following. Bisexuality in (men/women) is not a perversion.” (Reverse coded)
- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

“Please rate the extent to which you agree or disagree with the following. As far as I'm concerned, bisexuality in (men/women) is unnatural.”
- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
• Strongly agree

“Please rate the extent to which you agree or disagree with the following.

The growing acceptance of bisexuality in (men/women) indicates a decline in American values.”

- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

“Please rate the extent to which you agree or disagree with the following.

Bisexuality in (men/women) is harmful to society because it breaks down natural divisions between the sexes.”

- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

“Please rate the extent to which you agree or disagree with the following.

Bisexuality is immoral for (men/women).”

- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree

“Please rate the extent to which you agree or disagree with the following.

Bisexual (men/women) are sick.”

- Strongly disagree
- Moderately disagree
- Slightly disagree
- Neither
- Slightly agree
- Moderately agree
- Strongly agree
Perceptions of Sexual Fluidity

• “Please rate how likely the following questions are to be true of men and women.”
  Scale: Women much more likely – Men much more likely
  o To be sexually attracted to both men and women.
  o To date both men and women
  o To experiment with their sexuality
  o To change what gender they’re sexually attracted to
  o To be sexually attracted to the same gender for their entire lives (R)
  o To have sex with both men and women
  o To only have sex with one gender (R)
  o To flirt with both men and women

Additional Demographics

• “Do you consider yourself to be transgender?”
  o Yes
  o No

• “Do you consider yourself to be:”
  o Straight
  o Gay or Lesbian
  o Bisexual
  o Asexual
  o Other
  o Prefer not to say